



Cisco CallManager Administration Guide

Release 4.0(1)

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Preface

This preface describes the purpose, audience, organization, and conventions of this guide and provides information on how to obtain related documentation.

The preface covers these topics:

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Purpose

The *Cisco CallManager Administration Guide* provides instructions for administering the Cisco CallManager system. This guide includes descriptions of procedural tasks that you complete by using Cisco CallManager Administration. The *Cisco CallManager Administration Guide* also provides references for commands to assist you in using Cisco CallManager. This book acts as a companion to the *Cisco CallManager System Guide*, which provides conceptual information about Cisco CallManager and its components as well as tips for setting up features by using Cisco CallManager Administration.

Audience

The *Cisco CallManager Administration Guide* provides information for network administrators who are responsible for managing the Cisco CallManager system. This guide requires knowledge of telephony and IP networking technology.

Organization

The following table provides the organization of this guide.

Part	Description
Part 1	“Cisco CallManager” Contains information about general topics that are related to the configuration and operation of Cisco CallManager.
Part 2	“System Configuration” Contains information on how to configure the system parameters that are used by Cisco CallManager.
Part 3	“Route Configuration” Contains information on how to configure route plans in Cisco CallManager.
Part 4	“Service Configuration” Contains information on how to configure services that are used in conjunction with Cisco CallManager.
Part 5	“Feature Configuration” Contains information on how to configure user features.
Part 6	“Device Configuration” Contains information on how to configure devices in Cisco CallManager.
Part 7	“User Configuration” Contains information on how to configure user and directory information.

Part	Description
Part 8	“Application Configuration” Contains information on how to configure plugin applications and application interfaces.
Part 9	“Appendix” Contains information on how to enable and use dependency records and how to remove the subscriber server.

Related Documentation

Refer to the following documents for further information about related Cisco IP telephony applications and products:

- *Installing Cisco CallManager Release 4.0*
- *Upgrading Cisco CallManager Release 4.0*
- *Cisco IP Telephony Backup and Restore System (BARS) Administration Guide*
- *Release Notes for Cisco CallManager Release 4.0*
- *Cisco CallManager System Guide*
- *Cisco CallManager Serviceability Administration Guide*
- *Cisco CallManager Serviceability System Guide*
- *Cisco CallManager Features and Services Guide*
- *Troubleshooting Guide for Cisco CallManager*
- *Cisco IP Phone Administration Guide for Cisco CallManager*
- *Bulk Administration Tool Guide for Cisco CallManager*

Conventions

This document uses the following conventions.

Convention	Description
boldface font	Commands and keywords are in boldface .
<i>italic font</i>	Arguments for which you supply values are in <i>italics</i> .
[]	Elements in square brackets are optional.
{ x y z }	Alternative keywords are grouped in braces and separated by vertical bars.
[x y z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
screen font	Terminal sessions and information the system displays are in screen font.
boldface screen font	Information you must enter is in boldface screen font .
<i>italic screen font</i>	Arguments for which you supply values are in <i>italic screen font</i> .
→	This pointer highlights an important line of text in an example.
^	The symbol ^ represents the key labeled Control—for example, the key combination ^D in a screen display means hold down the Control key while you press the D key.
< >	Nonprinting characters, such as passwords, are in angle brackets.

Notes use the following conventions:



Note

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the publication.

Timesavers use the following conventions:



Timesaver

Means *the described action saves time*. You can save time by performing the action described in the paragraph.

Tips use the following conventions:



Tip

Means *the information contains useful tips*.

Cautions use the following conventions:



Caution

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Warnings use the following conventions:



Warning

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, you must be aware of the hazards involved with electrical circuitry and familiar with standard practices for preventing accidents.

Obtaining Documentation

Cisco provides several ways to obtain documentation, technical assistance, and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

<http://www.cisco.com>

International Cisco websites can be accessed from this URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which may have shipped with your product. The Documentation CD-ROM is updated regularly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual or quarterly subscription.

Registered Cisco.com users can order a single Documentation CD-ROM (product number DOC-CONDOCCD=) through the Cisco Ordering tool:

http://www.cisco.com/en/US/partner/ordering/ordering_place_order_ordering_tool_launch.html

All users can order monthly or quarterly subscriptions through the online Subscription Store:

<http://www.cisco.com/go/subscription>

Ordering Documentation

You can find instructions for ordering documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products MarketPlace:

<http://www.cisco.com/en/US/partner/ordering/index.shtml>

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can submit comments electronically on Cisco.com. On the Cisco Documentation home page, click **Feedback** at the top of the page.

You can e-mail your comments to bug-doc@cisco.com.

You can submit comments by using the response card (if present) behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com, which includes the Cisco Technical Assistance Center (TAC) website, as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from the Cisco TAC website. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC website, including TAC tools and utilities.

Cisco.com

Cisco.com offers a suite of interactive, networked services that let you access Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com provides a broad range of features and services to help you with these tasks:

- Streamline business processes and improve productivity
- Resolve technical issues with online support
- Download and test software packages
- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

To obtain customized information and service, you can self-register on Cisco.com at this URL:

<http://tools.cisco.com/RPF/register/register.do>

Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two types of support are available: the Cisco TAC website and the Cisco TAC Escalation Center. The type of support that you choose depends on the priority of the problem and the conditions stated in service contracts, when applicable.

We categorize Cisco TAC inquiries according to urgency:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration. There is little or no impact to your business operations.
- Priority level 3 (P3)—Operational performance of the network is impaired, but most business operations remain functional. You and Cisco are willing to commit resources during normal business hours to restore service to satisfactory levels.

- Priority level 2 (P2)—Operation of an existing network is severely degraded, or significant aspects of your business operations are negatively impacted by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.
- Priority level 1 (P1)—An existing network is “down,” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Cisco TAC Website

The Cisco TAC website provides online documents and tools to help troubleshoot and resolve technical issues with Cisco products and technologies. To access the Cisco TAC website, go to this URL:

<http://www.cisco.com/tac>

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC website. Some services on the Cisco TAC website require a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

<http://tools.cisco.com/RPF/register/register.do>

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC website, you can open a case online at this URL:

<http://www.cisco.com/tac/caseopen>

If you have Internet access, we recommend that you open P3 and P4 cases online so that you can fully describe the situation and attach any necessary files.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The *Cisco Product Catalog* describes the networking products offered by Cisco Systems, as well as ordering and customer support services. Access the *Cisco Product Catalog* at this URL:

http://www.cisco.com/en/US/products/products_catalog_links_launch.html

- Cisco Press publishes a wide range of networking publications. Cisco suggests these titles for new and experienced users: *Internetworking Terms and Acronyms Dictionary*, *Internetworking Technology Handbook*, *Internetworking Troubleshooting Guide*, and the *Internetworking Design Guide*. For current Cisco Press titles and other information, go to Cisco Press online at this URL:

<http://www.ciscopress.com>

- *Packet* magazine is the Cisco quarterly publication that provides the latest networking trends, technology breakthroughs, and Cisco products and solutions to help industry professionals get the most from their networking investment. Included are networking deployment and troubleshooting tips, configuration examples, customer case studies, tutorials and training, certification information, and links to numerous in-depth online resources. You can access *Packet* magazine at this URL:

<http://www.cisco.com/go/packet>

- iQ Magazine is the Cisco bimonthly publication that delivers the latest information about Internet business strategies for executives. You can access iQ Magazine at this URL:

<http://www.cisco.com/go/iqmagazine>

- Internet Protocol Journal is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

http://www.cisco.com/en/US/about/ac123/ac147/about_cisco_the_internet_protocol_journal.html

- Training—Cisco offers world-class networking training. Current offerings in network training are listed at this URL:

http://www.cisco.com/en/US/learning/le31/learning_recommended_training_list.html



PART 1

Cisco CallManager





Introduction

Cisco CallManager serves as the software-based call-processing component of the Cisco IP Telephony Solutions for the Enterprise, part of Cisco AVVID (Architecture for Voice, Video and Integrated Data). The Cisco IP Telephony Applications Server provides a high-availability server platform for Cisco CallManager call processing, services, and applications.

The Cisco CallManager system extends enterprise telephony features and functions to packet telephony network devices such as IP phones, media processing devices, voice-over-IP (VoIP) gateways, and multimedia applications. Additional data, voice, and video services such as unified messaging, multimedia conferencing, collaborative contact centers, and interactive multimedia response systems interact through Cisco CallManager open telephony application programming interface (API).

Cisco CallManager provides signaling and call control services to Cisco integrated telephony applications as well as third-party applications. It performs the following primary functions:

- Call processing
- Signaling and device control
- Dial plan administration
- Phone feature administration
- Directory services

- Operations, administration, maintenance, and provisioning (OAM&P)
- Programming interface to external voice-processing applications such as Cisco SoftPhone, Cisco IP Interactive Voice Response (IP IVR), Cisco Personal Assistant, and Cisco CallManager Attendant Console

Key Features and Benefits

The Cisco CallManager system includes a suite of integrated voice applications that perform voice conferencing and manual attendant console functions. This suite of voice applications means that no need exists for special-purpose voice-processing hardware. Supplementary and enhanced services such as hold, transfer, forward, conference, multiple line appearances, automatic route selection, speed dial, last-number redial, and other features extend to IP phones and gateways. Because Cisco CallManager is a software application, enhancing its capabilities in production environments only requires upgrading software on the server platform, thereby avoiding expensive hardware upgrade costs.

Distribution of Cisco CallManager and all Cisco IP Phones, gateways, and applications across an IP network provides a distributed, virtual telephony network. This architecture improves system availability and scalability. Call admission control ensures that voice quality of service (QoS) is maintained across constricted WAN link and automatically diverts calls to alternate public switched telephone network (PSTN) routes when WAN bandwidth is not available.

A web-browsable interface to the configuration database provides the capability for remote device and system configuration. This interface also provides access to HTML-based online help for users and administrators.

Browsing to Cisco CallManager Administration

Cisco recommends that you access the Cisco CallManager Administration program from a PC that is not on the same machine as the Web Server or Cisco CallManager program.

**Caution**

A web browser as a resource-intensive application may consume large amounts of system memory and CPU cycles. When the web browser takes resources away from Cisco CallManager, it adversely affects call processing. Possible consequences of using the browser on the same machine as the Web Server and Cisco CallManager include delayed dial tone and dropped calls.

The Cisco CallManager Administration program supports the following Microsoft Windows operating system browsers:

- Netscape Communicator 4.X
- Microsoft Internet Explorer 5 or 6

From any user PC in your network, browse into a server that is running Cisco CallManager Administration and log in with administrative privileges.

**Note**

Simultaneous logon to Cisco CallManager Administration by a large number of users can cause web page performance to suffer. Try to limit the number of users and administrators that are logged on simultaneously.

Procedure

Use the following procedure to browse into the server.

- Step 1** Start your preferred Microsoft Windows operating system browser.
- Step 2** In the address bar of the web browser, enter the following URL:
`http://<CCM-server-name>/CCMAdmin/main.asp`
where: <CCM-server-name> equals the name or IP address of the server
- Step 3** Log in with your assigned administrative privileges.
-

Where to Find More Information

- *Cisco CallManager System Guide*
- *Cisco IP Telephony Solution Reference Network Design Guide*
- *Installing Cisco CallManager*
- *Upgrading Cisco CallManager*



PART 2

System Configuration





Server Configuration

Use server configuration to specify the address of the server where Cisco CallManager is installed. If your network uses Domain Name System (DNS) services, you can specify the host name of the server. If your network does not use DNS services, you must specify the Internet Protocol (IP) address of the server.



Note

You must update the DNS server with the appropriate Cisco CallManager name and address information before using that information to configure the Cisco CallManager server.

Use the following topics to add, update, or delete a server address in the Cisco CallManager database:

- [Finding a Server, page 2-2](#)
- [Adding a Server, page 2-4](#)
- [Updating a Server, page 2-4](#)
- [Deleting a Server, page 2-5](#)
- [Server Configuration Settings, page 2-7](#)

Finding a Server

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

**Note**

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

Procedure**Step 1** Choose **System > Server**.

The Find and List Servers window displays. Use the two drop-down list boxes to search for a server.

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

- Name
- Description

**Note**

The criterion that you choose in this drop-down list box specifies how the list of servers that your search generates will be sorted. For example, if you choose Description, the Description column will display as the left column of the results list.

From the second Find Servers where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly

- is not empty
- is empty

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 servers that are registered in the database, click **Find** without entering any search text.

A list of discovered servers displays by

- Server icon
- Server name
- Description



Note You can delete multiple servers from the Find and List Servers window by checking the check boxes next to the appropriate servers and clicking **Delete Selected**. You can delete all servers 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 Server icon or name or the Description that matches your search criteria.

The window displays the server that you choose.

Related Topics

- [Adding a Server, page 2-4](#)
- [Updating a Server, page 2-4](#)
- [Deleting a Server, page 2-5](#)
- [Server Configuration Settings, page 2-7](#)

Adding a Server

This section describes how to add a server address to the Cisco CallManager database.

Before You Begin

Activate the Cisco CallManager service as described in the *Cisco CallManager Serviceability Administration Guide*.

Procedure

- Step 1** Choose **System > Server**.
- Step 2** In the upper, right corner of the window, click the **Add a New Server** link. The Server Configuration window displays.
- Step 3** Enter the appropriate settings as described in [Table 2-1](#).
- Step 4** Click **Insert**.
The server is added to the database.
-

Related Topics

- [Adding a Cisco CallManager, page 3-4](#)
- [Finding a Server, page 2-2](#)
- [Updating a Server, page 2-4](#)
- [Deleting a Server, page 2-5](#)
- [Server Configuration Settings, page 2-7](#)

Updating a Server

This section describes how to update server information in the Cisco CallManager database.

Procedure

- Step 1** Find the server by using the procedure in the “[Finding a Server](#)” section on [page 2-2](#).
- Step 2** Click the server that you want to update.
- Step 3** Update the appropriate settings as described in [Table 2-1](#).
- Step 4** To save the changes in the database, click **Update**.

Changes to the server configuration do not take effect until you restart Cisco CallManager. For information on restarting the Cisco CallManager service, refer to the *Cisco CallManager Serviceability Administration Guide*.

Related Topics

- [Finding a Server, page 2-2](#)
- [Adding a Server, page 2-4](#)
- [Deleting a Server, page 2-5](#)
- [Server Configuration Settings, page 2-7](#)

Deleting a Server

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



Tip

After the server is deleted, you must remove the SQL replication information and the DCD replication agreements. See [Next Steps, page 2-6](#).

Before You Begin

You cannot delete a server that has a specific Cisco CallManager running on it. To find out which Cisco CallManagers are using the server, click the **Dependency Records** link from the Server 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 server that is in use, Cisco CallManager displays an error message. Before deleting a server that is currently in use, you must perform the following tasks:

- Update the Cisco CallManager in question and assign it to a different server, or delete the Cisco CallManager that is assigned to that server. See the [“Updating a Cisco CallManager”](#) section on page 3-5 and [“Deleting a Cisco CallManager”](#) section on page 3-6.
- Delete the conference bridges, MTPs, and MOH servers that use the server that you want to delete. See the [“Deleting a Conference Device”](#) section on page 28-17, [“Deleting a Media Termination Point”](#) section on page 29-7, and the [“Deleting a Music On Hold Server”](#) section of the *Cisco CallManager Features and Services Guide*.
- Deactivate the services that are running on that server. Refer to the *Cisco CallManager Serviceability Administration Guide*.

Procedure

- Step 1** Find the server by using the procedure in the [“Finding a Server”](#) section on page 2-2.
- Step 2** From list of matching records, choose the server that you want to delete.
- Step 3** Click **Delete**.

If the server is not in use, Cisco CallManager deletes it. If it is in use, an error message displays.

Changes to the server configuration do not take effect until you restart Cisco CallManager. For information on restarting the Cisco CallManager service, refer to the *Cisco CallManager Serviceability Administration Guide*.

Next Steps

After the server gets deleted, you must remove the SQL replication information and the DCD replication agreements. See [Removing a Subscriber Server from Cisco CallManager](#).

Related Topics

- [Finding a Server, page 2-2](#)
- [Adding a Server, page 2-4](#)
- [Updating a Server, page 2-4](#)
- [Server Configuration Settings, page 2-7](#)
- [Remove SQL Replication Information, page B-2](#)
- [Remove Redundant DCD Replication Agreements, page B-3](#)

Server Configuration Settings

[Table 2-1](#) describes the server configuration settings.

Table 2-1 *Server Configuration Settings*

Field	Description
Host Name/IP Address	<p>If your network uses DNS services, you can enter the host name of the Cisco CallManager server. Otherwise, you must enter the full IP address of the server.</p> <p>Note You must update the DNS server with the appropriate Cisco CallManager name and address information before using that information here.</p>
MAC Address	<p>Enter the media access control (MAC) address of the network interface card (NIC) in the Cisco CallManager server. The MAC address specifies the permanent hardware address of the NIC. If you plan to move the server periodically to different locations on the network, you must enter the MAC address, so other devices on the network can always identify the server. If you do not plan to relocate the server, entry of the MAC address is optional.</p>
Description	<p>Enter a description of the server.</p>

Related Topics

- [Finding a Server, page 2-2](#)
- [Adding a Server, page 2-4](#)

- [Updating a Server, page 2-4](#)
- [Deleting a Server, page 2-5](#)



Cisco CallManager Configuration

Use Cisco CallManager configuration to specify the ports and other properties for each Cisco CallManager that is installed in the same cluster. A cluster comprises a set of Cisco CallManagers that share the same database.

Use the following topics to add, update, or delete a Cisco CallManager configuration or to view system component version information:

- [Finding a Cisco CallManager, page 3-1](#)
- [Adding a Cisco CallManager, page 3-4](#)
- [Updating a Cisco CallManager, page 3-5](#)
- [Deleting a Cisco CallManager, page 3-6](#)
- [Cisco CallManager Configuration Settings, page 3-8](#)
- [Viewing Cisco CallManager Component Versions, page 3-11](#)

Finding a Cisco CallManager

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



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

Procedure

Step 1 Choose **System > Cisco CallManager**.

The Find and List Cisco CallManagers window displays. Use the two drop-down list boxes to search for a Cisco CallManager.

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

- Name
- Description



Note The criterion that you choose in this drop-down list box specifies how the list of Cisco CallManagers that your search generates will be sorted. For example, if you choose Description, the Description column will display as the left column of the results list.

From the second Find Cisco CallManagers where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly
- is not empty
- is empty

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 Cisco CallManagers that are registered in the database, click **Find** without entering any search text.

A list of discovered Cisco CallManagers displays by

- Cisco CallManager icon
- Cisco CallManager name
- Description



Note You can delete multiple Cisco CallManagers from the Find and List Cisco CallManagers window by checking the check boxes next to the appropriate Cisco CallManagers and clicking **Delete Selected**. You can delete all Cisco CallManagers 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 Cisco CallManager icon or name or the Description that matches your search criteria.
- The window displays the Cisco CallManager that you choose.
-

Related Topics

- [Adding a Cisco CallManager, page 3-4](#)
- [Updating a Cisco CallManager, page 3-5](#)
- [Deleting a Cisco CallManager, page 3-6](#)
- [Cisco CallManager Configuration Settings, page 3-8](#)
- [Viewing Cisco CallManager Component Versions, page 3-11](#)

Adding a Cisco CallManager

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

Before You Begin

Before adding a new Cisco CallManager to the database, perform the following tasks:

- Activate the Cisco CallManager service as described in the *Cisco CallManager Serviceability Administration Guide*.
- Configure the address of the server where this Cisco CallManager is installed. See the [“Adding a Server” section on page 2-4](#).
- If you want to specify a partition for directory numbers that are used in auto-registration with this Cisco CallManager, configure that partition. See the [“Adding a Partition” section on page 15-3](#).

Procedure

Step 1 Choose **System > Cisco CallManager**.

Step 2 Use one of the following methods to add a Cisco CallManager:

- If a Cisco CallManager already exists with settings that are similar to the one that you want to add, choose the existing Cisco CallManager to display its settings, click **Copy**, and modify the settings as needed.
- To add a Cisco CallManager without copying an existing one, continue with [Step 3](#).

Step 3 In the upper, right corner of the window, click the **Add a New Cisco CallManager** link.

The Cisco CallManager Configuration window displays.

Step 4 Enter the appropriate settings as described in [Table 3-1](#).

Step 5 Click **Insert** to save the Cisco CallManager configuration in the database.

Related Topics

- [Finding a Cisco CallManager, page 3-1](#)
- [Adding a Cisco CallManager Group, page 4-4](#)
- [Updating a Cisco CallManager, page 3-5](#)
- [Deleting a Cisco CallManager, page 3-6](#)
- [Cisco CallManager Configuration Settings, page 3-8](#)
- [Viewing Cisco CallManager Component Versions, page 3-11](#)

Updating a Cisco CallManager

This section describes how to update a Cisco CallManager configuration.

Procedure

-
- Step 1** Find the Cisco CallManager by using the procedure in the [“Finding a Cisco CallManager”](#) section on page 3-1.
 - Step 2** Click the Cisco CallManager that you want to update.
 - Step 3** Update the appropriate settings as described in [Table 3-1](#).
 - Step 4** Click **Update** to save the changes in the database.

Changes to the settings for auto-registration partition, external phone number mask, and voice message box mask do not take effect until you restart Cisco CallManager. For information on restarting the Cisco CallManager service, refer to the *Cisco CallManager Serviceability Administration Guide*.



Caution

The **Reset Devices** button shuts down all devices that are registered with this Cisco CallManager and then brings the devices back up again. This action temporarily interrupts call processing for those devices. Use this button only if you have made configuration changes to most of the devices on this Cisco CallManager and you want to reset all of them at once. For configuration changes to smaller groupings of devices, reset only the affected devices. If possible, avoid resetting devices during peak hours.

Related Topics

- [Finding a Cisco CallManager, page 3-1](#)
- [Adding a Cisco CallManager, page 3-4](#)
- [Deleting a Cisco CallManager, page 3-6](#)
- [Cisco CallManager Configuration Settings, page 3-8](#)
- [Viewing Cisco CallManager Component Versions, page 3-11](#)

Deleting a Cisco CallManager

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

Before You Begin

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

- Update the Cisco CallManager group, so it no longer contains the Cisco CallManager that you want to delete. See the [“Updating a Cisco CallManager Group” section on page 4-5](#).
- Delete the Cisco CallManager group that contains the Cisco CallManager that you want to delete. See the [“Deleting a Cisco CallManager Group” section on page 4-7](#).



Note

If you delete a Cisco CallManager configuration from the database, the Cisco CallManager service continues to run in the background on the server. To deactivate the service, use Cisco CallManager Serviceability. Refer to the *Cisco CallManager Serviceability Administration Guide* for more information.

Procedure

- Step 1** Find the Cisco CallManager by using the procedure in the “[Finding a Cisco CallManager](#)” section on page 3-1.
- Step 2** From the Cisco CallManagers list, choose the Cisco CallManager that you want to delete.
- Step 3** Click **Delete**.
- Step 4** When asked to confirm the delete operation, click **OK** to delete or click **Cancel** to cancel the delete operation.
-

Related Topics

- [Finding a Cisco CallManager](#), page 3-1
- [Adding a Cisco CallManager](#), page 3-4
- [Updating a Cisco CallManager](#), page 3-5
- [Cisco CallManager Configuration Settings](#), page 3-8
- [Viewing Cisco CallManager Component Versions](#), page 3-11

Cisco CallManager Configuration Settings

Table 3-1 describes the Cisco CallManager configuration settings.

Table 3-1 Cisco CallManager Configuration Settings

Field	Description
Cisco CallManager Server	Select the server where this Cisco CallManager is installed. Note Assign each Cisco CallManager server address only once (that is, you assign only one Cisco CallManager per server). After you assign a server address to a particular Cisco CallManager, that address disappears from the list.
Cisco CallManager Name	Enter the name that you want to assign to this Cisco CallManager.
Description	Enter a description of the Cisco CallManager.
Starting Directory Number	Enter the first directory number to use for auto-registration of devices.
Ending Directory Number	Enter the last directory number to use for auto-registration of devices. Specifying a valid range of directory numbers in the Starting Directory Number and Ending Directory Number fields automatically enables auto-registration. Setting the starting and ending directory numbers to the same value disables auto-registration.

Table 3-1 Cisco CallManager Configuration Settings (continued)

Field	Description
Partition	<p>If you are not using partitions, choose <None>.</p> <p>If you are using partitions, choose the partition to which auto-registered directory numbers belong from the drop-down list box.</p> <p>You must choose a range for auto-registration before you can choose a partition, external phone number mask, or voice message box mask.</p> <p>If more than 250 partitions exist, the ellipsis (...) button displays next to the drop-down list box. Click the ... button to display the Select Partition window. Enter a partial partition name in the List items where Name contains field. Click the desired partition name in the list of partitions that displays in the Select item to use box, and click OK.</p>
External Phone Number Mask	<p>Specify the mask that is used to format caller ID information for external (outbound) calls that are made from the auto-registered devices. The mask can contain up to 50 characters. Enter the literal digits that you want to appear in the caller ID information and use Xs to represent the directory number of the auto-registered device.</p> <p>For example, if you specify a mask of 972813XXXX, an external call from extension 1234 displays a caller ID number of 9728131234 if the Use External Phone Number Mask option is checked on the route pattern that is used to make the external call.</p> <p>If you specify a mask of all literal digits, such as 9728135000 to represent a main attendant number, that literal number (9728135000) displays as the caller ID for an external call from any auto-registered device.</p>

Table 3-1 Cisco CallManager Configuration Settings (continued)

Field	Description
Auto-registration Disabled on this Cisco CallManager	<p>Cisco CallManager disables the auto-registration by default to prevent unauthorized connections to the network:</p> <ul style="list-style-type: none"> • Uncheck the Auto-registration Disabled check box to enable auto-registration for this Cisco CallManager. • Check the Auto-registration Disabled check box to disable auto-registration for this Cisco CallManager. <p>When auto-registration is disabled, you must configure the directory numbers manually whenever you add new devices to your network.</p> <p>Setting the Starting Directory Number and Ending Directory Number to the same value also disables auto-registration.</p> <p>If starting and ending directory numbers are currently specified when you disable auto-registration by checking this option, Cisco CallManager sets the starting and ending directory numbers to the same value.</p> <p>Cisco CallManager resets the partition and external phone mask information when Auto-registration is disabled.</p>
Ethernet Phone Port	<p>Cisco CallManager uses this TCP port to communicate with the Cisco IP Phones on the network. Accept the default port of 2000 unless this port is already in use on your system. Ensure all port entries are unique. Valid port numbers range from 1024 to 49151.</p>
Digital Port	<p>Cisco CallManager uses this TCP port to communicate with Cisco Access Digital Trunk Gateways (such as the DT-24+ or DE-30+) on the network. Accept the default port of 2001 unless this port is already in use on your system. Ensure all port entries are unique. Valid port numbers range from 1024 to 49151.</p>

Table 3-1 Cisco CallManager Configuration Settings (continued)

Field	Description
Analog Port	Cisco CallManager uses this TCP port to communicate with Cisco Access Analog Gateways (such as the WS-6624 FXS) on the network. Accept the default port of 2002 unless this port is already in use on your system. Ensure all port entries are unique. Valid port numbers range from 1024 to 49151.
MGCP Listen Port	Cisco CallManager uses this TCP port to detect messages from its associated MGCP gateway. Accept the default port of 2427 unless this port is already in use on your system. Ensure all port entries are unique. Valid port numbers range from 1024 to 49151.
MGCP Keep-alive Port	Cisco CallManager uses this TCP port to exchange keepalive messages with its associated MGCP gateway. Accept the default port of 2428 unless this port is already in use on your system. Ensure all port entries are unique. Valid port numbers range from 1024 to 49151.

Related Topics

- [Finding a Cisco CallManager, page 3-1](#)
- [Adding a Cisco CallManager, page 3-4](#)
- [Updating a Cisco CallManager, page 3-5](#)
- [Deleting a Cisco CallManager, page 3-6](#)
- [Viewing Cisco CallManager Component Versions, page 3-11](#)

Viewing Cisco CallManager Component Versions

The Cisco CallManager Component Versions page in Cisco CallManager Administration displays view-only software component version information for any Cisco CallManager server, lists servers in the cluster with out-of-sync software components, and displays latest installed component version information across all Cisco CallManager servers in the cluster.

Use the following procedure to display version information for system software components.

Procedure

- Step 1** Choose **Help > Component Versions**.
- Step 2** From the Servers list, choose a server to display component version information for that server.
- The information that displays includes the name of the component, the version number of the component, and the installation ID of the program that installed the component. The list will vary, depending on which components are currently installed on that server.
- Step 3** Click **Out of Sync** to locate any system components that are installed on Cisco CallManager servers in the cluster that do not match the latest component version that is installed in the cluster.
- Step 4** Click **Latest Installed Version** to list the most recent (highest numbered) installed version of each system component across all servers in the cluster.
-

Related Topics

- [Finding a Cisco CallManager, page 3-1](#)
- [Adding a Cisco CallManager, page 3-4](#)
- [Updating a Cisco CallManager, page 3-5](#)
- [Deleting a Cisco CallManager, page 3-6](#)
- [Cisco CallManager Configuration Settings, page 3-8](#)
- [Cisco CallManager Group Configuration, page 4-1](#)
- [Device Pool Configuration, page 8-1](#)
- [Device Defaults Configuration, page 6-1](#)



Cisco CallManager Group Configuration

A Cisco CallManager group specifies a prioritized list of up to three Cisco CallManagers. The first Cisco CallManager in the list serves as the primary Cisco CallManager for that group, and the other members of the group serve as secondary and tertiary (backup) Cisco CallManagers.

Each device pool has one Cisco CallManager group assigned to it. When a device registers, it attempts to connect to the primary (first) Cisco CallManager in the group that is assigned to its device pool. If the primary Cisco CallManager is not available, the device tries to connect to the next Cisco CallManager that is listed in the group, and so on.

Cisco CallManager groups provide important features for your system:

- Redundancy—This feature enables you to designate a primary and backup Cisco CallManagers for each group.
- Call processing load balancing—This feature enables you to distribute the control of devices across multiple Cisco CallManagers.

For most systems, you need to have multiple groups, and you need to assign a single Cisco CallManager to multiple groups to achieve better load distribution and redundancy.

Use the following topics to add, update, or delete a Cisco CallManager group:

- [Finding a Cisco CallManager Group, page 4-2](#)
- [Adding a Cisco CallManager Group, page 4-4](#)
- [Updating a Cisco CallManager Group, page 4-5](#)

- [Copying a Cisco CallManager Group, page 4-6](#)
- [Deleting a Cisco CallManager Group, page 4-7](#)
- [Cisco CallManager Group Configuration Settings, page 4-8](#)

Finding a Cisco CallManager Group

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



Note

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

Procedure

- Step 1** Choose **System > Cisco CallManager Group**.
- The Find and List Cisco CallManager Groups window displays. Use the drop-down list box to search for a Cisco CallManager Group.
- Step 2** From the Find Cisco CallManager Groups where drop-down list box, choose one of the following criteria:
- begins with
 - contains
 - ends with
 - is exactly
 - is not empty
 - is empty
- 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 Cisco CallManager groups that are registered in the database, click **Find** without entering any search text.

A list of discovered Cisco CallManager groups displays by

- Cisco CallManager Group icon
- Cisco CallManager Group name
- Auto-registration Default



Note You can delete multiple Cisco CallManager groups from the Find and List Cisco CallManager Groups window by checking the check boxes next to the appropriate Cisco CallManager groups and clicking **Delete Selected**. You can delete all Cisco CallManager groups 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 Cisco CallManager Group icon or name that matches your search criteria.

The window displays the Cisco CallManager group that you choose.

Related Topics

- [Adding a Cisco CallManager Group, page 4-4](#)
- [Updating a Cisco CallManager Group, page 4-5](#)
- [Copying a Cisco CallManager Group, page 4-6](#)
- [Deleting a Cisco CallManager Group, page 4-7](#)
- [Cisco CallManager Group Configuration Settings, page 4-8](#)

Adding a Cisco CallManager Group

This section describes how to configure a new Cisco CallManager group. You can also create a new Cisco CallManager group by copying an existing one. See the [“Copying a Cisco CallManager Group” section on page 4-6](#) for more information.

Before You Begin

Before configuring a Cisco CallManager group, you must configure the Cisco CallManagers that you want to assign as members of that group. See the [“Adding a Cisco CallManager” section on page 3-4](#) for more information.

Procedure

- Step 1** Choose **System > Cisco CallManager Group**.
- Step 2** In the upper, right corner of the window, click the **Add a New Cisco CallManager Group** link.
- The Cisco CallManager Group Configuration window displays.
- Step 3** Enter the appropriate settings as described in [Table 4-1](#).
- Step 4** Click **Insert** to save the Cisco CallManager group in the database.

After you have configured the Cisco CallManager group, you can use it to configure device pools. Devices obtain their Cisco CallManager group list setting from the device pool to which they are assigned.

Related Topics

- [Finding a Cisco CallManager Group, page 4-2](#)
- [Updating a Cisco CallManager Group, page 4-5](#)
- [Copying a Cisco CallManager Group, page 4-6](#)
- [Deleting a Cisco CallManager Group, page 4-7](#)
- [Cisco CallManager Group Configuration Settings, page 4-8](#)

Updating a Cisco CallManager Group

This section describes how to update an existing Cisco CallManager group.

Procedure

- Step 1** Find the Cisco CallManager group by using the procedure in the [“Finding a Cisco CallManager Group”](#) section on page 4-2.
- Step 2** Click the Cisco CallManager group that you want to update.
- Step 3** Update the appropriate settings as described in [Table 4-1](#).



Note To designate a group as the default Auto-registration Cisco CallManager Group, check the Auto-registration Cisco CallManager Group check box.

If the currently selected group is the default group for auto-registration, you cannot change it by unchecking the Auto-registration Cisco CallManager Group check box. You must choose a different default auto-registration group. When you do so, the Cisco CallManager automatically changes the currently selected default auto-registration group.

- Step 4** Click **Update** to save the changes in the database.
You must reset the devices that use the updated Cisco CallManager group to apply the changes. To reset all the devices that use this Cisco CallManager group, click **Reset Devices**.



Tip For your convenience in resetting devices, the **Reset Devices** button resets all devices in the device pool that uses this Cisco CallManager group.



Caution Resetting devices can cause calls in progress to drop.

Related Topics

- [Finding a Cisco CallManager Group, page 4-2](#)
- [Adding a Cisco CallManager Group, page 4-4](#)
- [Copying a Cisco CallManager Group, page 4-6](#)
- [Deleting a Cisco CallManager Group, page 4-7](#)
- [Cisco CallManager Group Configuration Settings, page 4-8](#)

Copying a Cisco CallManager Group

Use the following procedure to add a new Cisco CallManager group by copying settings from an existing group.

Procedure

- Step 1** Find the Cisco CallManager group by using the procedure in the [“Finding a Cisco CallManager Group”](#) section on page 4-2.
- Step 2** Click the **Copy** icon that corresponds to the Cisco CallManager group that you want to copy.
- Step 3** In the Cisco CallManager Group field, enter the name of the new group. You must change the name of the group.
- Step 4** Edit the fields that you want to change as described in [Table 4-1](#).
- Step 5** Click **Insert** to apply the changes and add the new Cisco CallManager group to the database.
-

Related Topics

- [Finding a Cisco CallManager Group, page 4-2](#)
- [Adding a Cisco CallManager Group, page 4-4](#)
- [Updating a Cisco CallManager Group, page 4-5](#)
- [Deleting a Cisco CallManager Group, page 4-7](#)
- [Cisco CallManager Group Configuration Settings, page 4-8](#)

Deleting a Cisco CallManager Group

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

Before You Begin

You cannot delete a Cisco CallManager group if it is assigned to any device pools or MGCP gateways or if it is the current Auto-registration Cisco CallManager Group for the cluster. To find out which devices are using the Cisco CallManager group, click the **Dependency Records** link from the Cisco CallManager Group 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 Cisco CallManager group that is in use, an error message displays. Before deleting a Cisco CallManager group that is currently in use, you must perform some or all of the following tasks:

- Assign a different Cisco CallManager group to the device pools or MGCP gateways that are currently using this Cisco CallManager group. See the [“Updating a Device Pool” section on page 8-5](#).
- Create or choose a different Cisco CallManager group to be the Auto-registration Cisco CallManager Group.

Procedure

-
- | | |
|---------------|--|
| Step 1 | Find the Cisco CallManager group by using the procedure in the “Finding a Cisco CallManager Group” section on page 4-2 . |
| Step 2 | From the list of matching records, choose the group that you want to delete. |
| Step 3 | Click Delete . |
| Step 4 | When asked to confirm the delete operation, click either OK to delete or Cancel to cancel the delete operation. |
-

Related Topics

- [Finding a Cisco CallManager Group, page 4-2](#)
- [Adding a Cisco CallManager Group, page 4-4](#)

- [Updating a Cisco CallManager Group, page 4-5](#)
- [Copying a Cisco CallManager Group, page 4-6](#)
- [Cisco CallManager Group Configuration Settings, page 4-8](#)

Cisco CallManager Group Configuration Settings

[Table 4-1](#) describes the configuration settings for Cisco CallManager groups.

Table 4-1 Cisco CallManager Group Configuration Settings

Field	Description
Cisco CallManager Group	Enter the name of the new group.
Auto-registration Cisco CallManager Group	<p>Check the Auto-registration Cisco CallManager Group check box if you want this Cisco CallManager group to be the default Cisco CallManager group when auto-registration is enabled.</p> <p>Leave this check box unchecked if you do not want devices to auto-register with this Cisco CallManager group.</p> <p>Note Each Cisco CallManager cluster can have only one default auto-registration group. If you select a different Cisco CallManager group as the default auto-registration group, the previously chosen auto-registration group no longer serves as the default for the cluster.</p>
Available Cisco CallManagers	<p>This field displays the list of available Cisco CallManager that are not a part of the Cisco CallManager group.</p> <p>Choose the Cisco CallManager names and use the left and right arrows to move Cisco CallManagers between the <i>Selected</i> list and the <i>Available</i> list.</p>

Table 4-1 Cisco CallManager Group Configuration Settings (continued)

Field	Description
Selected Cisco CallManagers	<p>This field displays the Cisco CallManagers that are in the Cisco CallManager group. The <i>Selected</i> list can contain up to three Cisco CallManagers. Cisco CallManagers in the <i>Selected</i> list become members of the group when you click Insert.</p> <p>Choose the Cisco CallManager names and use the left and right arrows to move Cisco CallManagers between the <i>Selected</i> list and the <i>Available</i> list. Use the up and down arrows to arrange the groups in the <i>Selected</i> list in the order that you want.</p>

Related Topics

- [Finding a Cisco CallManager Group, page 4-2](#)
- [Adding a Cisco CallManager Group, page 4-4](#)
- [Updating a Cisco CallManager Group, page 4-5](#)
- [Copying a Cisco CallManager Group, page 4-6](#)
- [Deleting a Cisco CallManager Group, page 4-7](#)



Date/Time Group Configuration

Use Date/Time Groups to define time zones for the various devices that are connected to Cisco CallManager. Each device exists as a member of only one device pool, and each device pool has only one assigned Date/Time Group.

Installing Cisco CallManager automatically configures a default Date/Time Group that is called CMLocal. CMLocal synchronizes to the active date and time of the operating system on the server where Cisco CallManager is installed. After installing Cisco CallManager, you can change the settings for CMLocal as desired. Normally, adjust server date/time to the local time zone date and time.



Note

CMLocal resets to the operating system date and time whenever you restart Cisco CallManager or upgrade the Cisco CallManager software to a new release. Do not change the name of CMLocal.



Tip

For a worldwide distribution of Cisco IP Phones, create one named Date/Time Group for each of the 24 time zones.

Use the following topics to add, update, or delete Date/Time Groups:

- [Finding a Date/Time Group, page 5-2](#)
- [Adding a Date/Time Group, page 5-4](#)
- [Updating a Date/Time Group, page 5-5](#)
- [Deleting a Date/Time Group, page 5-5](#)
- [Date/Time Group Configuration Settings, page 5-7](#)

Finding a Date/Time Group

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

**Note**

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

Procedure

Step 1 Choose **System > Date/Time Group**.

The Find and List Date/Time Groups window displays. Use the two drop-down list boxes to search for a date/time group.

Step 2 From the first Find Date/Time Groups where drop-down list box, choose one of the following criteria:

- Group Name
- Time Zone

**Note**

The criterion that you choose in this drop-down list box specifies how the list of date/time groups that your search generates will be sorted. For example, if you choose Time Zone, the Time Zone column will display as the left column of the results list.

From the second Find Date/Time Groups where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with

- is exactly
- is not empty
- is empty

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 Date/Time Groups that are registered in the database, click **Find** without entering any search text.

A list of discovered Date/Time Groups displays by

- Date/Time Group icon
- Group name
- Time Zone



Note You can delete multiple date/time groups from the Find and List Date/Time Groups window by checking the check boxes next to the appropriate date/time groups and clicking **Delete Selected**. You can delete all date/time groups 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 Date/Time Group icon or name or the Time Zone that matches your search criteria.

The window displays the date/time group that you choose.

Related Topics

- [Adding a Date/Time Group, page 5-4](#)
- [Updating a Date/Time Group, page 5-5](#)
- [Deleting a Date/Time Group, page 5-5](#)
- [Date/Time Group Configuration Settings, page 5-7](#)

Adding a Date/Time Group

This section describes how to add a new date/time group to the Cisco CallManager database.

Procedure

- Step 1** Choose **System > Date/Time Group**.
- Step 2** Use one of the following methods to add a date/time group:
- If a date/time group already exists with settings that are similar to the one that you want to add, choose the existing date/time group to display its settings, click **Copy**, and modify the settings as needed.
 - To add a date/time group without copying an existing one, continue with [Step 3](#).
- Step 3** In the upper, right corner of the window, click the **Add a New Date/Time Group** link.
- The Date/Time Group Configuration window displays.
- Step 4** Enter or edit the appropriate settings as described in [Table 5-1](#).
- Step 5** Click **Insert** to save the new date/time group in the database.
-

Next Steps

After adding a new date/time group to the database, you can assign it to a device pool to configure the date and time information for that device pool. For more information, see the “[Adding a Device Pool](#)” section on page 8-4.

Related Topics

- [Finding a Date/Time Group, page 5-2](#)
- [Updating a Date/Time Group, page 5-5](#)
- [Deleting a Date/Time Group, page 5-5](#)
- [Date/Time Group Configuration Settings, page 5-7](#)

Updating a Date/Time Group

This section describes how to update a date/time group.

Procedure

- Step 1** Find the date/time group by using the procedure in the [“Finding a Date/Time Group”](#) section on page 5-2.
 - Step 2** From the list of matching records, choose the date/time group that you want to update.
 - Step 3** Update the appropriate settings as described in [Table 5-1](#).
 - Step 4** Click **Update** to save the changes in the database.
 - Step 5** To apply the changes, press the **Reset Devices** button.
-

Related Topics

- [Finding a Date/Time Group, page 5-2](#)
- [Adding a Date/Time Group, page 5-4](#)
- [Deleting a Date/Time Group, page 5-5](#)
- [Date/Time Group Configuration Settings, page 5-7](#)

Deleting a Date/Time Group

This section describes how to delete a date/time group from the Cisco CallManager database.

Before You Begin

You cannot delete a date/time group that any device pool is using. To find out which device pools are using the date/time group, click the **Dependency Records** link from the Date/Time Group 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 date/time group

that is in use, Cisco CallManager displays an error message. Before deleting a date/time group that is currently in use, you must perform either or both of the following tasks:

- Assign a different date/time group to any device pools that are using the date/time group that you want to delete. See the [“Updating a Device Pool” section on page 8-5](#).
- Delete the device pools that are using the date/time group that you want to delete. See the [“Deleting a Device Pool” section on page 8-6](#).

Procedure

- Step 1** Find the date/time group by using the procedure in the [“Finding a Date/Time Group” section on page 5-2](#).
- Step 2** From the list of matching records, choose the date/time group that you want to delete.
- Step 3** Click **Delete**.
- Step 4** When prompted to confirm the delete operation, click either **OK** to delete or **Cancel** to cancel the delete operation.
-

Related Topics

- [Finding a Date/Time Group, page 5-2](#)
- [Adding a Date/Time Group, page 5-4](#)
- [Updating a Date/Time Group, page 5-5](#)
- [Date/Time Group Configuration Settings, page 5-7](#)

Date/Time Group Configuration Settings

Table 5-1 describes the date/time group configuration settings.

Table 5-1 *Date/Time Group Configuration Settings*

Field	Description
Group Name	Enter the name that you want to assign to the new date/time group.
Time Zone	Choose the time zone for the group that you are adding. The option “local time zone of CallManager” copies the time zone information from the operating system of the server where Cisco CallManager is installed.
Separator	Choose the separator character to use between the date fields.
Date Format	Choose the date format for the date that displays on the Cisco IP Phones.
Time Format	Choose 12-hour or 24-hour time.

Related Topics

- [Finding a Date/Time Group, page 5-2](#)
- [Adding a Date/Time Group, page 5-4](#)
- [Updating a Date/Time Group, page 5-5](#)
- [Deleting a Date/Time Group, page 5-5](#)



Device Defaults Configuration

Use device defaults to set the default characteristics of each type of device that registers with a Cisco CallManager. The device defaults for a device type apply to all auto-registered devices of that type within a Cisco CallManager cluster. You can set the following device defaults for each device type to which they apply:

- Device load
- Device pool
- Phone button template

When a device auto-registers with a Cisco CallManager, it acquires the device default settings for its device type. After a device registers, you can update its configuration individually to change the device settings.

Installing Cisco CallManager automatically sets device defaults. You cannot create new device defaults or delete existing ones, but you can change the default settings by using the following topics:

- [Updating Device Defaults, page 6-1](#)
- [Device Defaults Configuration Settings, page 6-3](#)
- [Finding Devices With Non-Default Firmware Loads, page 6-4](#)
- [Device Firmware Loads, *Cisco CallManager System Guide*](#)

Updating Device Defaults

This section describes how to modify the device defaults in the Cisco CallManager configuration database.

Before You Begin

Before updating the device defaults, perform any of the following tasks that apply to your system:

- Add new firmware files for the devices to the TFTP server. For each available firmware load, a .bin file exists in the Program Files\Cisco\TFTPPath folder on the Cisco CallManager server or in another configurable location.

For example, for the firmware load P002A0305556, a file named P002A0305556.bin exists in the Program Files\Cisco\TFTPPath folder.

- If you use device defaults to assign a firmware load that does not exist in the directory, those devices will fail to load the assigned firmware.
- Configure new device pools. See the [“Adding a Device Pool” section on page 8-4](#).
- If the device is a phone, configure new phone templates. See the [“Adding Phone Button Templates” section on page 51-4](#).

Procedure

- Step 1** Choose **System > Device Defaults**.
- Step 2** Update the appropriate settings for the device that you want to change as described in [Table 6-1](#).
- Step 3** Click **Update** to save the changes in the Cisco CallManager configuration database.
- Step 4** Click the Reset icon to the left of the device name to reset all the devices of that type and load the new defaults on all Cisco CallManagers in the cluster.

If you choose not to reset all devices of that type, only new devices that are added after you change the device defaults receive the latest defaults.

Related Topics

- [Device Defaults Configuration Settings, page 6-3](#)
- [Finding Devices With Non-Default Firmware Loads, page 6-4](#)

Device Defaults Configuration Settings

[Table 6-1](#) describes the configuration settings for device defaults.

Table 6-1 *Device Defaults Configuration Settings*

Field Name	Description
Load Information	Enter the ID number of the firmware load that is used with a particular type of hardware device. If you install an upgrade or patch load, you must update the load information for each type of device that uses the new load.
Device Pool	Choose the device pool that is associated with each type of device. The device pool defines common characteristics for all devices in the pool.
Phone Template	Choose the phone button template that is used by each type of Cisco IP Phone. The template defines what keys on the phone perform that function.

Related Topics

- [Updating Device Defaults, page 6-1](#)
- [Finding Devices With Non-Default Firmware Loads, page 6-4](#)

Finding Devices With Non-Default Firmware Loads

The Firmware Load Information page in Cisco CallManager Administration enables you to quickly locate devices that are not using the default firmware load for their device type.

**Note**

Each device can have an individually assigned firmware load that overrides the default.

Use the following procedure to locate devices that are not using the default firmware load.

Procedure

Step 1 Select **Device > Device Settings > Firmware Load Information**.

The page updates to display a list of device types that require firmware loads. For each device type, the **Devices Not Using Default Load** column links to configuration settings for any devices that use a non-default load.

Step 2 Click view details in the **Devices Not Using Default Load** column to view a list of devices of that type that are using a non-default device load.

Related Topics

- [Updating Device Defaults, page 6-1](#)
- [Device Defaults Configuration, page 6-1](#)



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.

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.

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: <ul style="list-style-type: none"> • 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](#)



Device Pool Configuration

Use device pools to define sets of common characteristics for devices. You can specify the following device characteristics for a device pool:

- Cisco CallManager group
- Date/time group
- Region
- Softkey template
- SRST reference
- Calling search space for auto-registration
- Media resource group list
- Music On Hold (MOH) audio sources
- User and network locales
- MLPP settings

Use the following topics to add, update, or delete a device pool:

- [Finding a Device Pool, page 8-2](#)
- [Adding a Device Pool, page 8-4](#)
- [Updating a Device Pool, page 8-5](#)
- [Deleting a Device Pool, page 8-6](#)
- [Device Pool Configuration Settings, page 8-8](#)

Refer to the [“System-Level Configuration Settings”](#) section in the *Cisco CallManager System Guide* for more information about device pools and the device settings that are assigned through device pools.

Finding a Device Pool

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



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

Procedure

Step 1 Choose **System > Device Pool**.

The Find and List Device Pools window displays. Use the two drop-down list boxes to search for a device pool.

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

- Device Pool Name
- Cisco CallManager Group
- Region



Note The criterion that you choose in this drop-down list box specifies how the list of device pools that your search generates will be sorted. For example, if you choose Region, the Region column will display as the left column of the results list.

From the second Find Device Pools where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly
- is not empty
- is empty

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 device pools that are registered in the database, click **Find** without entering any search text.

A list of discovered device pools displays by

- Device Pool icon
- Device Pool Name
- CallManager Group
- Region
- Date/Time Group



Note You can delete multiple device pools from the Find and List Device Pools window by checking the check boxes next to the appropriate device pools and clicking **Delete Selected**. You can delete all device pools 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 Device Pool icon or name, the CallManager Group, the Region, or the Date/Time Group that matches your search criteria. The window displays the device pool that you choose.

Related Topics

- [Adding a Device Pool, page 8-4](#)
- [Updating a Device Pool, page 8-5](#)
- [Deleting a Device Pool, page 8-6](#)
- [Device Pool Configuration Settings, page 8-8](#)

Adding a Device Pool

This section describes how to add a new device pool to the Cisco CallManager database. After adding a new device pool to the database, you can use it to configure devices such as Cisco IP Phones, gateways, conference bridges, transcoders, media termination points, voice-mail ports, CTI route points, and so on.

Before You Begin

Before configuring a device pool, you must configure the following items if you want to choose them for the device pool:

- Cisco CallManager group (required). See the [“Adding a Cisco CallManager Group”](#) section on page 4-4.
- Date/time group (required). See the [“Adding a Date/Time Group”](#) section on page 5-4.
- Region (required). See the [“Adding a Region”](#) section on page 7-3.
- SRST reference (optional). See the [“Adding an SRST Reference”](#) section on page 12-3.
- Media resource group list (optional). See the [“Adding a Media Resource Group List”](#) section on page 32-4.
- MOH audio sources (optional). See the [“Configuring Music On Hold Audio Sources”](#) section in the *Cisco CallManager Features and Services Guide*.
- Calling search space for auto-registration (optional). See the [“Adding a Calling Search Space”](#) section on page 16-3.
- Softkey templates if you are not using the standard softkey templates that are provided with Cisco CallManager (optional). See the [“Adding Nonstandard Softkey Templates”](#) section on page 52-4.

Procedure

- Step 1** Choose **System > Device Pool**.
- Step 2** Use one of the following methods to add a device pool:
- If a device pool already exists with settings that are similar to the one that you want to add, choose the existing device pool to display its settings, click **Copy**, and modify the settings as needed.
 - To add a device pool without copying an existing one, continue with [Step 3](#).
- Step 3** In the upper, right corner of the window, click the **Add a New Device Pool** link. The Device Pool Configuration window displays.
- Step 4** Enter or edit the appropriate fields as described in the “[Device Pool Configuration Settings](#)” section on page 8-8.
- Step 5** Click **Insert** to save the device pool information in the database.
-

Related Topics

- [Device Defaults Configuration, page 6-1](#)
- [Finding a Device Pool, page 8-2](#)
- [Updating a Device Pool, page 8-5](#)
- [Deleting a Device Pool, page 8-6](#)
- [Device Pool Configuration Settings, page 8-8](#)

Updating a Device Pool

This section describes how to modify the configuration of an existing device pool.

Procedure

- Step 1** Find the device pool by using the procedure in the “[Finding a Device Pool](#)” section on page 8-2.
- Step 2** From the list of matching records, choose the device pool that you want to update.

- Step 3** Update the appropriate settings as described in [Table 8-1](#).
- Step 4** Click **Update** to save the changes in the database.
- Step 5** Restart the devices to apply the changes. To restart all the devices in the chosen device pool, click **Restart Devices**.



Tip For your convenience in restarting devices, the **Restart Devices** button restarts all devices in the chosen device pool.



Caution Restarting devices can cause them to drop calls.

Related Topics

- [Finding a Device Pool, page 8-2](#)
- [Adding a Device Pool, page 8-4](#)
- [Deleting a Device Pool, page 8-6](#)
- [Device Pool Configuration Settings, page 8-8](#)

Deleting a Device Pool

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

Before You Begin

You cannot delete a device pool if it has any devices assigned to it, if it is used for Device Defaults configuration, or if it is the only device pool in the database. If you try to delete a device pool that is in use, an error message displays. Before deleting a device pool that is currently in use, you must perform either or both of the following tasks:

- Update the devices to assign them to a different device pool. See the [“Updating a Phone” section on page 49-10](#).
- Delete the devices that are assigned to the device pool that you want to delete. See the [“Deleting a Phone” section on page 49-11](#).

Procedure

-
- Step 1** Find the device pool by using the procedure in the [“Finding a Device Pool” section on page 8-2](#).
 - Step 2** From the list of matching records, choose the device pool that you want to delete.
 - Step 3** Click **Delete**.
 - Step 4** When prompted to confirm the delete operation, click **OK** to delete or click **Cancel** to cancel the delete operation.
-

Related Topics

- [Finding a Device Pool, page 8-2](#)
- [Adding a Device Pool, page 8-4](#)
- [Updating a Device Pool, page 8-5](#)
- [Device Pool Configuration Settings, page 8-8](#)

Device Pool Configuration Settings

Table 8-1 lists and describes device pool configuration settings.

Table 8-1 Device Pool Configuration Settings

Field Name	Description
Device Pool Settings	
Device Pool Name	Enter the name of the new device pool that you are creating.
Cisco CallManager Group	Choose the Cisco CallManager group to assign to devices in this device pool. A Cisco CallManager group specifies a prioritized list of up to three Cisco CallManagers. The first Cisco CallManager in the list serves as the primary Cisco CallManager for that group, and the other members of the group serve as backup Cisco CallManagers for redundancy.
Date/Time Group	Choose the date/time group to assign to devices in this device pool. The date/time group specifies the time zone and the display formats for date and time.
Region	Choose the Cisco CallManager region to assign to devices in this device pool. The Cisco CallManager region settings specify voice codec that can be used for calls within a region and between other regions.
Softkey Template	From the drop-down list box, choose the softkey template that is associated with the devices in the device pool.

Table 8-1 Device Pool Configuration Settings (continued)

Field Name	Description
SRST Reference	<p>From the drop-down list box, choose a survivable remote site telephony (SRST) reference to assign to devices in this device pool. Choose from the following options:</p> <ul style="list-style-type: none"> • Disable—If you choose this option, devices in this device pool will not have SRST reference gateways available to them. • Use Default Gateway—If you choose this option, devices in this device pool use the default gateway for SRST. • Existing SRST references—If you choose an SRST reference from the drop-down list, devices in this device pool will use this SRST reference gateway.
Calling Search Space for Auto-registration	Choose the calling search space to assign to devices in this device pool that auto-registers with Cisco CallManager. The calling search space specifies partitions that devices can search when attempting to complete a call.
Media Resource Group List	From the drop-down list box, choose a media resource group list. A media resource group list specifies a prioritized list of media resource groups. An application selects the required media resource (for example, a music on hold server, transcoder, or conference bridge) from the available media resource groups according to the priority order that is defined in a media resource group list.
Network Hold MOH Audio Source	Choose the audio source to use for music on hold (MOH) when the network initiates a hold action.
User Hold MOH Audio Source	Choose the audio source to use for music on hold (MOH) when a user initiates a hold action.

Table 8-1 Device Pool Configuration Settings (continued)

Field Name	Description
Network Locale	<p>From the drop-down list box, choose the locale that is associated with phones and gateways. The network locale contains a definition of the tones and cadences that the phones and gateways in the device pool in a specific geographic area use. Make sure that you select a network locale supported by all of the phones and gateways that use this device pool.</p> <p>Note If the user does not choose a network locale, the locale that is specified in the Cisco CallManager clusterwide parameters as Default Network Locale applies.</p> <p>Note Choose only a network locale that is already installed and supported by the associated devices. The list contains all available network locales for this setting, but not all are necessarily installed. If a device is associated with a network locale that it does not support in the firmware, the device will fail to come up.</p>
User Locale	<p>From the drop-down list box, choose the locale that is associated with the phones and gateways in the device pool. The user locale identifies a set of detailed information to support users, including language and font.</p> <p>Note If the user does not choose a user locale, the locale that is specified in the Cisco CallManager clusterwide parameters as Default User Locale applies.</p>

Table 8-1 Device Pool Configuration Settings (continued)

Field Name	Description
Multilevel Precedence and Preemption (MLPP) Information	
MLPP Indication	<p>This setting specifies whether devices in the device pool that are capable of playing precedence tones will use the capability when the devices place an MLPP precedence call.</p> <p>From the drop-down list box, choose a setting to assign to the devices in this device pool from the following options:</p> <ul style="list-style-type: none"> • Default—This device pool inherits its MLPP Indication setting from the MLPP Indication Status enterprise parameter. • Off—Devices in this device pool do not handle nor process indication of an MLPP precedence call. • On—Devices in this device pool do handle and process indication of an MLPP precedence call. <p>Note Do not configure a device pool with the following combination of settings: MLPP Indication is set to <i>Off</i> or <i>Default</i> (when default is <i>Off</i>) while MLPP Preemption is set to <i>Forceful</i>.</p>

Table 8-1 Device Pool Configuration Settings (continued)

Field Name	Description
MLPP Preemption	<p>This setting specifies whether devices in the device pool that are capable of preempting calls in progress will use the capability when the devices place an MLPP precedence call.</p> <p>From the drop-down list box, choose a setting to assign to the devices in this device pool from the following options:</p> <ul style="list-style-type: none"> • Default—This device pool inherits its MLPP Preemption setting from the MLPP Preemption Setting enterprise parameter. • Disabled—Devices in this device pool do not allow preemption of lower-precedence calls to take place when necessary for completion of higher-precedence calls. • Forceful—Devices in this device pool allow preemption of lower-precedence calls to take place when necessary for completion of higher-precedence calls. <p>Note Do not configure a device pool with the following combination of settings: MLPP Indication is set to <i>Off or Default</i> (when default is <i>Off</i>) while MLPP Preemption is set to <i>Forceful</i>.</p>
MLPP Domain (e.g., “0000FF”)	<p>Enter a hexadecimal value between 0 and FFFFFFFF for the MLPP domain that is associated with this device pool. If you leave this field blank, this device pool inherits its MLPP domain from the value set for the MLPP Domain Identifier enterprise parameter.</p>

Related Topics

- [Finding a Device Pool, page 8-2](#)
- [Adding a Device Pool, page 8-4](#)

- [Updating a Device Pool, page 8-5](#)
- [Deleting a Device Pool, page 8-6](#)



Enterprise Parameters Configuration

Enterprise parameters provide default settings that apply to all devices and services in the same cluster. (A cluster comprises a set of Cisco CallManagers that share the same database.) When you install a new Cisco CallManager, it uses the enterprise parameters to set the initial values of its device defaults. For more information on device defaults, see the [“Device Defaults Configuration”](#) section on page 6-1 and refer to the [“System-Level Configuration Settings”](#) section of the *Cisco CallManager System Guide*.

You cannot add or delete enterprise parameters, but you can use the following procedure to update existing enterprise parameters.



Note

Many of the enterprise parameters rarely require change. Do not change an enterprise parameter unless you fully understand the feature that you are changing or unless the Cisco Technical Assistance Center (TAC) specifies the change.

Procedure

Step 1 Choose **System > Enterprise Parameters**.

Step 2 Update the appropriate parameter settings.

To view the description of a particular enterprise parameter, click the parameter name. To view the descriptions of all the enterprise parameters, click the **i** button.

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





Location Configuration

Use locations to implement call admission control in a centralized call-processing system. Call admission control enables you to regulate audio quality and video availability by limiting the amount of bandwidth that is available for audio and video calls over links between the locations. For more information, refer to the “[Call Admission Control](#)” section in the *Cisco CallManager System Guide*.



Note

If you do not use call admission control to limit the audio and video bandwidth on an IP WAN link, an unlimited number of calls can be active on that link at the same time. This situation can cause the audio quality of each audio call and the video quality of each video call to degrade as the link becomes oversubscribed.

In a centralized call-processing system, a single Cisco CallManager cluster provides call processing for all locations on the IP telephony network. The Cisco CallManager cluster usually resides at the main (or central) location, along with other devices such as phones and gateways. The remote locations contain additional devices, but no Cisco CallManager. IP WAN links connect the remote locations to the main location.

The following topics explain locations in more detail:

- [Finding a Location, page 10-2](#)
- [Adding a Location, page 10-4](#)
- [Updating a Location, page 10-5](#)
- [Deleting a Location, page 10-5](#)

- [Resynchronizing a Location Bandwidth](#), page 10-7
- [Location Configuration Settings](#), page 10-8

Finding a Location

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

**Note**

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

Procedure**Step 1** Choose **System > Location**.

The Find and List Locations window displays. Use the two drop-down list boxes to search for a location.

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

- Location
- Voice Bandwidth

**Note**

The criterion that you choose in this drop-down list box specifies how the list of location that your search generates will be sorted. For example, if you choose Bandwidth, the Bandwidth column will display as the left column of the results list.

From the second Find locations 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 locations that are registered in the database, click **Find** without entering any search text.

A list of discovered locations displays by

- Location icon
- Location Name
- Bandwidth



Note You can delete multiple locations from the Find and List Locations window by checking the check boxes next to the appropriate locations and clicking **Delete Selected**. You can delete all locations 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 Location icon or name or the Bandwidth that matches your search criteria.

The window displays the location that you choose.

Related Topics

- [Adding a Location, page 10-4](#)
- [Updating a Location, page 10-5](#)
- [Deleting a Location, page 10-5](#)
- [Location Configuration Settings, page 10-8](#)
- [Resynchronizing a Location Bandwidth, page 10-7](#)

Adding a Location

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

Before You Begin

Before configuring a location, you must configure the Cisco CallManagers that form the cluster. For details, see the [“Adding a Cisco CallManager” section on page 3-4](#)

Procedure

- Step 1** Choose **System > Location**.
- Step 2** To add a location, use one of the following methods:
- If a location already exists with settings that are similar to the one that you want to add, choose the existing location to display its settings, click **Copy**, and modify the settings as needed.
 - To add a location without copying an existing one, continue with [Step 3](#).
- Step 3** In the upper, right corner of the window, click the **Add a New Location** link. The Location Configuration window displays.
- Step 4** Enter the appropriate settings as described in [Table 10-1](#).
- Step 5** To save the location information in the database, click **Insert**.
-

Next Steps

After adding a new location to the database, you can assign devices to that location; for example, see:

- [Gateway Configuration, page 48-1](#)
- [Cisco IP Phone Configuration, page 49-1](#)
- [CTI Route Point Configuration, page 44-1](#)

Related Topics

- [Finding a Location, page 10-2](#)
- [Updating a Location, page 10-5](#)
- [Deleting a Location, page 10-5](#)
- [Resynchronizing a Location Bandwidth, page 10-7](#)
- [Location Configuration Settings, page 10-8](#)

Updating a Location

This section describes how to modify the configuration of a location.

Procedure

- Step 1** Find the location by using the procedure in the [“Finding a Location” section on page 10-2](#).
- Step 2** From the list of matching records, choose the location that you want to update.
- Step 3** Update the appropriate settings as described in [Table 10-1](#).
- Step 4** To save the changes in the database, click **Update**.
-

Related Topics

- [Finding a Location, page 10-2](#)
- [Adding a Location, page 10-4](#)
- [Deleting a Location, page 10-5](#)
- [Resynchronizing a Location Bandwidth, page 10-7](#)
- [Location Configuration Settings, page 10-8](#)

Deleting a Location

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

Before You Begin

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

- Update the devices to assign them to a different location.
- Delete the devices that are assigned to the location that you want to delete.



Note

Deleting a location allocates infinite bandwidth for the links that are connected to that location and allows an unlimited number of calls on those links. Deleting a location can cause audio quality on the links to degrade.

Procedure

-
- Step 1** Find the location by using the procedure in the [“Finding a Location” section on page 10-2](#).
 - Step 2** From the list of matching records, choose the location that you want to delete.
 - Step 3** Click **Delete**.
 - Step 4** When prompted to confirm the delete operation, click either **OK** to confirm deletion or **Cancel** to cancel the delete operation.
-

Related Topics

- [Finding a Location, page 10-2](#)
- [Adding a Location, page 10-4](#)
- [Updating a Location, page 10-5](#)
- [Resynchronizing a Location Bandwidth, page 10-7](#)
- [Location Configuration Settings, page 10-8](#)

Resynchronizing a Location Bandwidth

This section describes how to resynchronize the bandwidth for a location. When calls are blocked from using the link for a location, bandwidth leakage may have occurred that may reduce the allotted bandwidth for the location. You can resynchronize the location bandwidth to the maximum amount that is assigned to this location without resetting the Cisco CallManager server. For more information, refer to the “[Bandwidth Calculations](#)” section in the Call Admission Control chapter of the *Cisco CallManager System Guide*.

Procedure

- Step 1** Find the location by using the procedure in the “[Finding a Location](#)” section on [page 10-2](#).
- Step 2** From the list of matching records, choose the location that you want to resynchronize.
- Step 3** Click **ReSync Bandwidth** to resynchronize the bandwidth for the chosen location.

This warning message appears: “If calls are using the bandwidth for this location when the bandwidth is resynchronized, the bandwidth might be oversubscribed until all calls that are using the bandwidth for this location disconnect.”

- Step 4** Click **OK** to continue or click **Cancel**.
-

Related Topics

- [Finding a Location, page 10-2](#)
- [Adding a Location, page 10-4](#)
- [Updating a Location, page 10-5](#)
- [Deleting a Location, page 10-5](#)
- [Location Configuration Settings, page 10-8](#)

Location Configuration Settings

Table 10-1 describes the location configuration settings.

Table 10-1 Location Configuration Settings

Field	Description
Location Information	
Location Name	Enter the name of the new location that you are creating.

Table 10-1 Location Configuration Settings (continued)

Field	Description
Audio Calls Information	
Audio Bandwidth	<p>Enter the maximum amount of audio bandwidth (in kbps) that is available for all audio calls on the link between this location and other locations. For audio calls, the audio bandwidth includes overhead. Choose between the following options:</p> <ul style="list-style-type: none"> • Unlimited bandwidth—Click the Unlimited radio button. • Specified bandwidth—Specify a bandwidth by clicking the radio button next to the kbps box and entering a specified bandwidth. Valid values are 1 to 2147483647. <p>For purposes of location bandwidth calculations only, assume that each call stream consumes the following amount of bandwidth:</p> <ul style="list-style-type: none"> • G.711 call uses 80 kbps. • G.722 call uses 80 kbps. • G.723 call uses 24 kbps. • G.728 call uses 16 kbps. • G.729 call uses 24 kbps. • GSM call uses 29 kbps. • Wideband call uses 272 kbps. <p>Note Each call comprises two call streams. To improve audio quality, lower the bandwidth setting, so fewer active calls are allowed on the link to this location.</p>

Table 10-1 Location Configuration Settings (continued)

Field	Description
Video Calls Information	
Video Bandwidth	<p>Enter the maximum amount of video bandwidth (in kbps) that is available for all video calls on the link between this location and other locations. For video calls, the video bandwidth does not include overhead. Choose between the following options:</p> <ul style="list-style-type: none"> • None—Video calls are not allowed between this location and other locations. Video calls can, however, take place within this location. • Unlimited bandwidth—Click the Unlimited radio button. • Specified bandwidth—Specify a video bandwidth by clicking the radio button next to the kbps box and entering a specified video bandwidth. The default value is 384 kbps.

Related Topics

- [Finding a Location, page 10-2](#)
- [Adding a Location, page 10-4](#)
- [Updating a Location, page 10-5](#)
- [Deleting a Location, page 10-5](#)
- [Resynchronizing a Location Bandwidth, page 10-7](#)



Auto-Registration Configuration

Use auto-registration if you want Cisco CallManager to assign directory numbers automatically to new phones as they connect to the IP telephony network.



Note

Cisco recommends you use auto-registration to add less than 100 phones to your network. To add more than 100 phones to your network, use the Bulk Administration Tool (BAT).

After a phone has auto-registered, you can move it to a new location and assign it to a different device pool without affecting its directory number.

This section covers the following topics:

- [Enabling Auto-Registration, page 11-2](#)
- [Disabling Auto-Registration, page 11-3](#)
- [Auto-Registration Configuration Settings, page 11-5](#)
- [Reusing Auto-Registration Numbers, page 11-7](#)

Enabling Auto-Registration

This section describes how to enable auto-registration for new devices.



Caution

Cisco CallManager disables auto-registration by default. Enabling auto-registration carries a security risk in that “rogue” phones can automatically register with Cisco CallManager. You should enable auto-registration only for brief periods when you want to perform bulk phone adds.

Configuring mixed mode clusterwide security through the Cisco CTL Client automatically disables auto-registration. If you want to use auto-registration and you have configured security, you must change the clusterwide security mode to non-secure through the Cisco CTL Client.

Procedure

- Step 1** Choose **System > Cisco CallManager**.
- Step 2** From the list of Cisco CallManagers, choose the Cisco CallManager that you want to enable for auto-registration.
- Step 3** Enter the appropriate Auto-registration Information, as described in [Table 11-1](#).
- Step 4** Click **Update** to save any changes in the database.
- Step 5** Repeat [Step 2](#) through [Step 4](#) for each Cisco CallManager that you want to enable for auto-registration. You can designate only one primary Cisco CallManager for auto-registration, but you can designate other Cisco Call Managers as backups for purposes of auto-registration. See the “[Redundancy](#)” section in the *Cisco CallManager System Guide*.
- Step 6** Choose **System > Cisco CallManager Group**.
- Step 7** From the list of Cisco CallManager groups, choose the group that is enabled for auto-registration. (In most systems, the name of this group is Default.) This group serves as the default Cisco CallManager group for devices that auto-register. Make sure that the Selected list for this group contains the Cisco CallManagers that you configured for auto-registration in [Step 2](#). The Cisco CallManagers get selected in the order that they are listed in the Cisco CallManager group.
- Step 8** If you made any changes to the group configuration, click **Update** to save the changes in the database.

- Step 9** Choose **System > Device Pool**.
- Step 10** From the list of device pools, choose one of the default device pools that are assigned in the Device Defaults (see the “[Device Defaults Configuration](#)” section on page 6-1). Cisco CallManager assigns each auto-registered device to a default device pool based on the device type.
- Step 11** From the drop-down list box for Cisco CallManager Group, choose the Cisco CallManager group that you configured for auto-registration in [Step 7](#). This step assigns the default device pool to the default Cisco CallManager group for auto-registration.
- Step 12** From the drop-down list box for Calling Search Space for Auto-Registration, choose the calling search space to assign to the devices in this device pool that auto-register with Cisco CallManager. The calling search space specifies the route partitions that are used by the devices in the pool.
- Step 13** Click **Update** to save the device pool changes in the database.
- Step 14** Repeat [Step 10](#) through [Step 13](#) for each device pool that is listed in the Device Defaults.
-

Related Topics

- [Disabling Auto-Registration, page 11-3](#)
- [Auto-Registration Configuration Settings, page 11-5](#)
- [Reusing Auto-Registration Numbers, page 11-7](#)

Disabling Auto-Registration

This section describes how to disable auto-registration.

Procedure

- Step 1** Choose **System > Cisco CallManager**.
- Step 2** From the Cisco CallManager list, choose the Cisco CallManager where you want to disable auto-registration.

Step 3 Click the Auto-registration Disabled option to disable auto-registration for this Cisco CallManager (when this box is checked, auto-registration is disabled).



Note You can also disable auto-registration by setting the Starting Directory Number and Ending Directory Number to the same value.

Step 4 Click **Update** to save the changes in the database.

Step 5 Repeat [Step 2](#) through [Step 4](#) for each Cisco CallManager where you want to disable auto-registration.

Related Topics

- [Enabling Auto-Registration, page 11-2](#)
- [Auto-Registration Configuration Settings, page 11-5](#)
- [Reusing Auto-Registration Numbers, page 11-7](#)

Auto-Registration Configuration Settings

Table 11-1 describes the auto-registration configuration settings.

Table 11-1 Auto-Registration Configuration Settings

Field Name	Description
Starting Directory Number	<p>Enter the first directory number to use for auto-registration of devices.</p> <p>Specifying a range of directory numbers in the Starting Directory Number and Ending Directory Number fields automatically enables auto-registration.</p> <p>Setting the starting and ending directory numbers to the same value disables auto-registration.</p>
Ending Directory Number	<p>Enter the last directory number to use for auto-registration of devices.</p> <p>Specifying a range of directory numbers in the Starting Directory Number and Ending Directory Number fields automatically enables auto-registration.</p> <p>Setting the starting and ending directory numbers to the same value disables auto-registration.</p>
Partition	<p>Choose the partition to which auto-registered directory numbers belong. If you are not using partitions, choose <None>.</p> <p>You must choose a valid directory number range for auto-registration before you can choose a partition and external phone number mask.</p> <p>The partition field resets if you disable auto-registration.</p> <p>If a large number of partitions exist, the ellipsis (...) button displays next to the drop-down list box. Click the ... button to display the Select Partition window. Enter a partial partition name in the List items where Name contains field. Click the desired partition name in the list of partitions that displays in the Select item to use box, and click OK.</p>

Table 11-1 Auto-Registration Configuration Settings (continued)

Field Name	Description
External Phone Number Mask	<p>Specify the mask that is used to format caller ID information for external (outbound) calls that are made from the auto-registered devices. The mask can contain up to 50 characters. Enter the literal digits that you want to appear in the caller ID information and use Xs to represent the directory number of the auto-registered device.</p> <p>For example, if you specify a mask of 972813XXXX and enable the Use External Phone Number Mask option on the route pattern that is used to make the external call, an external call from extension 1234 displays a caller ID number of 9728131234. If you specify a mask of all literal digits (such as 9728135000) to represent a main attendant number, that literal number becomes the caller ID that displays for an external call from any auto-registered device.</p>
Auto-registration Disabled on this Cisco CallManager	<p>Cisco CallManager disables auto-registration by default to prevent unauthorized connections to the network. When auto-registration is disabled, you must configure the directory numbers manually whenever you add new devices to your network.</p> <ul style="list-style-type: none"> • Uncheck the auto-registration Disabled option to enable auto-registration for this Cisco CallManager. • Check the Auto-registration Disabled option to disable auto-registration for this Cisco CallManager. <p>You can disable auto-registration by setting the Starting Directory Number and Ending Directory Number to the same value.</p> <p>If starting and ending directory numbers are specified when you disable auto-registration by checking this option, Cisco CallManager sets the starting and ending directory numbers to the same value.</p> <p>The partition and external phone mask information fields also reset when you disable auto-registration.</p>

Related Topics

- [Enabling Auto-Registration, page 11-2](#)
- [Disabling Auto-Registration, page 11-3](#)
- [Reusing Auto-Registration Numbers, page 11-7](#)

Reusing Auto-Registration Numbers

When you connect a new device to the network, Cisco CallManager assigns the next available (unused) auto-registration directory number to that device. If you manually change the directory number of an auto-registered device, or if you delete that device from the database, Cisco CallManager can reuse the auto-registration directory number of that device.

When a device attempts to auto-register, Cisco CallManager searches the range of auto-registration numbers that you specified and tries to find the next available directory number to assign to the device. It begins the search with the next directory number in sequence after the last one that was assigned. If it reaches the ending directory number in the range, Cisco CallManager continues to search from the starting directory number in the range.

You can use the following procedure to reset the range of auto-registration directory numbers and force Cisco CallManager to search from the starting number in the range.

Procedure

- Step 1** Choose **System > Cisco CallManager**.
- Step 2** Choose the Cisco CallManager where you want to reset auto-registration.
- Step 3** Write down the current settings for Starting Directory Number and Ending Directory Number.
- Step 4** Click **Auto-registration Disabled on this Cisco CallManager**.



Caution New phones cannot auto-register while auto-registration is disabled.

- Step 5** Click **Update**.

Step 6 Set the Starting Directory Number and Ending Directory Number to their previous values (or to new values, if desired).

Step 7 Click **Update**.

Related Topics

- [Enabling Auto-Registration, page 11-2](#)
- [Disabling Auto-Registration, page 11-3](#)
- [Auto-Registration Configuration Settings, page 11-5](#)



Survivable Remote Site Telephony Configuration

A survivable remote site telephony (SRST) reference comprises the gateway that can provide limited Cisco CallManager functionality when all other Cisco CallManager servers for a device are unreachable. Typically assigned to device pools, SRST references determine the gateways where calling devices search when they attempt to complete a call if Cisco CallManager is unavailable. For more detailed information on SRST references, refer to the [“Survivable Remote Site Telephony References”](#) section in the *Cisco CallManager System Guide*.

Use the following topics to add, update, copy, or delete a SRST reference:

- [Finding an SRST Reference, page 12-2](#)
- [Adding an SRST Reference, page 12-3](#)
- [Updating an SRST Reference, page 12-4](#)
- [Copying an SRST Reference, page 12-5](#)
- [Deleting an SRST Reference, page 12-6](#)
- [SRST Reference Configuration Settings, page 12-8](#)

Finding an SRST Reference

Because you might have several SRST references in your network, Cisco CallManager lets you locate specific SRST references based on specific criteria. Use the following procedure to locate SRST references that are defined by a particular user.

**Note**

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

Procedure

Step 1 Choose **System > SRST**.

The Find and List SRST References window displays.

Step 2 From the 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.

**Note**

To find all user-defined SRST references that are registered in the database, click **Find** without entering any search text.

A list of discovered SRST references displays by

- SRST Reference Name
- IP Address
- Port

**Note**

You can delete multiple SRST references from the Find and List SRST References window by checking the check boxes next to the appropriate SRST references and clicking **Delete Selected**. You can choose all the SRST references 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 SRST reference that matches your search criteria.

The window displays the SRST reference that you chose.

Related Topics

- [Adding an SRST Reference, page 12-3](#)
- [Updating an SRST Reference, page 12-4](#)
- [Copying an SRST Reference, page 12-5](#)
- [Deleting an SRST Reference, page 12-6](#)
- [SRST Reference Configuration Settings, page 12-8](#)

Adding an SRST Reference

The following procedure describes how to add an SRST reference.

Procedure

- Step 1** In the menu bar, choose **System > SRST**.
- Step 2** Click **Add a New SRST Reference**.
- Step 3** Enter the appropriate settings as described in [Table 12-1](#).
- Step 4** To add the new SRST reference, click **Insert**.
- The message “Status: Insert completed” displays.

- Step 5** To add more SRST references, click **Add a New SRST Reference** and repeat this procedure.
-

Related Topics

- [Finding an SRST Reference, page 12-2](#)
- [Updating an SRST Reference, page 12-4](#)
- [Copying an SRST Reference, page 12-5](#)
- [Deleting an SRST Reference, page 12-6](#)
- [SRST Reference Configuration Settings, page 12-8](#)

Updating an SRST Reference

The following procedure describes how to update an SRST reference.

Procedure

- Step 1** In the menu bar, choose **System > SRST**.
- Step 2** Locate the SRST reference that you want to update. See the [“Finding an SRST Reference” section on page 12-2](#).
- Step 3** Update the appropriate settings as described in [Table 12-1](#).
- Step 4** Click **Update**.

The message “Status: Update completed” displays.

**Note**

If devices are associated with this SRST reference, a message displays to tell you that devices need to be reset for the update to take effect. Cisco CallManager may drop calls in progress on an affected gateway may be dropped when the gateway is reset.

To reset the affected devices, click the **Reset Devices** button when the update is complete. If you do not want to reset the devices at this time, you can return to this item at any time and click the **Reset Devices** button to initiate the required device resets.

Related Topics

- [Finding an SRST Reference, page 12-2](#)
- [Adding an SRST Reference, page 12-3](#)
- [Copying an SRST Reference, page 12-5](#)
- [Deleting an SRST Reference, page 12-6](#)
- [SRST Reference Configuration Settings, page 12-8](#)

Copying an SRST Reference

The following procedure describes how to copy an SRST reference.

Procedure

-
- Step 1** In the menu bar, choose **System > SRST**.
- Step 2** Locate the SRST reference that you want to copy. See the [“Finding an SRST Reference” section on page 12-2](#).
- Step 3** Click the name of the SRST reference that you want to copy.
The window displays the SRST reference.
- Step 4** Click **Copy** to copy the SRST reference.
The window displays a copy of the SRST reference.

- Step 5** Update the desired settings as described in [Table 12-1](#).
- Step 6** Click **Insert** to add the new SRST reference.
-

Related Topics

- [Finding an SRST Reference, page 12-2](#)
- [Adding an SRST Reference, page 12-3](#)
- [Updating an SRST Reference, page 12-4](#)
- [Deleting an SRST Reference, page 12-6](#)
- [SRST Reference Configuration Settings, page 12-8](#)

Deleting an SRST Reference

The following procedure describes how to delete an SRST reference.

Before You Begin

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

- Assign a different SRST reference to any device pools that are using the SRST reference that you want to delete. See the [“Updating a Device Pool” section on page 8-5](#).
- Delete the device pools that are using the SRST reference that you want to delete. See the [“Deleting a Device Pool” section on page 8-6](#).

Procedure

- Step 1** In the menu bar, choose **System > SRST**.
- Step 2** Locate the SRST reference that you want to delete. See the “[Finding an SRST Reference](#)” section on page 12-2.
- Step 3** Check the check box of the SRST reference that you want to delete and click **Delete Selected**.
- A message displays, that tells you that you cannot undo this action.
- Step 4** To delete the SRST reference, click **OK** or to cancel the deletion, click **Cancel**.



Caution

Before initiating this action, check carefully to ensure that you are deleting the correct SRST reference. You cannot retrieve deleted SRST references. If an SRST reference is accidentally deleted, you must rebuild it.



Tip

You can also delete an SRST reference by locating and displaying the SRST reference that you want to delete and clicking **Delete**.

Related Topics

- [Finding an SRST Reference, page 12-2](#)
- [Adding an SRST Reference, page 12-3](#)
- [Updating an SRST Reference, page 12-4](#)
- [Copying an SRST Reference, page 12-5](#)
- [SRST Reference Configuration Settings, page 12-8](#)

SRST Reference Configuration Settings

Table 12-1 describes the SRST reference configuration settings.

Table 12-1 SRST Reference Configuration Settings

Field	Description
SRST Reference Name	Enter a name in the SRST Reference Name field. The name can comprise up to 50 alphanumeric characters and can contain any combination of spaces, periods (.), hyphens (-), and underscore characters (_). Ensure that each SRST reference name is unique. Note Use concise and descriptive names for your SRST references.
IP Address	Enter the IP address of the gateway for devices in a device pool to use as an SRST reference.
Port	Enter the port number for this SRST reference. Default value specifies 2000. Note Change this value only if it does not match the gateway port setting. This value and the gateway port setting must match.

Related Topics

- [Finding an SRST Reference, page 12-2](#)
- [Adding an SRST Reference, page 12-3](#)
- [Updating an SRST Reference, page 12-4](#)
- [Copying an SRST Reference, page 12-5](#)
- [Deleting an SRST Reference, page 12-6](#)



PART 3

Route Configuration





Automated Alternate Routing Group Configuration

Automated alternate routing (AAR) provides a mechanism to reroute calls through the PSTN or other network by using an alternate number when Cisco CallManager blocks a call due to insufficient location bandwidth. With automated alternate routing, the caller does not need to hang up and redial the called party. The AAR group represents the dialing area where the line/directory number (DN), the Cisco voice mail port, and the gateway are located.

For each AAR group, you enter the prefix digits that are used for automated alternate routing within the AAR group, as well as the prefix digits used for automated alternate routing between a given AAR group and other AAR groups. Devices, such as gateways, phones (by means of directory numbers), and trunks, associate with AAR groups. If automated alternate routing of calls takes place, you may also associate devices with an AAR calling search space.

Use the following topics to find, add, update, or delete AAR groups:

- [Finding an AAR Group, page 13-2](#)
- [Adding an AAR Group, page 13-3](#)
- [Updating an AAR Group, page 13-4](#)
- [Deleting an AAR Group, page 13-5](#)
- [AAR Group Configuration Settings, page 13-6](#)

Refer to the “[System-Level Configuration Settings](#)” section of the *Cisco CallManager System Guide* for more information about automated alternate routing groups.

Finding an AAR Group

Because you might have several automated alternate routing (AAR) groups in your network, Cisco CallManager lets you locate specific AAR groups based on specific criteria. Use the following procedure to locate AAR groups.



Note

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

Procedure

Step 1 Choose **Route Plan > AAR Group**.

The Find and List Automated Alternate Routing Groups window displays.

Step 2 From the 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.



Note To find all AAR groups that are registered in the database, click **Find** without entering any search text.

A list of discovered AAR groups displays by AAR group name.



Note You can delete multiple AAR groups from the Find and List Automated Alternate Routing Groups window by checking the check boxes next to the appropriate AAR groups and clicking **Delete Selected**. You can delete all the AAR groups in the window by checking the check box in the AAR Group Name title bar and clicking **Delete Selected**.

- Step 4** From the list of records, click the AAR group that matches your search criteria. The window displays the AAR group that you choose.
-

Related Topics

- [Adding an AAR Group, page 13-3](#)
- [Updating an AAR Group, page 13-4](#)
- [Deleting an AAR Group, page 13-5](#)

Adding an AAR Group

The following procedure describes how to add an AAR group.

Procedure

- Step 1** In the menu bar, choose **Route Plan > AAR Group**.
- Step 2** Click **Add a New AAR Group**.
- Step 3** Enter a name in the AAR Group Name field. The name can contain up to 50 alphanumeric characters and can contain any combination of spaces, periods (.), hyphens (-), and underscore characters (_). Ensure each AAR group name is unique.

**Timesaver**

Use concise and descriptive names for your AAR groups. The CompanynameLocationGroup format usually provides a sufficient level of detail and is short enough to enable you to quickly and easily identify an AAR group. For example, CiscoDallasAA1 identifies a Cisco Access Analog AAR group for the Cisco office in Dallas.

- Step 4** Click **Continue**.
- Step 5** Choose the appropriate settings as described in [Table 13-1](#).
- Step 6** Click **Insert** to add this AAR group.
-

Related Topics

- [Finding an AAR Group, page 13-2](#)
- [Updating an AAR Group, page 13-4](#)
- [Deleting an AAR Group, page 13-5](#)
- [AAR Group Configuration Settings, page 13-6](#)

Updating an AAR Group

The following procedure describes how to update an AAR group.

Before You Begin

Before performing this procedure, ensure the AAR group to be updated is already configured.

Procedure

-
- Step 1** Choose **Route Plan > AAR Group** in the menu bar.
- Step 2** Locate the AAR group that you want to update. See the [“Finding an AAR Group” section on page 13-2](#).

- Step 3** Update the appropriate fields as described in [Table 13-1](#).
- Step 4** Click **Update**.
-

Related Topics

- [Finding an AAR Group, page 13-2](#)
- [Adding an AAR Group, page 13-3](#)
- [Deleting an AAR Group, page 13-5](#)
- [AAR Group Configuration Settings, page 13-6](#)

Deleting an AAR Group

The following procedure describes how to delete an AAR group.

Before You Begin

You cannot delete an AAR group that is referenced by one or more devices. To find out which devices are using the AAR group, click the **Dependency Records** link from the AAR Group 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. You must remove the AAR group from all devices to which it belongs before deleting the AAR group.

Procedure

- Step 1** Choose **Route Plan > AAR Group** in the menu bar.
- Step 2** Locate the AAR group that you want to delete. See the “[Finding an AAR Group](#)” section on page 13-2.
- Step 3** Check the check box next to the AAR group that you want to delete and click **Delete Selected**.

A dialog box appears to warn you that you cannot undo deleting AAR groups.

- Step 4** To delete the group, click **OK**, or to cancel the action, click **Cancel** . If you click **OK**, the Cisco CallManager removes the AAR group from the AAR group list.



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

Related Topics

- [Finding an AAR Group, page 13-2](#)
- [Adding an AAR Group, page 13-3](#)
- [Updating an AAR Group, page 13-4](#)

AAR Group Configuration Settings

[Table 13-1](#) describes the AAR group configuration settings.

Table 13-1 AAR Group Configuration Settings

Field	Description
AAR Group Name	Enter the name that you want to assign to the new AAR group.
Prefix Digits Within This Group	
Prefix Digits	Enter the prefix digits to use for automated alternate routing within this AAR group. Valid entries are the following digits: [^ 0 1 2 3 4 5 6 7 8 9 -] + ? ! X * # +

Table 13-1 AAR Group Configuration Settings (continued)

Field	Description
Prefix Digits Between This Group and Other AAR Groups	
Prefix Digits (From this group)	<p>Enter the prefix digits to use for automated alternate routing when routing a call from this group to a device that belongs to another AAR group.</p> <p>Valid entries are the following digits: [^ 0 1 2 3 4 5 6 7 8 9 -] + ? ! X * # +</p> <p>Note Prefix digits that are entered in this field for the originating AAR group also get added in the Prefix Digits (To this group) field of the AAR destination group.</p>
Prefix Digits (To this group)	<p>Enter the prefix digits to use for automated alternate routing when you are routing a call to this group from a device that belongs to another AAR group.</p> <p>Valid entries are the following digits: [^ 0 1 2 3 4 5 6 7 8 9 -] + ? ! X * # +</p> <p>Note Prefix digits entered in this field for the destination AAR group also get added in the Prefix Digits (From this group) field of the AAR originating group.</p>

Related Topics

- [Finding an AAR Group, page 13-2](#)
- [Adding an AAR Group, page 13-3](#)
- [Updating an AAR Group, page 13-4](#)
- [Deleting an AAR Group, page 13-5](#)



Application Dial Rules Configuration

The administrator uses dial rules configuration to add and sort the priority of dialing rules. Dial rules for applications such as Cisco IPMA automatically strip numbers from or add numbers to telephone numbers that a user dials. For example, the dial rules automatically add the digit 9 in front of a 7-digit telephone number to provide access to an outside line.

For example, in Cisco IPMA, the assistant can perform a directory search from the assistant console. The assistant can drag and drop the directory entry to the My Calls panel on the assistant console, which invokes a call to the number that is listed in the entry. The dial rules apply to the number that is listed in the entry before the call gets made.

The following sections describe dial rules configuration:

- [Adding a Dial Rule, page 14-1](#)
- [Updating a Dial Rule, page 14-3](#)
- [Deleting a Dial Rule, page 14-3](#)
- [Reprioritizing a Dial Rule, page 14-4](#)

Adding a Dial Rule

Perform the following procedure to add a dial rule. See [Dial Rules Configuration Error Checking](#) in the *Cisco CallManager System Guide* for dial rule design and error checking.

Procedure

- Step 1** From Cisco CallManager Administration, choose **Route Plan > Application Dial Rules**.
- The Dial Rules Configuration window displays.
- Step 2** In the phone number begins with field, enter a digit or the characters +*# or leave blank.
- Step 3** In the number of digits is field, enter a digit or leave blank.
- Step 4** In the remove digits field, enter a digit or leave blank. Apply proper dial rules.
- Step 5** In the prefix it with field, enter a digit or the characters +*# or leave blank. Apply proper dial rules.
- Step 6** Click the **Insert** button.
- For the rule to take effect, stop and start the Cisco Tomcat service. Refer to the *Cisco CallManager Serviceability Administration Guide*.
-

Related Topics

- [Updating a Dial Rule, page 14-3](#)
- [Deleting a Dial Rule, page 14-3](#)
- [Reprioritizing a Dial Rule, page 14-4](#)

Modifying a Dial Rule

The administrator can update, delete, or reprioritize a dial rule from the Dial Rules Configuration window.

Related Topics

- [Adding a Dial Rule, page 14-1](#)
- [Updating a Dial Rule, page 14-3](#)
- [Deleting a Dial Rule, page 14-3](#)
- [Reprioritizing a Dial Rule, page 14-4](#)

Updating a Dial Rule

Perform the following procedure to update a dial rule.

Procedure

- Step 1** From Cisco CallManager Administration, choose **Route Plan > Application Dial Rules**.
- Step 2** From the Dial Rules list, choose the rule that you want to update and make the updates.
- Step 3** Click the **Update** button.

For the update to take effect, stop and start the Cisco Tomcat service. Refer to the *Cisco CallManager Serviceability Administration Guide*.

Related Topics

- [Adding a Dial Rule, page 14-1](#)
- [Deleting a Dial Rule, page 14-3](#)
- [Reprioritizing a Dial Rule, page 14-4](#)

Deleting a Dial Rule

Perform the following procedure to delete a dial rule.

Procedure

- Step 1** From Cisco CallManager Administration, choose **Route Plan > Application Dial Rules**.
- Step 2** From the Dial Rules list, check the check box next to the rule that you want to delete. You may delete more than one rule at a time.

Step 3 Click the **Delete Selected** button.

For the delete to take effect, stop and start the Cisco Tomcat service. Refer to the *Cisco CallManager Serviceability Administration Guide*.

Related Topics

- [Adding a Dial Rule, page 14-1](#)
- [Updating a Dial Rule, page 14-3](#)
- [Reprioritizing a Dial Rule, page 14-4](#)

Reprioritizing a Dial Rule

Perform the following procedure to reprioritize a dial rule.

Procedure

Step 1 From Cisco CallManager Administration, choose **Route Plan > Application Dial Rules**.

Step 2 From the Dial Rules list, choose the rule that you want to move.

Step 3 Use the up and down arrows to move the rule up or down the Dial Rule list.

Step 4 Click the **Update** button.

For the move to take effect, stop and start the Cisco Tomcat service. Refer to the *Cisco CallManager Serviceability Administration Guide*.

Related Topics

- [Adding a Dial Rule, page 14-1](#)
- [Updating a Dial Rule, page 14-3](#)
- [Deleting a Dial Rule, page 14-3](#)



Partition Configuration

A partition contains a list of route patterns (directory number (DN) and route patterns). Partitions facilitate call routing by dividing the route plan into logical subsets that are based on organization, location, and call type. For more information about partitions, refer to “[Partitions and Calling Search Spaces](#)” in the *Cisco CallManager System Guide*.

Use the following topics to add or delete route partitions:

- [Finding a Partition, page 15-1](#)
- [Adding a Partition, page 15-3](#)
- [Updating a Partition, page 15-4](#)
- [Deleting a Partition, page 15-5](#)
- [Partition Configuration Settings, page 15-7](#)
- [Searching for a Partition, page 15-9](#)

Finding a Partition

Because you might have several partitions in your network, Cisco CallManager lets you locate specific partitions based on specific criteria. Use the following procedure to locate partitions.

**Note**

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

Procedure

Step 1 Choose **Route Plan > Partition**.

The Find and List Partitions window displays.

Step 2 From the 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.

**Note**

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

A list of discovered partitions displays by

- Partition name
- Description

**Note**

You can delete multiple partitions from the Find and List Partitions window by checking the check boxes next to the appropriate partitions and clicking **Delete Selected**. You can delete all partitions 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 partition that matches your search criteria. The window displays the partition that you chose.
-

Related Topics

- [Finding a Partition, page 15-1](#)
- [Adding a Partition, page 15-3](#)
- [Updating a Partition, page 15-4](#)
- [Deleting a Partition, page 15-5](#)
- [Partition Configuration Settings, page 15-7](#)

Adding a Partition

Perform the following procedure to add a partition.

Procedure

- Step 1** In the menu bar, choose **Route Plan > Partition**.
- Step 2** Click **Add a New Partition**.
- Step 3** Enter the appropriate settings as described in [Table 15-1](#).
- Step 4** Click **Insert** to add the new partition(s).



Note You can configure multiple partitions. To enter multiple partitions, use one line for each partition entry. You can enter up to 75 partitions; the names and descriptions can have a total of up to 1475 characters. Use a comma (,) to separate the partition name and description on each line. If you do not enter a description, Cisco CallManager uses the name as the description.

Related Topics

- [Finding a Partition, page 15-1](#)
- [Updating a Partition, page 15-4](#)
- [Deleting a Partition, page 15-5](#)
- [Partition Configuration Settings, page 15-7](#)
- [Searching for a Partition, page 15-9](#)

Updating a Partition

This section describes how to update a partition.

Procedure

- Step 1** In the menu bar, click **Route Plan > Partition**.
 - Step 2** Locate and display the partition that you want to update. See the [“Finding a Partition”](#) section on page 15-1.
 - Step 3** Update the partition name and/or description and click **Update**.
 - Step 4** Click **Restart Devices**. When you restart devices that are associated with the partition, all calls on affected gateways drop.
-

Related Topics

- [Finding a Partition, page 15-1](#)
- [Adding a Partition, page 15-3](#)
- [Deleting a Partition, page 15-5](#)
- [Partition Configuration Settings, page 15-7](#)
- [Searching for a Partition, page 15-9](#)

Deleting a Partition

The following procedure describes how to delete a partition.

Before You Begin

You cannot delete a partition if it is assigned to an item such as calling search space or to a route pattern. To find out which calling search spaces or other items are using the partition, click the **Dependency Records** link from the Partition 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 partition that is in use, Cisco CallManager displays an error message. Before deleting a partition that is currently in use, you must perform either or both of the following tasks:

- Assign a different partition to any calling search spaces, devices, or other items that are using the partition that you want to delete.
- Delete the calling search spaces, devices, or other items that are using the partition that you want to delete.

Procedure

-
- Step 1** In the menu bar, choose **Route Plan > Partition**.
 - Step 2** Locate the partition that you want to delete. See the [“Finding a Partition” section on page 15-1](#).
 - Step 3** Check the check box of the partition that you want to delete and click **Delete Selected**.



Tip You can delete all the partitions in the list by checking the check box in the Matching Record(s) title bar and clicking **Delete Selected**.

A message displays that states that you cannot undo this action.

- Step 4** To delete the partition, click **OK** or to cancel the deletion, click **Cancel**.

**Caution**

Before initiating this action, check carefully to ensure that you are deleting the correct partition. You cannot retrieve deleted partitions. If a partition is accidentally deleted, you must rebuild it.

**Tip**

You can also delete a partition by locating and displaying the partition that you want to delete and clicking **Delete**.

Related Topics

- [Finding a Partition, page 15-1](#)
- [Adding a Partition, page 15-3](#)
- [Partition Configuration Settings, page 15-7](#)
- [Searching for a Partition, page 15-9](#)

Partition Configuration Settings

Table 15-1 describes the partition configuration settings.

Table 15-1 Partition Configuration Settings

Field	Description
(Partition Name, Description)	<p>Enter a name in the partition name and description box. Ensure each partition name is unique to the route plan. Partition names can contain alphanumeric characters, as well as spaces, hyphens (-), and underscore characters (_).</p> <p>Note The length of the partition names limits the maximum number of partitions that can be added to a calling search space. Table 15-2 provides examples of the maximum number of partitions that can be added to a calling search space if partition names are of fixed length.</p> <p>Follow the partition name by a comma (,); then, enter a description on the same line as the Partition Name. If you do not enter a description, Cisco CallManager automatically enters the partition name in this field.</p> <p>Use a new line for each partition and description.</p>



Timesaver

Use concise and descriptive names for your partitions. The CompanyNameLocationCalltype format usually provides a sufficient level of detail and is short enough to enable you to quickly and easily identify a partition. For example, CiscoDallasMetroPT identifies a partition for toll-free, inter-local access and transport area (LATA) calls from the Cisco office in Dallas.

**Tip**

You can enter multiple partitions at the same time by entering the partition name and description, if applicable, in the Partition Name & Description text box. Remember to use one line for each partition entry and to separate the partition name and description with a comma.

[Table 15-2](#) provides examples of the maximum number of partitions that can be added to a calling search space if partition names are of fixed length. Refer to [“Partition Name Limitations”](#) in the *Cisco CallManager System Guide* for details about how this maximum number is calculated.

Table 15-2 Calling Search Space Partition Limitations

Partition Name Length	Maximum Number of Partitions
2 characters	170
3 characters	128
4 characters	102
5 characters	86
...	...
10 characters	46
15 characters	32

Related Topics

- [Finding a Partition, page 15-1](#)
- [Adding a Partition, page 15-3](#)
- [Updating a Partition, page 15-4](#)
- [Deleting a Partition, page 15-5](#)
- [Searching for a Partition, page 15-9](#)

Searching for a Partition

If more than 250 partitions exist, the ellipsis (...) button displays next to the Partition drop-down list box on the CallManager Administration windows where the button appears. You can click the (...) button to search for the partition that you want. Use the following procedure to search for a partition.

Procedure

- Step 1** Click the ... button next to the Partition drop-down list box.
The Select Partition window displays.
- Step 2** In the **List items where Name contains** field, enter a partial partition name.
- Step 3** In the list of partitions that displays in the **Select item to use** box, click the desired partition name and click **OK**.
-

Related Topics

- [Finding a Partition, page 15-1](#)
- [Adding a Partition, page 15-3](#)
- [Updating a Partition, page 15-4](#)
- [Deleting a Partition, page 15-5](#)
- [Partition Configuration Settings, page 15-7](#)



Calling Search Space Configuration

A calling search space comprises an ordered list of route partitions that are typically assigned to devices. Calling search spaces determine the partitions where calling devices search when they are attempting to complete a call. For more detailed information on calling search spaces and partitions, refer to [“Partitions and Calling Search Spaces”](#) in the *Cisco CallManager System Guide*.

Use the following topics to add, update, copy, or delete a calling search space:

- [Finding a Calling Search Space, page 16-2](#)
- [Adding a Calling Search Space, page 16-3](#)
- [Updating a Calling Search Space, page 16-4](#)
- [Copying a Calling Search Space, page 16-5](#)
- [Deleting a Calling Search Space, page 16-6](#)
- [Calling Search Space Configuration Settings, page 16-8](#)

Finding a Calling Search Space

Because you might have several calling search spaces in your network, Cisco CallManager lets you locate specific calling search spaces by using specific criteria as the basis. Use the following procedure to locate calling search spaces.

**Note**

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

Procedure

Step 1 Choose **Route Plan > Calling Search Space**.

The Find and List Calling Search Spaces window displays.

Step 2 From the 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.



Note To find all calling search spaces that are registered in the database, click **Find** without entering any search text.

A list of discovered calling search spaces displays by

- CSS name
- Description

**Note**

You can delete multiple calling search spaces from the Find and List Calling Search Spaces window by checking the check boxes next to the appropriate calling search spaces and clicking **Delete Selected**. You can choose all calling search spaces 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 calling search space that matches your search criteria.

The window displays the calling search space that you choose.

Related Topics

- [Adding a Calling Search Space, page 16-3](#)
- [Updating a Calling Search Space, page 16-4](#)
- [Copying a Calling Search Space, page 16-5](#)
- [Deleting a Calling Search Space, page 16-6](#)
- [Calling Search Space Configuration Settings, page 16-8](#)

Adding a Calling Search Space

The following procedure describes how to add a calling search space.

Procedure

Step 1 In the menu bar, choose **Route Plan > Calling Search Space**.

Step 2 Click **Add a New Calling Search Space**.

Step 3 Enter the appropriate settings as described in [Table 16-1](#).

Step 4 To add the new calling search space, click **Insert**.

The message “Status: Insert completed” displays.

- Step 5** To add more calling search spaces, click **Add a New Calling Search Space** and repeat this procedure.
-

Related Topics

- [Finding a Calling Search Space, page 16-2](#)
- [Updating a Calling Search Space, page 16-4](#)
- [Copying a Calling Search Space, page 16-5](#)
- [Deleting a Calling Search Space, page 16-6](#)

Updating a Calling Search Space

The following procedure describes how to update a calling search space.

Procedure

- Step 1** In the menu bar, choose **Route Plan > Calling Search Space**.
- Step 2** Locate the calling search space that you want to update. See the [“Finding a Calling Search Space” section on page 16-2](#).
- Step 3** Update the appropriate settings as described in [Table 16-1](#).
- Step 4** Click **Update**.
- Step 5** Click **Restart Devices**. When you restart the devices that are associated with the calling search space, all calls on affected gateways drop.
-

Related Topics

- [Finding a Calling Search Space, page 16-2](#)
- [Adding a Calling Search Space, page 16-3](#)
- [Copying a Calling Search Space, page 16-5](#)
- [Deleting a Calling Search Space, page 16-6](#)
- [Calling Search Space Configuration Settings, page 16-8](#)

Copying a Calling Search Space

The following procedure describes how to copy a calling search space.

Procedure

- Step 1** In the menu bar, choose **Route Plan > Calling Search Space**.
- Step 2** Locate the calling search space that you want to copy. See the [“Finding a Calling Search Space” section on page 16-2](#).
- Step 3** Check the check box next to the calling search space that you want to copy.
- Step 4** Click the **Copy** icon of that calling search space.
The window displays the copy of the calling search space.
- Step 5** Change the Calling Search Space Name.
- Step 6** Update the appropriate settings as described in [Table 16-1](#).
- Step 7** Click **Insert** to add the new calling search space.



Tip You can also copy a calling search space by locating and displaying the calling search space that you want to copy and clicking **Copy**. Then, follow the instructions in [Step 6](#) and [Step 7](#).

Related Topics

- [Finding a Calling Search Space, page 16-2](#)
- [Adding a Calling Search Space, page 16-3](#)
- [Updating a Calling Search Space, page 16-4](#)
- [Deleting a Calling Search Space, page 16-6](#)
- [Calling Search Space Configuration Settings, page 16-8](#)

Deleting a Calling Search Space

The following procedure describes how to delete a calling search space.

Before You Begin

You cannot delete calling search spaces that are being used by devices, lines (DNs), translation patterns, or other items. To find out which devices, lines, translation patterns, or other items are using the calling search space, click the **Dependency Records** link from the Calling Search Space 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 calling search space that is in use, Cisco CallManager displays an error message. Before deleting a calling search space that is currently in use, you must perform either or both of the following tasks:

- Assign a different calling search space to any devices, lines, or translation patterns that are using the calling search space that you want to delete. See the [“Adding Devices to Cisco CallManager” section on page 43-2](#), the [“Configuring Directory Numbers” section on page 49-39](#), and the [“Updating a Translation Pattern” section on page 22-5](#).
- Delete the devices, lines, or translation patterns that are using the calling search space that you want to delete. See the [Device Configuration](#) chapter, the [“Removing a Directory Number From a Phone” section on page 49-43](#), and the [“Deleting a Translation Pattern” section on page 22-7](#).

Procedure

-
- Step 1** In the menu bar, choose **Route Plan > Calling Search Space**.
 - Step 2** Locate the calling search space that you want to delete. See the [“Finding a Calling Search Space” section on page 16-2](#).
 - Step 3** Check the check box of the calling search space that you want to delete and click **Delete Selected**.

A message displays that states that you cannot undo this action.

Step 4 Click **OK** to delete the calling search space or click **Cancel** to cancel the deletion.

**Caution**

Before initiating this action, check carefully to ensure that you are deleting the correct calling search space. You cannot retrieve deleted calling search spaces. If a calling search space is accidentally deleted, you must rebuild it.

**Tip**

You can also delete a calling search space by locating and displaying the calling search space that you want to delete and clicking **Delete**.

Related Topics

- [Finding a Calling Search Space, page 16-2](#)
- [Adding a Calling Search Space, page 16-3](#)
- [Updating a Calling Search Space, page 16-4](#)
- [Copying a Calling Search Space, page 16-5](#)
- [Calling Search Space Configuration Settings, page 16-8](#)

Calling Search Space Configuration Settings

Table 16-1 describes the calling search space configuration settings.

Table 16-1 *Calling Search Space Configuration Settings*

Field	Description
Calling Search Space Name	<p>Enter a name in the Calling Search Space Name field. The name can comprise up to 50 alphanumeric characters and can contain any combination of spaces, periods (.), hyphens (-), and underscore characters (_). Ensure each calling search space name is unique to the plan.</p> <p>Note Use concise and descriptive names for your calling search spaces. The CompanynameLocationCalltype format usually provides a sufficient level of detail and is short enough to enable you to quickly and easily identify a calling search space. For example, CiscoDallasMetroCS identifies a calling search space for toll-free, inter-local access and transport area (LATA) calls from the Cisco office in Dallas.</p>
Description	<p>Enter a description in the Description field. The description can comprise up to 50 alphanumeric characters and can contain any combination of spaces, periods (.), hyphens (-), and underscore characters (_).</p>
Find Partitions containing	<p>Enter the character(s) that are found in the partition name that you are seeking and click the Find button. Partition names that match the character(s) that you entered display in the Available Partitions box.</p>

Table 16-1 *Calling Search Space Configuration Settings (continued)*

Field	Description
Available Partitions	<p>Choose a partition in the Available Partitions list box and add it to the Selected Partitions list box by clicking the arrow button between the two list boxes.</p> <p>To add a range of partitions at once, click on the first partition in the range; then, hold down the Shift key while clicking on the last partition in the range. Click the arrow button between the two list boxes to add the range of partitions.</p> <p>To add multiple partitions that are not contiguous, hold down the Control (Ctrl) key while clicking on multiple partitions. Click the arrow button between the two list boxes to add the chosen partitions.</p> <p>Note The length of the partition names limits the maximum number of partitions that can be added to a calling search space. Table 16-2 provides examples of the maximum number of partitions that can be added to a calling search space if partition names are of fixed length.</p>
Selected Partitions (ordered by highest priority)	To change the priority of a partition, choose a partition name in the Selected Partitions list box. Move the partition up or down in the list by clicking the arrows on the right side of the list box.

[Table 16-2](#) provides examples of the maximum number of partitions that can be added to a calling search space if partition names are of fixed length. Refer to “[Partition Name Limitations](#)” in the *Cisco CallManager System Guide* for details about how this maximum number is calculated.

Table 16-2 *Calling Search Space Partition Limitations*

Partition Name Length	Maximum Number of Partitions
2 characters	170
3 characters	128

Table 16-2 *Calling Search Space Partition Limitations (continued)*

Partition Name Length	Maximum Number of Partitions
4 characters	102
5 characters	86
...	...
10 characters	46
15 characters	32

Related Topics

- [Finding a Calling Search Space, page 16-2](#)
- [Adding a Calling Search Space, page 16-3](#)
- [Updating a Calling Search Space, page 16-4](#)
- [Copying a Calling Search Space, page 16-5](#)



Route Filter Configuration

Route filters, along with route patterns/hunt pilots, use dialed-digit strings to determine how a call is handled. Route filters only apply when you configure a pattern that contains the at (@) wildcard. When the route pattern/hunt pilot contains the @ wildcard, Cisco CallManager routes calls according to the numbering plan that is specified in the Numbering Plan drop-down list box. The route filter window that Cisco CallManager displays varies according to the numbering plan that you select.

Route filters allow you to determine which route patterns/hunt pilots your users can dial; for example, whether your users can manually choose a long-distance carrier (by dialing 101 plus a carrier access code).

Refer to [“Understanding Route Plans”](#) in the *Cisco CallManager System Guide* for more information.



Tip

Always add and define the route filter first and then add the route filter to the route pattern/hunt pilot.

Use the following topics to add, update, copy, or delete a route filter:

- [Finding a Route Filter, page 17-2](#)
- [Adding a Route Filter, page 17-4](#)
- [Updating a Route Filter, page 17-5](#)
- [Copying a Route Filter, page 17-6](#)
- [Adding Route Filter Clauses, page 17-8](#)
- [Removing Route Filter Clauses, page 17-9](#)

- [Deleting a Route Filter, page 17-10](#)
- [Route Filter Tag Descriptions, page 17-11](#)
- [Route Filter Configuration Settings, page 17-7](#)

Finding a Route Filter

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



Note

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

Procedure

-
- Step 1** Choose **Route Plan > Route Filter**.
- The Find and List Route Filters window displays.
- Step 2** From the 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.



Note

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

A list of discovered route filters displays by

- Route Filter Name
- Dial Plan
- Clause



Note You can delete multiple route filters from the Find and List Route Filters window by checking the check boxes next to the appropriate route filters and clicking **Delete Selected**. You can choose all the route filters 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 route filter that matches your search criteria. The window displays the route filter that you choose.
-

Related Topics

- [Adding a Route Filter, page 17-4](#)
- [Updating a Route Filter, page 17-5](#)
- [Copying a Route Filter, page 17-6](#)
- [Adding Route Filter Clauses, page 17-8](#)
- [Removing Route Filter Clauses, page 17-9](#)
- [Deleting a Route Filter, page 17-10](#)
- [Route Filter Tag Descriptions, page 17-11](#)
- [Route Filter Configuration Settings, page 17-7](#)

Adding a Route Filter

The following procedure describes how to add a route filter.

Procedure

- Step 1** From Cisco CallManager Administration, choose **Route Plan > Route Filter**.
- Step 2** Click **Add a New Route Filter**.
- Step 3** Enter the appropriate settings as described in [Table 17-1](#).
- Step 4** Click **Continue**.
- Step 5** Choose the route filter tags and operators and enter data, where appropriate, to create a clause for this route filter.



Note For help with entering data for route filter tags and operators, see the [“Route Filter Tag Descriptions” section on page 17-11](#).

- Step 6** Click **Insert** to add the filter.
-

Related Topics

- [Finding a Route Filter, page 17-2](#)
- [Updating a Route Filter, page 17-5](#)
- [Route Filter Tag Descriptions, page 17-11](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Updating a Route Filter

The following procedure describes how to update a route filter.

Procedure

- Step 1** From Cisco CallManager Administration, choose **Route Plan > Route Filter**.
 - Step 2** Locate the route filter that you want to update. See the [“Finding a Route Filter” section on page 17-2](#).
 - Step 3** In the Dial Plan drop-down list box, choose the numbering plan that you want to update; for example, North American Numbering Plan.
 - Step 4** Update the appropriate settings as described in [Table 17-1](#).
 - Step 5** Click **Update**.
 - Step 6** Click **Reset Devices**. Resetting the devices that are associated with the route filter causes calls on affected gateways to drop.
-

Related Topics

- [Finding a Route Filter, page 17-2](#)
- [Adding a Route Filter, page 17-4](#)
- [Adding Route Filter Clauses, page 17-8](#)
- [Copying a Route Filter, page 17-6](#)
- [Route Filter Tag Descriptions, page 17-11](#)
- [Route Filter Configuration Settings, page 17-7](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Copying a Route Filter

The following procedure describes how to copy a route filter.

Procedure

- Step 1** From Cisco CallManager Administration, choose **Route Plan > Route Filter**.
- Step 2** Locate the route filter that you want to copy. See the [“Finding a Route Filter” section on page 17-2](#).
- Step 3** Check the check box next to the route filter that you want to copy.
- Step 4** Click the **Copy** icon of that route filter.
The window displays the copy of the route filter.
- Step 5** In the Route Filter Name field, enter the name for this route filter.
- Step 6** Update the appropriate settings as described in [Table 17-1](#).



Note For help with entering data for route filter tags and operators, see the [“Route Filter Tag Descriptions” section on page 17-11](#).

- Step 7** To add the new route filter, click **Insert**.



Tip You can also copy a route filter by locating and displaying the route filter that you want to copy and clicking **Copy**. Then, follow the instructions in [Step 5](#) and [Step 6](#).

Related Topics

- [Finding a Route Filter, page 17-2](#)
- [Adding a Route Filter, page 17-4](#)
- [Adding Route Filter Clauses, page 17-8](#)
- [Removing Route Filter Clauses, page 17-9](#)
- [Route Filter Tag Descriptions, page 17-11](#)

- [Route Filter Configuration Settings, page 17-7](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Route Filter Configuration Settings

[Table 17-1](#) describes the route filter configuration settings.

Table 17-1 Route Filter Configuration Settings

Field	Description
Dial Plan	From the drop-down list, choose a dial plan; for example, North American Numbering Plan.
Route Filter Name	<p>Enter a name in the Route Filter Name field. The name can contain up to 50 alphanumeric characters and can contain any combination of spaces, periods (.), hyphens (-), and underscore characters (_). Ensure each route filter name is unique to the route plan.</p> <p>Note Use concise and descriptive names for your route filters. The CompanynameLocationCalltype format usually provides a sufficient level of detail and is short enough to enable you to quickly and easily identify a route filter. For example, CiscoDallasMetro identifies a route filter for tollfree, inter-local access and transport area (LATA) calls from the Cisco office in Dallas.</p>

Related Topics

- [Adding a Route Filter, page 17-4](#)
- [Updating a Route Filter, page 17-5](#)

Adding Route Filter Clauses

Adding route filter clauses allows you to expand upon an existing route filter by incorporating additional operators and entries for existing tags by using a logical OR. You can add route filter clauses either when initially adding a new route filter or when updating an existing route filter. This procedure describes adding a route filter clause to an existing route filter.

Procedure

- Step 1** From Cisco CallManager Administration, choose **Route Plan > Route Filter**.
- Step 2** Locate the route filter to which you want to add route filter clauses. See the [“Finding a Route Filter” section on page 17-2](#).
- Step 3** Click **Add Clause** to display a new route filter clause data entry window. All the operator fields for this new clause display NOT-SELECTED.
- Step 4** Choose the route filter tags and operators and enter data, where appropriate, to create an additional clause for this route filter.



Note For help with entering data for route filter tags and operators for the North American Numbering Plan, see the [“Route Filter Tag Descriptions” section on page 17-11](#).

- Step 5** To add the clause, click **Insert**.
- The new clause displays below the existing clauses in the window. (Scroll down, if necessary, to view the new information.)
-

Related Topics

- [Finding a Route Filter, page 17-2](#)
- [Adding a Route Filter, page 17-4](#)
- [Removing Route Filter Clauses, page 17-9](#)
- [Route Filter Tag Descriptions, page 17-11](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Removing Route Filter Clauses

You can remove route filter clauses either when setting up a new route filter or when updating an existing route filter. This procedure describes removing a route filter clause from an existing route filter.

Procedure

- Step 1** From Cisco CallManager Administration, choose **Route Plan > Route Filter**.
- Step 2** Locate the route filter from which you want to remove route filter clauses.
- Step 3** Scroll down to the top of the clause that you want to remove and click **Remove Clause**.

A dialog box appears that warns you that you cannot undo the removal of this route filter clause.



Caution

Each Remove Clause button applies to the clause immediately below the button. Check carefully to ensure that you are removing the correct clause before initiating this action. If you accidentally remove a clause, you cannot retrieve it, and you must rebuild it.

- Step 4** To remove the clause, click **OK** or to cancel the action, click **Cancel**. If you click **OK**, Cisco CallManager removes the clause from the route filter.
-

Related Topics

- [Finding a Route Filter, page 17-2](#)
- [Adding a Route Filter, page 17-4](#)
- [Deleting a Route Filter, page 17-10](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Deleting a Route Filter

The following procedure describes how to delete a route filter.

Before You Begin

You cannot delete a route filter that route patterns/hunt pilots, translation patterns, or other items use. To find out which route patterns/hunt pilots, translation patterns, or other items are using the route filter, click the **Dependency Records** link from the Route Filter 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 route filter that is in use, Cisco CallManager displays an error message. Before deleting a route filter that is currently in use, you must perform either or both of the following tasks:

- Assign a different route filter to any route patterns/hunt pilots, translation patterns, or other items that are using the route filter that you want to delete. See the [“Updating a Route Pattern/Hunt Pilot” section on page 21-6](#) and the [“Updating a Translation Pattern” section on page 22-5](#).
- Delete the route patterns/hunt pilots, translation patterns, or other items that are using the route filter that you want to delete. See the [“Deleting a Route Pattern/Hunt Pilot” section on page 21-8](#) and the [“Deleting a Translation Pattern” section on page 22-7](#).

Procedure

-
- Step 1** From Cisco CallManager Administration, choose **Route Plan > Route Filter**.
 - Step 2** Locate the route pattern/hunt pilot that you want to delete. See the [“Finding a Route Filter” section on page 17-2](#).
 - Step 3** Check the check box of the route filter that you want to delete and click **Delete Selected**.

A message displays that states that you cannot undo this action.

**Caution**

Check carefully to ensure that you are deleting the correct route filter before initiating this action. You cannot retrieve deleted route filters. If a route filter is accidentally deleted, you must rebuild it.

Step 4

To delete the route filter, click **OK** or to cancel the deletion, click **Cancel**.

**Tip**

You can also delete a route filter by locating and displaying the route filter that you want to delete and clicking **Delete**.

Related Topics

- [Finding a Route Filter, page 17-2](#)
- [Adding a Route Filter, page 17-4](#)
- [Adding Route Filter Clauses, page 17-8](#)
- [Removing Route Filter Clauses, page 17-9](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Route Filter Tag Descriptions

The tag serves as the core component of a route filter. A tag applies a name to a subset of the dialed-digit string. For example, the NANP number 972-555-1234 comprises LOCAL-AREA-CODE (972), OFFICE-CODE (555), and SUBSCRIBER (1234) route filter tags.

Route filter tags require operators and can require additional values to decide which calls are filtered.

The values for route filter tag fields can contain the wildcard characters X, *, #, [,], -, ^, and the numbers 0 through 9. (See [Table 14-3](#) in the “[Special Characters and Settings](#)” section of the *Cisco CallManager System Guide* for definitions of wildcard characters.) The descriptions in [Table 17-2](#) use the notations [2-9] and XXXX to represent actual digits. In this notation, [2-9] represents any single digit in the range 2 through 9, and X represents any single digit in the range 0 through

9. Therefore, the description “The three-digit area code in the form [2-9]XX” means that you can enter the actual digits 200 through 999, or all wildcards, or any mixture of actual digits and wildcards that results in a pattern with that range.

Route filter tags vary depending on the numbering plan that you choose from the Numbering Plan drop-down list box on the Route Filter Configuration window. [Table 17-2](#) describes the route filter tags for the North American Numbering Plan.

Table 17-2 Route Filter Tags

Tag	Description
AREA-CODE	This three-digit area code in the form [2-9]XX identifies the area code for long-distance calls.
COUNTRY CODE	These one-, two-, or three-digit codes specify the destination country for international calls.
END-OF-DIALING	This single character identifies the end of the dialed-digit string. The # character serves as the end-of-dialing signal for international numbers that are dialed within the NANP.
INTERNATIONAL-ACCESS	This two-digit access code specifies international dialing. Calls that originate in the U.S. use 01 for this code.
INTERNATIONAL-DIRECT-DIAL	This one-digit code identifies a direct-dialed international call. Calls that originate in the U.S. use 1 for this code.
INTERNATIONAL-OPERATOR	This one-digit code identifies an operator-assisted international call. This code specifies 0 for calls that originate in the U.S.
LOCAL-AREA-CODE	This three-digit local area code in the form [2-9]XX identifies the local area code for 10-digit local calls.

Table 17-2 *Route Filter Tags (continued)*

Tag	Description
LOCAL-DIRECT-DIAL	This one-digit code identifies a direct-dialed local call. NANP calls use 1 for this code.
LOCAL-OPERATOR	This one-digit code identifies an operator-assisted local call. NANP calls use 0 for this code.
LONG-DISTANCE-DIRECT-DIAL	This one-digit code identifies a direct-dialed, long-distance call. NANP calls use 1 for this code.
LONG-DISTANCE-OPERATOR	These one- or two-digit codes identify an operator-assisted, long-distance call within the NANP. Operator-assisted calls use 0 for this code, and operator access uses 00.
NATIONAL-NUMBER	This tag specifies the nation-specific part of the digit string for an international call.
OFFICE-CODE	This tag designates the first three digits of a seven-digit directory number in the form [2-9]XX.
SATELLITE-SERVICE	This one-digit code provides access to satellite connections for international calls.
SERVICE	This three-digit code designates services such as 911 for emergency, 611 for repair, and 411 for information.
SUBSCRIBER	This tag specifies the last four digits of a seven-digit directory number in the form XXXX.

Table 17-2 *Route Filter Tags (continued)*

Tag	Description
TRANSIT-NETWORK	<p>This four-digit value identifies a long-distance carrier.</p> <p>Do not include the leading 101 carrier access code prefix in the TRANSIT-NETWORK value. Refer to TRANSIT-NETWORK-ESCAPE for more information.</p>
TRANSIT-NETWORK-ESCAPE	<p>This three-digit value precedes the long-distance carrier identifier. The value for this field specifies 101. Do not include the four-digit carrier identification code in the TRANSIT-NETWORK-ESCAPE value. Refer to TRANSIT-NETWORK for more information.</p>

Route filter tag operators determine whether a call is filtered based on the existence, and sometimes the contents, of the dialed-digit string that is associated with that tag. The operators EXISTS and DOES-NOT-EXIST simply check for the existence of that part of the dialed-digit string. The operator == matches the actual dialed digits with the specified value or pattern. [Table 17-3](#) describes the operators that can be used with route filter tags.

Table 17-3 Route Filter Operators

Operator	Description
NOT-SELECTED	<p>Specifies do not filter calls based on the dialed-digit string that is associated with this tag.</p> <p>Note The presence or absence of the tag with which the operator is associated does not prevent Cisco CallManager from routing the call.</p>
EXISTS	<p>Specifies filter calls when the dialed-digit string that is associated with this tag is found.</p> <p>Note Cisco CallManager routes or blocks the call only if the dialed-digit string contains a sequence of digits that are associated with the tag.</p>
DOES-NOT-EXIST	<p>Specifies filter calls when the dialed-digit string that is associated with this tag is not found.</p> <p>Note Cisco CallManager routes or blocks the call only if the dialed-digit string does not contain a sequence of digits that are associated with the tag.</p>
==	<p>Specifies filter calls when the dialed-digit string that is associated with this tag matches the specified value.</p> <p>Note Cisco CallManager routes or blocks the call only if the dialed-digit string contains a sequence of digits that are associated with the tag and within the numbering range that is specified in the attached field.</p>

**Caution**

Do not enter route filter tag values for tags that are using the operators EXISTS, DOES-NOT-EXIST, or NOT-SELECTED.

Examples

Example 1: A route filter that uses AREA-CODE and the operator DOES-NOT-EXIST selects all dialed-digit strings that do not include an area code.

Example 2: A route filter that uses AREA-CODE, the operator ==, and the entry 515 selects all dialed-digit strings that include the 515 area code.

Example 3: A route filter that uses AREA-CODE, the operator ==, and the entry 5[2-9]X selects all dialed-digit strings that include area codes in the range of 520 through 599.

Example 4: A route filter that uses TRANSIT-NETWORK, the operator ==, and the entry 0288 selects all dialed-digit strings with the carrier access code 1010288.



Line Group Configuration

A line group allows you to designate the order in which directory numbers are selected. Cisco CallManager distributes a call to idle or available members of a line group and/or route group based on a call distribution algorithm and on the Ring No Answer Reversion (RNAR) setting.

Use the following topics to add or delete a line group or to add directory numbers to or to remove directory numbers from a line group:

- [Finding a Line Group, page 18-2](#)
- [Adding a Line Group, page 18-3](#)
- [Adding Members to a Line Group, page 18-4](#)
- [Removing Members from a Line Group, page 18-6](#)
- [Updating a Line Group, page 18-7](#)
- [Deleting a Line Group, page 18-8](#)
- [Line Group Configuration Settings, page 18-10](#)

Finding a Line Group

Because you might have several line groups in your network, Cisco CallManager lets you locate specific line groups based on specific criteria. Use the following procedure to locate line groups.

**Note**

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

Procedure

Step 1 Choose **Route Plan > Route/Hunt > Line Group**.

The Find and List Line Groups window displays.

Step 2 From the 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.



Note To find all line groups registered in the database, click **Find** without entering any search text.

A list of discovered line groups displays by line group name.



Note You can delete multiple line groups from the Find and List Line Groups window by checking the check boxes next to the appropriate line groups and clicking **Delete Selected**. You can delete all of the line groups 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 line group that matches your search criteria. The window displays the line group that you choose.
-

Related Topics

- [Adding a Line Group, page 18-3](#)
- [Adding Members to a Line Group, page 18-4](#)
- [Removing Members from a Line Group, page 18-6](#)
- [Updating a Line Group, page 18-7](#)
- [Deleting a Line Group, page 18-8](#)
- [Line Group Configuration Settings, page 18-10](#)

Adding a Line Group

The following procedure describes how to add a line group.

Before You Begin

You must define one or more directory numbers before performing this procedure. A directory number can reside in only one line group.

Procedure

- Step 1** Choose **Route Plan > Route/Hunt > Line Group**.
- Step 2** Click **Add a New Line Group**.
- Step 3** Enter a name in the Line Group Name field. The name can contain up to 50 alphanumeric characters and can contain any combination of spaces, periods (.), hyphens (-), and underscore characters (_). Ensure that each line group name is unique to the route plan.

**Timesaver**

Use concise and descriptive names for your line groups. The CompanynameLocationGroup format usually provides a sufficient level of detail and is short enough to enable you to quickly and easily identify a line group. For example, CiscoDallasAA1 identifies a Cisco Access Analog line group for the Cisco office in Dallas.

Step 4 Choose the appropriate settings as described in [Table 18-1](#).



Note You must choose at least one directory number for a new line group before adding the new line group.

Step 5 To add this line group, click **Insert**.

Related Topics

- [Finding a Line Group, page 18-2](#)
- [Adding Members to a Line Group, page 18-4](#)
- [Removing Members from a Line Group, page 18-6](#)
- [Deleting a Line Group, page 18-8](#)
- [Line Group Configuration Settings, page 18-10](#)
- [Adding a Route/Hunt List, page 20-4](#)
- [Adding Route Groups and Line Groups to a Route/Hunt List, page 20-6](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)


Adding Members to a Line Group

You can add members to a new line group or to an existing line group. The following procedure describes adding a member to an existing line group.

Before You Begin

You must define one or more directory numbers before performing this procedure. A directory number can reside in only one line group.

Procedure

-
- Step 1** Choose **Route Plan > Route/Hunt > Line Group**.
- Step 2** Locate the line group to which you want to add a member. See the [“Finding a Line Group” section on page 18-2](#).
- Step 3** If you need to locate a directory number, choose a route partition from the Route Partition drop-down list box, enter a search string in the Directory Number Contains field, and click **Find**. To find all directory numbers that belong to a partition, leave the Directory Number Contains field blank and click **Find**.
A list of matching directory numbers displays in the Available DN/Route Partition list box.
-  **Note** Only directory numbers that do not belong to other line groups display in the Available DN/Route Partition list box.
-
- Step 4** In the Available DN/Route Partition list box, choose a directory number to add and click **Add to Line Group** to move it to the Selected DN/Route Partition list box. Repeat this step for each member that you want to add to this line group.
- Step 5** In the Selected DN/Route Partition list box, choose the order in which the new directory number(s) is to be accessed in this line group. To change the order, click on a directory number and use the Up and Down arrows to the right of the list box to change the order of directory numbers.
- Step 6** Click **Update** to add the new directory numbers and to update the directory number order for this line group.
-

Related Topics

- [Finding a Line Group, page 18-2](#)
- [Adding a Line Group, page 18-3](#)
- [Removing Members from a Line Group, page 18-6](#)

- [Updating a Line Group, page 18-7](#)
- [Deleting a Line Group, page 18-8](#)
- [Line Group Configuration Settings, page 18-10](#)
- [Adding a Route/Hunt List, page 20-4](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Removing Members from a Line Group

You can remove members from a new line group or from an existing line group. The following procedure describes removing a directory number from an existing line group.

Procedure

- Step 1** Choose **Route Plan > Route/Hunt > Line Group**.
 - Step 2** Locate the line group from which you want to remove a directory number. See the [“Finding a Line Group” section on page 18-2](#).
 - Step 3** In the Selected DN/Route Partition list box, choose a directory number to be deleted and click the down arrow to move it to the Removed DN/Route Partition list box. Repeat this step for each member that you want to remove from this line group.
 - Step 4** To remove the members, click **Update**.
-

Related Topics

- [Finding a Line Group, page 18-2](#)
- [Adding a Line Group, page 18-3](#)
- [Adding Members to a Line Group, page 18-4](#)
- [Updating a Line Group, page 18-7](#)
- [Deleting a Line Group, page 18-8](#)
- [Line Group Configuration Settings, page 18-10](#)

- [Adding a Route/Hunt List, page 20-4](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Updating a Line Group

The following procedure describes how to update a line group.

Before You Begin

Before performing this procedure, ensure the line group to be updated is already configured.

Procedure

- Step 1** Choose **Route Plan > Route/Hunt > Line Group**.
 - Step 2** Locate the line group that you want to update. See the [“Finding a Line Group” section on page 18-2](#).
 - Step 3** Update the appropriate fields as described in [Table 18-1](#).
 - Step 4** Click **Update**.
-

Related Topics

- [Finding a Line Group, page 18-2](#)
- [Adding a Line Group, page 18-3](#)
- [Adding Members to a Line Group, page 18-4](#)
- [Removing Members from a Line Group, page 18-6](#)
- [Deleting a Line Group, page 18-8](#)
- [Line Group Configuration Settings, page 18-10](#)
- [Adding a Route/Hunt List, page 20-4](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Deleting a Line Group

The following procedure describes how to delete a line group.

Before You Begin

You cannot delete a line group that is referenced by one or more route/hunt lists. To find out which route/hunt lists are using the line group, click the **Dependency Records** link from the Line Group 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 line group that is in use, Cisco CallManager displays an error message. Before deleting a line group that is currently in use, you must perform the following task:

- Remove the line group from all route/hunt lists to which it belongs before deleting the line group. See the [“Removing Route Groups and Line Groups from a Route/Hunt List” section on page 20-8](#).



Tip

To delete line groups and route patterns, first delete the route pattern; second, delete the route/hunt list, and finally, delete the line group.

Procedure

- Step 1** Choose **Route Plan > Route/Hunt > Line Group**.
- Step 2** Locate the line group that you want to delete. See the [“Finding a Line Group” section on page 18-2](#).
- Step 3** Check the check box next to the line group that you want to delete and click **Delete Selected**.

A dialog box displays to warn you that you cannot undo deletion of line groups.

- Step 4** To delete the line group, click **OK** or to cancel the action, click **Cancel**. If you click **OK**, the Cisco CallManager removes the line group. Other line groups or route patterns can now select the directory numbers that belonged to the deleted line group.



Note You can delete multiple line groups from the Find and List Line Groups window by checking the check boxes next to the appropriate line groups and clicking **Delete Selected**. You can delete all the line groups in the window by checking the check box in the matching records title bar and clicking **Delete Selected**.

Related Topics

- [Finding a Line Group, page 18-2](#)
- [Adding a Line Group, page 18-3](#)
- [Adding Members to a Line Group, page 18-4](#)
- [Removing Members from a Line Group, page 18-6](#)
- [Updating a Line Group, page 18-7](#)
- [Adding a Route/Hunt List, page 20-4](#)
- [Understanding Route Plans, *Cisco CallManager System Guide*](#)

Line Group Configuration Settings

Table 18-1 describes the line group configuration settings.

Table 18-1 Line Group Configuration Settings

Field	Description
Line Group Information	
Line Group Name	Enter a name for this line group. The name can comprise up to 50 alphanumeric characters and can contain any combination of spaces, periods (.), hyphens (-), and underscore characters (_). Ensure that each line group name is unique to the route plan.
RNA Reversion Timeout	Enter a time, in seconds, after which Cisco CallManager will distribute a call to the next available or idle member of this line group or to the next line group or route group if the call is not answered and if the first hunt option, <i>Try next member; then, try next group in Hunt List</i> , is selected. The RNA Reversion Timeout applies at the line-group level to all members.

Table 18-1 Line Group Configuration Settings (continued)

Field	Description
Distribution Algorithm	<p>Choose a distribution algorithm, which applies at the line-group level, from the options in the drop-down list box:</p> <ul style="list-style-type: none"> • Top Down—If you choose this distribution algorithm, Cisco CallManager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member. • Circular—If you choose this distribution algorithm, Cisco CallManager distributes a call to idle or available members starting from the $(n+1)^{\text{th}}$ member of a line group, where the n^{th} member is the member to which Cisco CallManager most recently extended a call. If the n^{th} member is the last member of a line group, Cisco CallManager distributes a call starting from the top of the line group. • Longest Idle Time—If you choose this distribution algorithm, Cisco CallManager only distributes a call to idle members, starting from the longest-idle member to the least-idle member of a line group. • Broadcast—If you choose this distribution algorithm, Cisco CallManager distributes a call to all idle or available members of a line group simultaneously. <p>The default value is <i>Top Down</i>.</p>

Table 18-1 Line Group Configuration Settings (continued)

Field	Description
Hunt Options	
No Answer	<p>For a given distribution algorithm, choose a hunt option for Cisco CallManager to use if a call is distributed to a member of a line group that does not answer. This option gets applied at the member level. Choose from the options in the drop-down list box:</p> <ul style="list-style-type: none"> • Try next member; then, try next group in Hunt List—If you choose this hunt option, Cisco CallManager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member. If unsuccessful, Cisco CallManager then tries the next line group in a hunt list. • Try next member, but do not go to next group—If you choose this hunt option, Cisco CallManager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member. Cisco CallManager stops trying upon reaching the last member of the current line group. • Skip remaining members, and go directly to next group—If you choose this hunt option, Cisco CallManager skips the remaining members of this line group when the RNA reversion timeout value elapses for the first member. Cisco CallManager then proceeds directly to the next line group in a hunt list. • Stop hunting—If you choose this hunt option, Cisco CallManager stops hunting after trying to distribute a call to the first member of this line group and the member does not answer the call. <p>The default value specifies <i>Try next member; then, try next group in Hunt List</i>.</p>

Table 18-1 Line Group Configuration Settings (continued)

Field	Description
Busy	<p>For a given distribution algorithm, choose a hunt option for Cisco CallManager to use if a call is distributed to a member of a line group that is busy. Choose from the options in the drop-down list box:</p> <ul style="list-style-type: none"> • Try next member; then, try next group in Hunt List—If you choose this hunt option, Cisco CallManager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member. If unsuccessful, Cisco CallManager then tries the next line group in a hunt list. • Try next member, but do not go to next group—If you choose this hunt option, Cisco CallManager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member. Cisco CallManager stops trying upon reaching the last member of the current line group. • Skip remaining members, and go directly to next group—If you choose this hunt option, Cisco CallManager skips the remaining members of this line group upon encountering a busy member. Cisco CallManager proceeds directly to the next line group in a hunt list. • Stop hunting—If you choose this hunt option, Cisco CallManager stops hunting after trying to distribute a call to the first busy member of this line group. <p>The default value specifies <i>Try next member; then, try next group in Hunt List</i>.</p>

Table 18-1 Line Group Configuration Settings (continued)

Field	Description
Not Available	<p>For a given distribution algorithm, choose a hunt option for Cisco CallManager to use if a call is distributed to a member of a line group that is that is not available. Choose from the options in the drop-down list box:</p> <ul style="list-style-type: none"> <li>• Try next member; then, try next group in Hunt List—If you choose this hunt option, Cisco CallManager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member. If unsuccessful, Cisco CallManager then tries the next line group in a hunt list. <li>• Try next member, but do not go to next group—If you choose this hunt option, Cisco CallManager distributes a call to idle or available members starting from the first idle or available member of a line group to the last idle or available member. Cisco CallManager stops trying upon reaching the last member of the current line group. <li>• Skip remaining members, and go directly to next group—If you choose this hunt option, Cisco CallManager skips the remaining members of this line group upon encountering the first unavailable member. Cisco CallManager proceeds directly to the next line group in a hunt list. <li>• Stop hunting—If you choose this hunt option, Cisco CallManager stops hunting after trying to distribute a call to the first unavailable member of this line group. <p>The default value specifies <i>Try next member; then, try next group in Hunt List</i>.</p>

Table 18-1 Line Group Configuration Settings (continued)

Field	Description
Line Group Member Information	
Find Directory Numbers to add to Line Group	
Route Partition	Choose a route partition for this line group from the drop-down list box. The default value specifies <i><None></i> . If you click Find , the Available DN/Route Partition list box displays all DNs that belong to the chosen partition but do not belong to another line group.
Directory Number Contains	Enter the character(s) that are found in the directory number that you are seeking and click the Find button. Directory numbers that match the character(s) that you entered display in the Available DN/Route Partition box.
Available DN/Route Partition	Choose a directory number in the Available DN/Route Partition list box and add it to the Selected DN/Route Partition list box by clicking Add to Line Group .
Current Line Group Members	
Selected DN/Route Partition	To change the priority of a directory number, choose a directory number in the Selected DN/Route Partition list box. Move the directory number up or down in the list by clicking the arrows on the right side of the list box. To reverse the priority order of the directory numbers in the Selected DN/Route Partition list box, click Reverse Order of Selected DNs . For more information about the order of directory numbers in a line group, see “Route Plan Overview” in the <i>Cisco CallManager System Guide</i> .
Removed DN/Route Partition (to be removed from Line Group when you click Update)	Choose a directory number in the Selected DN/Route Partition list box and add it to the Removed DN/Route Partition list box by clicking the arrow button between the two list boxes.

Related Topics

- [Finding a Line Group](#), page 18-2
- [Adding a Line Group](#), page 18-3
- [Adding Members to a Line Group](#), page 18-4
- [Removing Members from a Line Group](#), page 18-6
- [Updating a Line Group](#), page 18-7
- [Deleting a Line Group](#), page 18-8
- [Understanding Route Plans](#), *Cisco CallManager Administration Guide*



Route Group Configuration

A route group allows you to designate the order in which gateways are selected. It allows you to prioritize a list of gateways and ports for outgoing trunk selection.

For example, if you use two long-distance carriers, you could add a route group, so long-distance calls to the less expensive carrier are given priority. Calls only route to the more expensive carrier if the first trunk is unavailable.

Use the following topics to add or delete a route group or to add devices to or to remove devices from a route group:

- [Finding a Route Group, page 19-2](#)
- [Adding a Route Group, page 19-3](#)
- [Adding Devices to a Route Group, page 19-4](#)
- [Removing Devices from a Route Group, page 19-5](#)
- [Updating a Route Group, page 19-6](#)
- [Deleting a Route Group, page 19-7](#)
- [Route Group Configuration Settings, page 19-9](#)

Finding a Route Group

Because you might have several route groups in your network, Cisco CallManager lets you locate specific route groups based on specific criteria. Use the following procedure to locate route groups.

**Note**

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

Procedure

-
- Step 1** Choose **Route Plan > Route/Hunt > Route Group**.
- The Find and List Route Groups window displays.
- Step 2** From the 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.

**Note**

To find all route groups registered in the database, click **Find** without entering any search text.

A list of discovered route groups displays by route group name.

**Note**

You can delete multiple route groups from the Find and List Route Groups window by checking the check boxes next to the appropriate route groups and clicking **Delete Selected**. You can delete all of the route groups 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 route group that matches your search criteria. The window displays the route group that you choose.
-

Related Topics

- [Adding a Route Group, page 19-3](#)
- [Adding Devices to a Route Group, page 19-4](#)
- [Removing Devices from a Route Group, page 19-5](#)
- [Updating a Route Group, page 19-6](#)
- [Deleting a Route Group, page 19-7](#)
- [Route Group Configuration Settings, page 19-9](#)

Adding a Route Group

The following procedure describes how to add a route group.

Procedure

- Step 1** Choose **Route Plan > Route/Hunt > Route Group**.
- Step 2** Click **Add a New Route Group**.
- Step 3** Enter a name in the Route Group Name field. The name can contain up to 50 alphanumeric characters and can contain any combination of spaces, periods (.), hyphens (-), and underscore characters (_). Ensure that each route group name is unique to the route plan.



Timesaver

Use concise and descriptive names for your route groups. The CompanynameLocationGroup format usually provides a sufficient level of detail and is short enough to enable you to quickly and easily identify a route group. For example, CiscoDallasAA1 identifies a Cisco Access Analog route group for the Cisco office in Dallas.

Step 4 Choose the appropriate settings as described in [Table 19-1](#).



Note You must choose at least one device for a new route group before adding the new route group.

Step 5 To add this route group, click **Insert**.

Related Topics

- [Finding a Route Group, page 19-2](#)
- [Adding Devices to a Route Group, page 19-4](#)
- [Removing Devices from a Route Group, page 19-5](#)
- [Updating a Route Group, page 19-6](#)
- [Deleting a Route Group, page 19-7](#)
- [Route Group Configuration Settings, page 19-9](#)
- [Adding a Route/Hunt List, page 20-4](#)
- [Adding Route Groups and Line Groups to a Route/Hunt List, page 20-6](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Adding Devices to a Route Group

You can add devices to a new route group or to an existing route group. The following procedure describes adding a device to an existing route group.



Note Cisco CallManager Administration does not allow you to combine MGCP gateways that use the QSIG protocol with any other type of gateway to the same route group. For more information, refer to the [“Route Groups and Route/Hunt Lists”](#) section in the *Cisco CallManager System Guide*.

Before You Begin

You must define one or more gateway devices before performing this procedure. A device can reside in only one route group.

Procedure

- Step 1** Choose **Route Plan > Route/Hunt > Route Group**.
- Step 2** Locate the route group to which you want to add a device. See the [“Finding a Route Group” section on page 19-2](#).
- Step 3** In the Available Devices list box, choose a device to add and click **Add to Route Group** to move it to the Selected Devices list box. Repeat this step for each device that you want to add to this route group.
- Step 4** In the Selected Devices list box, choose the order in which the new device(s) is (are) to be accessed in this route group.
- Step 5** Click **Update** to add the new device(s) and to update the device order for this route group.
-

Related Topics

- [Finding a Route Group, page 19-2](#)
- [Adding a Route Group, page 19-3](#)
- [Removing Devices from a Route Group, page 19-5](#)
- [Updating a Route Group, page 19-6](#)
- [Deleting a Route Group, page 19-7](#)
- [Route Group Configuration Settings, page 19-9](#)
- [Adding a Route/Hunt List, page 20-4](#)
- [Adding Route Groups and Line Groups to a Route/Hunt List, page 20-6](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Removing Devices from a Route Group

You can remove devices from a new route group or from an existing route group. The following procedure describes removing a device from an existing route group.

Procedure

- Step 1** Choose **Route Plan > Route/Hunt > Route Group**.
- Step 2** Locate the route group from which you want to remove a device. See the [“Finding a Route Group” section on page 19-2](#).
- Step 3** In the Selected Devices list box, choose a device to be deleted and click the down arrow to move it to the Removed Devices list box. Repeat this step for each device that you want to remove from this route group.
- Step 4** To remove the devices, click **Update**.
-

Related Topics

- [Finding a Route Group, page 19-2](#)
- [Adding a Route Group, page 19-3](#)
- [Adding Devices to a Route Group, page 19-4](#)
- [Updating a Route Group, page 19-6](#)
- [Deleting a Route Group, page 19-7](#)
- [Route Group Configuration Settings, page 19-9](#)
- [Adding a Route/Hunt List, page 20-4](#)
- [Adding Route Groups and Line Groups to a Route/Hunt List, page 20-6](#)
- [Understanding Route Plans, *Cisco CallManager System Guide*](#)

Updating a Route Group

The following procedure describes how to update a route group.

Before You Begin

Before performing this procedure, ensure the route group to be updated is already configured.

Procedure

- Step 1** Choose **Route Plan > Route/Hunt > Route Group**.
- Step 2** Locate the route group that you want to update. See the [“Finding a Route Group” section on page 19-2](#).
- Step 3** Update the appropriate fields as described in [Table 19-1](#).
- Step 4** Click **Update**.
-

Related Topics

- [Finding a Route Group, page 19-2](#)
- [Adding a Route Group, page 19-3](#)
- [Adding Devices to a Route Group, page 19-4](#)
- [Removing Devices from a Route Group, page 19-5](#)
- [Deleting a Route Group, page 19-7](#)
- [Route Group Configuration Settings, page 19-9](#)
- [Adding a Route/Hunt List, page 20-4](#)
- [Adding Route Groups and Line Groups to a Route/Hunt List, page 20-6](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Deleting a Route Group

The following procedure describes how to delete a route group.

Before You Begin

You cannot delete a route group that is referenced by one or more route/hunt lists. To find out which route/hunt lists are using the route group, click the **Dependency Records** link from the Route Group 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 route

group that is in use, Cisco CallManager displays an error message. Before deleting a route group that is currently in use, you must perform the following task:

- Remove the route group from all route/hunt lists to which it belongs before deleting the route group. See the [“Removing Route Groups and Line Groups from a Route/Hunt List”](#) section on page 20-8.

**Tip**

To delete route groups and route patterns, first delete the route pattern; second, delete the route/hunt list, and finally, delete the route group.

Procedure

-
- Step 1** Choose **Route Plan > Route/Hunt > Route Group**.
- Step 2** Locate the route group that you want to delete. See the [“Finding a Route Group”](#) section on page 19-2.
- Step 3** Check the check box next to the route group that you want to delete and click **Delete Selected**.
- A dialog box displays to warn you that you cannot undo deletion of route groups.
- Step 4** To delete the route group, click **OK** or to cancel the action, click **Cancel**. If you click **OK**, the Cisco CallManager removes the route group from the route group list. Other route groups or route patterns can now select the gateways that belonged to the deleted route group, provided that all ports were available with the gateways.

**Note**

You can delete multiple route groups from the Find and List Route Groups window by checking the check boxes next to the appropriate route groups and clicking **Delete Selected**. You can delete all the route groups in the window by checking the check box in the matching records title bar and clicking **Delete Selected**.

Related Topics

- [Finding a Route Group, page 19-2](#)
- [Adding a Route Group, page 19-3](#)
- [Adding Devices to a Route Group, page 19-4](#)
- [Removing Devices from a Route Group, page 19-5](#)
- [Updating a Route Group, page 19-6](#)
- [Adding a Route/Hunt List, page 20-4](#)
- [Adding Route Groups and Line Groups to a Route/Hunt List, page 20-6](#)
- [Understanding Route Plans, *Cisco CallManager System Guide*](#)

Route Group Configuration Settings

[Table 19-1](#) describes the route group configuration settings.

Table 19-1 Route Group Configuration Settings

Field	Description
Route Group Information	
Route Group Name	Enter a name for this route group. The name can comprise up to 50 alphanumeric characters and can contain any combination of spaces, periods (.), hyphens (-), and underscore characters (_). Ensure that each route group name is unique to the route plan.

Table 19-1 Route Group Configuration Settings (continued)

Field	Description
Distribution Algorithm	<p>Choose a distribution algorithm from the options in the drop-down list box:</p> <ul style="list-style-type: none"> • Top Down—If you choose this distribution algorithm, Cisco CallManager distributes a call to idle or available members starting from the first idle or available member of a route group to the last idle or available member. • Circular—If you choose this distribution algorithm, Cisco CallManager distributes a call to idle or available members starting from the $(n+1)^{\text{th}}$ member of a route group, where the n^{th} member is the member to which Cisco CallManager most recently extended a call. If the n^{th} member is the last member of a route group, Cisco CallManager distributes a call starting from the top of the route group. <p>The default value specifies <i>Top Down</i>.</p>
Route Group Member Information	
Find Devices to Add to Route Group	
Device Name contains	Enter the character(s) that are found in the device name that you are seeking and click the Find button. Device names that match the character(s) that you entered display in the Available Devices box.

Table 19-1 Route Group Configuration Settings (continued)

Field	Description
Available Devices (select device, then select port below)	<p>Choose a device in the Available Devices list box and add it to the Selected Devices list box by clicking Add to Route Group.</p> <p>You can only combine MGCP gateways that use the QSIG protocol with other MGCP gateways that use the QSIG protocol in a route group.</p> <p>If the route group contains a gateway that uses the QSIG protocol, only gateways that use the QSIG protocol display in the list. However, you can also include non-gatekeeper-controlled intercluster trunks, which are not QSIG devices. Other trunk types are considered H.323 devices.</p> <p>If the route group contains a gateway that uses the non-QSIG protocol, gateways that use the QSIG protocol do not display in the list.</p> <p>If you included the route group in a route/hunt list that contains QSIG gateways, the H.323 gateways do not display in the list.</p>
Port(s)	<p>If this device supports individually configurable ports, choose the port. (Devices that allow you to choose individual ports include Cisco Access Analog and Cisco MGCP Analog gateways and T1 CAS.) Otherwise, choose the default value (<i>All</i> or <i>None Available</i>, depending upon the device chosen).</p>

Table 19-1 Route Group Configuration Settings (continued)

Field	Description
Current Route Group Members	
Selected Devices (ordered by highest priority)	<p>To change the priority of a device, choose a device name in the Selected Devices list box. Move the device up or down in the list by clicking the arrows on the right side of the list box.</p> <p>To reverse the priority order of the devices in the Selected Devices list box, click Reverse Order of Selected Devices.</p> <p>For more information about the order of devices in a route group, see “Route Plan Overview” in the <i>Cisco CallManager System Guide</i>.</p>
Removed Devices (to be removed from Route Group when you click Update)	Choose a device in the Selected Devices list box and add it to the Removed Devices list box by clicking the arrow button between the two list boxes.

Related Topics

- [Finding a Route Group, page 19-2](#)
- [Adding a Route Group, page 19-3](#)
- [Adding Devices to a Route Group, page 19-4](#)
- [Removing Devices from a Route Group, page 19-5](#)
- [Updating a Route Group, page 19-6](#)
- [Deleting a Route Group, page 19-7](#)
- [Adding a Route/Hunt List, page 20-4](#)
- [Adding Route Groups and Line Groups to a Route/Hunt List, page 20-6](#)
- [Understanding Route Plans, Cisco CallManager Administration Guide](#)



Route/Hunt List Configuration

A route/hunt list associates a set of route groups and line groups in a specified priority order. A route/hunt list then associates with one or more route patterns and determines the order in which those route groups and line groups are accessed. The order controls the progress of the search for available devices for outgoing calls.

A route/hunt list comprises a collection of resources (gateway ports, gateways, Cisco IP Phones, and POTS phones) that route calls that match a defined route pattern. After Cisco CallManager determines a call that is to be routed through a defined route/hunt list, Cisco CallManager finds the first available device on the basis of the order of the line group(s) and route group(s) that a route/hunt list defines.

A route/hunt list can contain only line groups, only route groups, or both route groups and line groups. If a route/hunt list contains both line groups and route groups, the line groups must precede the route groups. Each route/hunt list should have at least one route group or one line group. Each line group includes at least one directory number that is available. Each route group includes at least one device, such as a gateway, that is available. Based on device type, Cisco CallManager can choose some, or all, ports as resources in each route group. Some devices, such as digital access, only allow you to choose all ports.

Each route/hunt list can contain the same route groups and line groups that other route/hunt lists have already chosen.

Use the following topics to add or remove route/hunt lists or to add, remove, or change the order of route groups and line groups in a route/hunt list:

- [Finding Route/Hunt Lists, page 20-2](#)
- [Adding a Route/Hunt List, page 20-4](#)

- [Adding Route Groups and Line Groups to a Route/Hunt List, page 20-6](#)
- [Removing Route Groups and Line Groups from a Route/Hunt List, page 20-8](#)
- [Changing the Order of Route Groups and Line Groups in a Route/Hunt List, page 20-10](#)
- [Deleting a Route/Hunt List, page 20-11](#)

Finding Route/Hunt Lists

Because you might have several route/hunt lists in your network, Cisco CallManager lets you use specific criteria to locate specific route/hunt lists. To locate route/hunt lists, use the following procedure.



Note

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

Procedure

- Step 1** Choose **Route Plan > Route/Hunt > Route/Hunt List**.
- The Find and List Route/Hunt Lists window displays. Use the two drop-down list boxes to search for a route/hunt list.
- Step 2** From the first Find Route/Hunt Lists where drop-down list box, choose one of the following criteria:
- Route/Hunt List Name
 - Description
 - Pattern/Pilot Number



Note The criterion that you choose in this drop-down list box specifies how the list of route/hunt lists that your search generates will be sorted. For example, if you choose **Description**, the **Description** column will display as the left column of the results list.

From the second Find Route/Hunt Lists 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.



Note To find all route/hunt lists that are registered in the database, click **Find** without entering any search text.

A list of discovered route/hunt lists displays by

- Route/hunt list name
- Description
- Status
- Enabled



Note You can delete multiple route/hunt lists from the Find and List Route/Hunt Lists window by checking the check boxes next to the appropriate route/hunt lists and clicking **Delete Selected**. You can delete all route/hunt lists in the window by checking the check box in the matching records title bar and clicking **Delete Selected**.

- Step 4** Click the route/hunt list from the list of records that matches your search criteria. The window displays the route/hunt list that you choose.
-

Related Topics

- [Adding a Route/Hunt List, page 20-4](#)
- [Adding Route Groups and Line Groups to a Route/Hunt List, page 20-6](#)
- [Removing Route Groups and Line Groups from a Route/Hunt List, page 20-8](#)
- [Changing the Order of Route Groups and Line Groups in a Route/Hunt List, page 20-10](#)
- [Deleting a Route/Hunt List, page 20-11](#)

Adding a Route/Hunt List

The following procedure describes how to add a route/hunt list.

Procedure

- Step 1** Choose **Route Plan > Route/Hunt > Route/Hunt List**.
- Step 2** Click **Add a New Route/Hunt List**.
- Step 3** In the Route/Hunt List Name field, enter a name. The name can comprise up to 50 alphanumeric characters and can contain any combination of spaces, periods (.), hyphens (-), and underscore characters (_). Ensure each route/hunt list name is unique to the route plan.



Timesaver

Use concise and descriptive names for your route/hunt lists. The CompanynameLocationCalltype format usually provides a sufficient level of detail and is short enough to enable you to quickly and easily identify a route/hunt list. For example, CiscoDallasMetro identifies a route/hunt list for toll-free, inter-local access transport area (LATA) calls from the Cisco office in Dallas.

Cisco CallManager automatically inserts a description in the Description field. You can, however, edit this field.

Step 4 Choose a Cisco CallManager group from the drop-down list box.



Note The order of Cisco CallManagers in the Cisco CallManager group specifies the priority order. Highest priority order goes to the first Cisco CallManager in the group. The route/hunt list registers with the highest-priority Cisco CallManager as its primary Cisco CallManager.

Step 5 To add this route/hunt list, click **Insert**.



Note A popup message reminds you that you must add at least one line group or route group to this route/hunt list for it to accept calls.

The Route/Hunt List window displays the newly added route/hunt list.

Step 6 The Enable this Route/Hunt List check box is checked by default for the new route/hunt list.

If you wish to disable this route/hunt list, uncheck this check box. A popup window explains that calls in progress are not affected, but this route/hunt list will not accept additional calls.

Step 7 Add at least one line group or at least one route group to the new route/hunt list.

To add a line group to this list, click **Add Line Group** and perform [Step 3](#) through [Step 6](#) of the “[Adding Route Groups and Line Groups to a Route/Hunt List](#)” section on page 20-6.

To add a route group to this list, click **Add Route Group** and perform [Step 8](#) through [Step 12](#) of the “[Adding Route Groups and Line Groups to a Route/Hunt List](#)” section on page 20-6.



Note For called party and calling party transformation information, you can click on the **Route Details for Route Groups** link on the left side of the window. This action displays the Route Details Configuration window.

Related Topics

- [Finding Route/Hunt Lists, page 20-2](#)
- [Adding Route Groups and Line Groups to a Route/Hunt List, page 20-6](#)
- [Changing the Order of Route Groups and Line Groups in a Route/Hunt List, page 20-10](#)
- [Removing Route Groups and Line Groups from a Route/Hunt List, page 20-8](#)
- [Deleting a Route/Hunt List, page 20-11](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Adding Route Groups and Line Groups to a Route/Hunt List

You can add route groups and line groups to a new route/hunt list or to an existing route/hunt list. Route groups and line groups can exist in one or more route/hunt lists. The following procedure describes adding a route group or line group to an existing route/hunt list.



Note

You cannot add route groups that contain MGCP gateways that use the QSIG protocol (a QSIG route group) and route groups that contain gateways that use the H.323 protocol (H.323 route group) to the same route/hunt list. For more information, refer to the [“Route Groups and Route/Hunt Lists”](#) section in the *Cisco CallManager System Guide*.

Before You Begin

You must build one or more line groups and route groups and add a route/hunt list before performing this procedure.



Note

When adding line groups and route groups to a route/hunt list, add the line groups first and then add route groups. When complete, the route/hunt list must be ordered, so all line groups precede all route groups. Refer to the [“Changing the Order of Route Groups and Line Groups in a Route/Hunt List”](#) section on [page 20-10](#) for details of ordering line groups and route groups in a route/hunt list.

Procedure

- Step 1** Choose **Route Plan > Route/Hunt > Route/Hunt List**.
- Step 2** Locate the route/hunt list to which you want to add a line group or route group. See the [“Finding Route/Hunt Lists”](#) section on page 20-2.
- Step 3** To add a line group, click **Add Line Group**. To add a route group instead, skip to [Step 7](#).
The Route/Hunt List Detail Configuration displays.
- Step 4** From the Line Group drop-down list box, choose a line group to add to the route/hunt list.
- Step 5** To add the line group, click **Insert**.
The line group name appears in the Route/Hunt List Details list on the left side of the window.
- Step 6** To add more line groups to this list, click **Add Line Group** and repeat [Step 3](#) through [Step 5](#).
- Step 7** To add a route group, click **Add Route Group**.
The Route/Hunt List Detail Configuration displays.
- Step 8** From the Route Group drop-down list box, choose a route group to add to the route/hunt list.



Note If the route/hunt list contains a QSIG route group, H.323 route groups do not display in the drop-down list box. If the route group contains a H.323 route group, QSIG route groups do not display in the drop-down list box.

- Step 9** If you need to manipulate the calling party number on calls that are routed through this route group, set up the calling party transformations in the appropriate fields.



Note For more information on calling party transformations, see the [“Calling and Called Party Transformations”](#) in the *Cisco CallManager System Guide*.

- Step 10** If you need to manipulate the dialed digits on calls that are routed through this route group, set up the called party transformations in the appropriate fields.



Note For more information on called party transformations, see the “[Called Party Number Transformations Settings](#)” in the *Cisco CallManager System Guide*.

- Step 11** To add the route group, click **Insert**.
The route group details information appears in the Route/Hunt List Details list on the left side of the window.
- Step 12** To add more route groups to this list, click **Add Route Group** and repeat [Step 7](#) through [Step 11](#).
- Step 13** When you finishing adding route groups and line groups to the route/hunt list, click **Update**.
- Step 14** Click **Reset** to reset the route/hunt list. When the popup window displays, click **OK**.
-

Related Topics

- [Adding a Route/Hunt List, page 20-4](#)
- [Removing Route Groups and Line Groups from a Route/Hunt List, page 20-8](#)
- [Changing the Order of Route Groups and Line Groups in a Route/Hunt List, page 20-10](#)
- [Deleting a Route/Hunt List, page 20-11](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Removing Route Groups and Line Groups from a Route/Hunt List

You can remove route groups and line groups from a new route/hunt list or from an existing route/hunt list. The following procedure describes removing a route group or line group from an existing route/hunt list.

Procedure

- Step 1** Choose **Route Plan > Route/Hunt > Route/Hunt List** in the menu bar.
- Step 2** Locate the route/hunt list from which you want to remove a route group or line group. See the [“Finding Route/Hunt Lists” section on page 20-2](#).
- Step 3** From the Selected Groups list, choose a route group or line group name.



Note To select multiple route groups or line groups from the list, press the **Shift** key and click on the desired route groups and line groups.

- Step 4** Click the down arrow below the Selected Groups list box to move the selected route group or line group to the Removed Groups list.
- Step 5** To remove the route group or line group, click **Update**. If you click **OK**, when the window refreshes, the route group or line group no longer appears in the route/hunt list.
- Step 6** Click **Reset** for the changes to take effect. Click **OK** in response to the popup windows.
-

Related Topics

- [Finding Route/Hunt Lists, page 20-2](#)
- [Adding a Route/Hunt List, page 20-4](#)
- [Adding Route Groups and Line Groups to a Route/Hunt List, page 20-6](#)
- [Changing the Order of Route Groups and Line Groups in a Route/Hunt List, page 20-10](#)
- [Deleting a Route/Hunt List, page 20-11](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Changing the Order of Route Groups and Line Groups in a Route/Hunt List

Cisco CallManager accesses line groups and route groups in the order in which they appear in the route/hunt list. The following procedure allows you to change the access order of route groups and line groups.

**Note**

When changing the order of line groups and route groups in a route/hunt list, ensure that all line groups precede all route groups. When you finish, the route/hunt list must be ordered, so all line groups precede all route groups.

Procedure

-
- Step 1** Choose **Route Plan > Route/Hunt > Route/Hunt List**.
 - Step 2** Locate the route/hunt list in which you want to change the order of a route group or line group. See the [“Finding Route/Hunt Lists” section on page 20-2](#).
 - Step 3** From the Selected Groups list, choose a line group or route group.
 - Step 4** To move the line group or route group up or down in the list, select a group, then click the up or down arrows on the right side of the list box.
 - Step 5** Click **Update**.

**Note**

For called party and calling party transformation information, click the route group icon or route group name in the Route/Hunt List Details list at left. This action takes you to the Route/Hunt List Detail Configuration window for the corresponding route group.

- Step 6** Click **Reset** for the changes to take effect. Click **OK** in response to the popup windows.
-

Related Topics

- [Finding Route/Hunt Lists, page 20-2](#)
- [Adding a Route/Hunt List, page 20-4](#)

- [Adding Route Groups and Line Groups to a Route/Hunt List](#), page 20-6
- [Removing Route Groups and Line Groups from a Route/Hunt List](#), page 20-8
- [Deleting a Route/Hunt List](#), page 20-11
- [Understanding Route Plans](#), *Cisco CallManager System Guide*

Deleting a Route/Hunt List

Cisco CallManager associates route/hunt lists with line groups, route groups, and route patterns; however, deletion of line groups, route groups, and route patterns does not occur when the route/hunt list is deleted. To find out which route patterns are using the route/hunt list, click the **Dependency Records** link from the Route/Hunt List Configuration window. If 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.



Tip

To delete route groups, line groups, and route patterns, first delete the route pattern, second, delete the route/hunt list, and finally, delete the route group or line group.

The following procedure describes how to delete a route/hunt list.

Procedure

- Step 1** Choose **Route Plan > Route/Hunt > Route/Hunt List**.
- Step 2** Locate the route/hunt list that you want to delete. See the [“Finding Route/Hunt Lists”](#) section on page 20-2.
- Step 3** Click **Delete**.

A dialog box displays to warn you that you cannot undo the removal of a route/hunt list.

Step 4 To remove the route/hunt list, click **OK** or to cancel the action, click **Cancel**.

**Caution**

You cannot delete a route/hunt list if it is associated with one or more route patterns.

Related Topics

- [Finding Route/Hunt Lists, page 20-2](#)
- [Adding a Route/Hunt List, page 20-4](#)
- [Adding Route Groups and Line Groups to a Route/Hunt List, page 20-6](#)
- [Changing the Order of Route Groups and Line Groups in a Route/Hunt List, page 20-10](#)
- [Removing Route Groups and Line Groups from a Route/Hunt List, page 20-8](#)
- [Understanding Route Plans, *Cisco CallManager System Guide*](#)



Route Pattern/Hunt Pilot Configuration

A route pattern/hunt pilot comprises a string of digits (an address) and a set of associated digit manipulations that can be assigned to a route list or a gateway. Route patterns and hunt pilots provide flexibility in network design. They work in conjunction with route filters and route lists to direct calls to specific devices and to include, exclude, or modify specific digit patterns.

Refer to “[Understanding Route Plans](#)” in *Cisco CallManager System Guide* for more detailed route pattern/hunt pilot information.

Use the following topics to add, update, copy, or delete a route pattern/hunt pilot:

- [Finding a Route Pattern/Hunt Pilot, page 21-2](#)
- [Adding a Route Pattern/Hunt Pilot, page 21-4](#)
- [Updating a Route Pattern/Hunt Pilot, page 21-6](#)
- [Copying a Route Pattern/Hunt Pilot, page 21-7](#)
- [Deleting a Route Pattern/Hunt Pilot, page 21-8](#)
- [Route Pattern/Hunt Pilot Configuration Settings, page 21-9](#)

Finding a Route Pattern/Hunt Pilot

Because you might have several route patterns/hunt pilots in your network, Cisco CallManager lets you use specific criteria to locate specific route patterns/hunt pilots. To locate route patterns/hunt pilots, use the following procedure.

**Note**

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

Procedure

Step 1 Choose **Route Plan > Route Pattern/Hunt Pilot**.

The Find and List Route Patterns/Hunt Pilots window displays. Use the two drop-down selection boxes to search for a route pattern.

Step 2 From the first Find Route Patterns/hunt Pilots where drop-down selection box, choose Pattern, Description, or Partition.

**Note**

The criterion that you choose in this drop-down list box specifies how the list of route patterns/hunt pilots that your search generates will be sorted. For example, if you choose Description, the Description column will display as the left column of the results list.

Step 3 From the second Find Route Patterns/Hunt Pilots where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly

- is not empty
- is empty

Step 4 Specify the appropriate search text, if applicable, and click **Find**. You can also specify how many items per page to display.



Note To find all route patterns/hunt pilots that are registered in the database, click **Find** without entering any search text.

A list of discovered route patterns/hunt pilots displays by

- Route pattern/hunt pilot icon
- Route pattern/hunt pilot
- Partition
- Description
- Route Filter
- Gateway/Route List



Note You can delete multiple route patterns/hunt pilots from the Find and List Route Patterns/Hunt Pilots window by checking the check boxes next to the appropriate route patterns/hunt pilots and clicking **Delete Selected**. You can delete all route patterns/hunt pilots in the window by checking the check box in the matching records title bar and clicking **Delete Selected**.

Step 5 Click the route pattern/hunt pilot from the list of records that matches your search criteria.

The window displays the route pattern/hunt pilot that you choose.

Related Topics

- [Adding a Route Pattern/Hunt Pilot, page 21-4](#)
- [Updating a Route Pattern/Hunt Pilot, page 21-6](#)
- [Copying a Route Pattern/Hunt Pilot, page 21-7](#)

- [Deleting a Route Pattern/Hunt Pilot](#), page 21-8
- [Route Pattern/Hunt Pilot Configuration Settings](#), page 21-9

Adding a Route Pattern/Hunt Pilot

This section describes how to add a route pattern/hunt pilot.

Before You Begin

Ensure that the following items are configured in Cisco CallManager:

- Gateway
- Route list
- Partition (unless you are using <None>)
- Route filter (unless you are using <None>)



Timesaver

Assigning 8XXX to a gateway routes all directory numbers 8000 to 8999 out the gateway. Similarly, 82XX routes directory numbers 8200 to 8299. See the [“Special Characters and Settings”](#) section in the *Cisco CallManager System Guide* for more information about wildcards.

Procedure

- Step 1** Choose **Route Plan > Route Pattern/Hunt Pilot**.
- Step 2** Click **Add a New Route Pattern/Hunt Pilot**.
- Step 3** Enter the appropriate settings as described in [Table 21-1](#).

Step 4 Click **Insert**.**Note**

After you click **Insert** and the window refreshes, an **(Edit)** link appears in the window next to the Gateway or Route/Hunt List field. This link takes you to the Gateway Configuration or Route List Configuration window for reference, depending on whether the Gateway or Route/Hunt List field contains a gateway or a route/hunt list, so you can see the route group(s) and/or line group(s) that are included in that route/hunt list, if route group(s) or line group(s) were specified. If not, you see devices.

Related Topics

- [Finding a Route Pattern/Hunt Pilot, page 21-2](#)
- [Route Pattern Wildcards and Special Characters, *Cisco CallManager System Guide*](#)
- [Adding a Route Filter, page 17-4](#)
- [Updating a Route Pattern/Hunt Pilot, page 21-6](#)
- [Copying a Route Pattern/Hunt Pilot, page 21-7](#)
- [Deleting a Route Pattern/Hunt Pilot, page 21-8](#)
- [Route Pattern/Hunt Pilot Configuration Settings, page 21-9](#)
- [Understanding Route Plans, *Cisco CallManager System Guide*](#)

Updating a Route Pattern/Hunt Pilot

This section describes how to update a route pattern/hunt pilot.

Procedure

- Step 1** Choose **Route Plan > Route Pattern/Hunt Pilot**.
- Step 2** Locate the route pattern/hunt pilot that you want to update. See the [“Finding a Route Pattern/Hunt Pilot”](#) section on page 21-2.



Note If you change the gateway or route/hunt list, you must click **Update** prior to selecting the **Edit** link. Otherwise, you get linked to the previous gateway or route/hunt list.

- Step 3** Update the appropriate settings as described in the [“Route Pattern/Hunt Pilot Configuration Settings”](#) section on page 21-9.
- Step 4** Click **Update**.
- The updated route pattern/hunt pilot displays.
-

Related Topics

- [Finding a Route Pattern/Hunt Pilot, page 21-2](#)
- [Route Pattern Wildcards and Special Characters, Cisco CallManager System Guide](#)
- [Adding a Route Filter, page 17-4](#)
- [Adding a Route Pattern/Hunt Pilot, page 21-4](#)
- [Copying a Route Pattern/Hunt Pilot, page 21-7](#)
- [Deleting a Route Pattern/Hunt Pilot, page 21-8](#)
- [Route Pattern/Hunt Pilot Configuration Settings, page 21-9](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Copying a Route Pattern/Hunt Pilot

This section describes how to copy a route pattern.

Procedure

- Step 1** Choose **Route Plan > Route Pattern/Hunt Pilot**.
- Step 2** Locate the route pattern/hunt pilot that you want to copy. See the [“Finding a Route Pattern/Hunt Pilot”](#) section on page 21-2.
- Step 3** Check the check box next to the route pattern/hunt pilot that you want to copy.
- Step 4** Click the **Copy** icon of that route pattern/hunt pilot.
The window displays the copy of the route pattern/hunt pilot.
- Step 5** Update the appropriate settings as described in [Table 21-1](#).
- Step 6** To add the new route pattern/hunt pilot, click **Insert**.



Note After you click **Insert** and the window refreshes, an **(Edit)** link appears in the window next to the Gateway or Route/Hunt List field. This link takes you to the Gateway Configuration or Route/Hunt List Configuration window for reference, depending on whether the Gateway or Route/Hunt List field contains a gateway or a route/hunt list, so you can see the route group(s) and/or line group(s) that are included in that route/hunt list, if route group(s) or line group(s) were specified. If not, you see devices.



Tip You can also copy a route pattern/hunt pilot by locating and displaying the route pattern/hunt pilot that you want to copy and clicking **Copy**. Then, follow the instructions in [Step 5](#) and [Step 6](#).

Related Topics

- [Finding a Route Pattern/Hunt Pilot, page 21-2](#)
- [Route Pattern Wildcards and Special Characters, Cisco CallManager System Guide](#)

- [Adding a Route Filter, page 17-4](#)
- [Adding a Route Pattern/Hunt Pilot, page 21-4](#)
- [Updating a Route Pattern/Hunt Pilot, page 21-6](#)
- [Deleting a Route Pattern/Hunt Pilot, page 21-8](#)
- [Route Pattern/Hunt Pilot Configuration Settings, page 21-9](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Deleting a Route Pattern/Hunt Pilot

This section describes how to delete a route pattern/hunt pilot.

Procedure

-
- Step 1** Choose **Route Plan > Route Pattern/Hunt Pilot**.
 - Step 2** Locate the route pattern/hunt pilot that you want to delete. See the [“Finding a Route Pattern/Hunt Pilot” section on page 21-2](#).
 - Step 3** Check the check box of the route pattern/hunt pilot that you want to delete and click **Delete Selected**.
A message that displays states that you cannot undo this action.
 - Step 4** To delete the route pattern, click **OK** or to cancel the deletion, click **Cancel**.



Tip

You can also delete a route pattern/hunt pilot by locating and displaying the route pattern/hunt pilot that you want to delete and clicking **Delete**.

Related Topics

- [Finding a Route Pattern/Hunt Pilot, page 21-2](#)
- [Route Pattern Wildcards and Special Characters, Cisco CallManager System Guide](#)
- [Adding a Route Filter, page 17-4](#)

- [Adding a Route Pattern/Hunt Pilot](#), page 21-4
- [Updating a Route Pattern/Hunt Pilot](#), page 21-6
- [Copying a Route Pattern/Hunt Pilot](#), page 21-7
- [Route Pattern/Hunt Pilot Configuration Settings](#), page 21-9
- [Understanding Route Plans](#), *Cisco CallManager System Guide*

Route Pattern/Hunt Pilot Configuration Settings

[Table 21-1](#) describes the available fields in the Route Pattern/Hunt Pilot Configuration window.

Table 21-1 *Route Pattern/Hunt Pilot Configuration Settings*

Field	Description
Pattern Definition	
Route Pattern/Hunt Pilot	<p>Enter the route pattern/hunt pilot, including numbers and wildcards (do not use spaces); for example, for NANP, enter 9.@ for typical local access, or 8XXX for a typical private network numbering plan.</p> <p>Note Ensure that the directory route pattern/hunt pilot, which uses the chosen partition, route filter, and numbering plan combination, is unique. Check the route pattern/hunt pilot, translation pattern, directory number, call park number, call pickup number, message waiting on/off, or meet me number if you receive an error that indicates duplicate entries. You can also check the route plan report.</p> <ul style="list-style-type: none"> • See the “Route Pattern Wildcards and Special Characters” section in the <i>Cisco CallManager System Guide</i> for more information about wildcards.

Table 21-1 Route Pattern/Hunt Pilot Configuration Settings (continued)

Field	Description
Partition	<p>If you want to use a partition to restrict access to the route pattern/hunt pilot, choose the desired partition from the drop-down list box. If you do not want to restrict access to the route pattern/hunt pilot, choose <i><None></i> for the partition. See the “Partition Configuration” section on page 15-1 for more information on how to use partitions.</p> <p>If more than 250 partitions exist, the ellipsis button (...) displays next to the drop-down list box. Click the ... button to display the Select Partition window. Enter a partial partition name in the List items where Name contains field. Click the desired partition name in the list of partitions that displays in the Select item to use box and click OK.</p> <p>Note To set the maximum list box items, choose System > Enterprise Parameters and choose CCMAdmin Parameters.</p> <p>Note Make sure that the combination of route pattern/hunt pilot, route filter, and partition is unique within the Cisco CallManager cluster.</p>
Description	Enter a description of the route pattern/hunt pilot.
Numbering Plan	Choose a numbering plan.

Table 21-1 Route Pattern/Hunt Pilot Configuration Settings (continued)

Field	Description
Route Filter	<p>If your route pattern/hunt pilot includes the @ wildcard, you may choose a route filter. The optional act of choosing a route filter restricts certain number patterns.</p> <p>The route filters that display depend on the numbering plan that you choose from the Numbering Plan drop-down list box.</p> <p>If more than 250 route filters exist, the ellipsis button (...) displays next to the drop-down list box. Click the ... button to display the Select Route Filters window. Enter a partial route filter name in the List items where Name contains field. Click the desired route filter name in the list of route filters that displays in the Select item to use box and click OK.</p> <p>Note To set the maximum list box items, choose System > Enterprise Parameters and choose CCMAdmin Parameters.</p>

Table 21-1 Route Pattern/Hunt Pilot Configuration Settings (continued)

Field	Description
MLPP Precedence	<p>Choose an MLPP precedence setting for this route pattern/hunt pilot from the drop-down list box:</p> <ul style="list-style-type: none"> • Flash Override—Highest precedence setting (level 0) for MLPP calls. • Flash—Second-highest precedence setting (level 1) for MLPP calls. • Immediate—Third-highest precedence setting (level 2) for MLPP calls. • Priority—Fourth-highest precedence setting (level 3) for MLPP calls. • Routine—Lowest precedence setting (level 4) for MLPP calls. • Default—Does not override the incoming precedence level but rather lets it pass unchanged. <p>Note Refer to the “Precedence” section in the “Multilevel Precedence and Preemption” chapter of the <i>Cisco CallManager Features and Services Guide</i> for more information.</p>
Gateway or Route/Hunt List	<p>Choose the gateway or route/hunt list for which you are adding a route pattern/hunt pilot.</p> <p>Note If at least one port of the defined gateway that is included in a route group does not exist, or has an assigned DN, this drop-down list box does not include that gateway. When a gateway is chosen in the drop-down list box, Cisco CallManager uses all the ports in the gateway to route/block this route pattern/hunt pilot. This action does not apply for MGCP gateways.</p>

Table 21-1 Route Pattern/Hunt Pilot Configuration Settings (continued)

Field	Description
Route Option	<p>The Route Option designation indicates whether you want this route pattern/hunt pilot to be used for routing calls (such as 9.@ or 8[2-9]XX) or for blocking calls. Choose the Route this pattern or Block this pattern radio button.</p> <p>If you choose the Block this pattern radio button, you must choose the reason for which you want this route pattern/hunt pilot to block calls. Choose a value from the drop-down list box:</p> <ul style="list-style-type: none"> • No Error • Unallocated Number • Call Rejected • Number Changed • Invalid Number Format • Precedence Level Exceeded
Provide Outside Dial Tone	Check the check box if appropriate.
Allow Overlap Sending	Check the check box if appropriate.
Urgent Priority	Check the check box if appropriate.
Calling Party Transformations	
Use Calling Party's External Phone Number Mask	<p>Check the check box if you want the full, external phone number to be used for calling line identification (CLID) on outgoing calls. You may also configure an External Phone Number Mask on all phone devices.</p> <p>Note The calling party transformation settings that are assigned to the route groups in a route/hunt list override any calling party transformation settings that are assigned to a route pattern/hunt pilot that is associated with that route/hunt list.</p>

Table 21-1 Route Pattern/Hunt Pilot Configuration Settings (continued)

Field	Description
Calling Party Transform Mask	Enter a transformation mask value. Valid entries for the NANP include the digits 0 through 9, the wildcard character X, the characters * and #, and blank. If this field is blank and the preceding field is not checked, no calling party transformation takes place. See the “ Calling Party Number Transformations Settings ” section in the <i>Cisco CallManager System Guide</i> for more information.
Prefix Digits (Outgoing Calls)	Enter prefix digits in the Prefix Digits (Outgoing Calls) field. Valid entries for the NANP include the digits 0 through 9, #, *, and blank. Note The appended prefix digit does not affect which directory numbers route to the assigned device.
Calling Line ID Presentation	<p>Cisco CallManager uses calling line ID presentation (CLIP/CLIR) as a supplementary service to allow or restrict the originating caller’s phone number on a call-by-call basis.</p> <p>Choose whether you want the Cisco CallManager to allow or restrict the display of the calling party’s phone number on the called party’s phone display for this route pattern.</p> <p>Choose <i>Default</i> if you do not want to change calling line ID presentation. Choose <i>Allowed</i> if you want Cisco CallManager to allow the display of the calling number. Choose <i>Restricted</i> if you want Cisco CallManager to block the display of the calling number.</p> <p>For more information about this field, see Table 14-6 in the “Calling Party Number Transformations Settings” section in the <i>Cisco CallManager System Guide</i>.</p>

Table 21-1 Route Pattern/Hunt Pilot Configuration Settings (continued)

Field	Description
Calling Name Presentation	<p>Cisco CallManager uses calling name presentation (CNIP/CNIR) as a supplementary service to allow or restrict the originating caller's name on a call-by-call basis.</p> <p>Choose whether you want the Cisco CallManager to allow or restrict the display of the calling party's name on the called party's phone display for this route pattern.</p> <p>Choose <i>Default</i> if you do not want to change calling name presentation. Choose <i>Allowed</i> if you want Cisco CallManager to display the calling name information. Choose <i>Restricted</i> if you want Cisco CallManager to block the display of the calling name information.</p> <p>For more information about this field, see Table 14-6 in the “Calling Party Number Transformations Settings” section in the <i>Cisco CallManager System Guide</i>.</p>
Connected Party Transformations	
Connected Line ID Presentation	<p>Cisco CallManager uses connected line ID presentation (COLP/COLR) as a supplementary service to allow or restrict the called party's phone number on a call-by-call basis.</p> <p>Choose whether you want Cisco CallManager to allow or restrict the display of the connected party's phone number on the calling party's phone display for this route pattern.</p> <p>Choose <i>Default</i> if you do not want to change the connected line ID presentation. Choose <i>Allowed</i> if you want to display the connected party's phone number. Choose <i>Restricted</i> if you want Cisco CallManager to block the display of the connected party's phone number.</p> <p>For more information about this field, see Table 14-9 in the “Connected Party Presentation and Restriction Settings” section in the <i>Cisco CallManager System Guide</i>.</p>

Table 21-1 Route Pattern/Hunt Pilot Configuration Settings (continued)

Field	Description
Connected Name Presentation	<p>Cisco CallManager uses connected name presentation (CONP/CONR) as a supplementary service to allow or restrict the called party's name on a call-by-call basis.</p> <p>Choose whether you want Cisco CallManager to allow or restrict the display of the connected party's name on the calling party's phone display for this route pattern.</p> <p>Choose <i>Default</i> if you do not want to change the connected name presentation. Choose <i>Allowed</i> if you want to display the connected party's name. Choose <i>Restricted</i> if you want Cisco CallManager to block the display of the connected party's name.</p> <p>For more information about this field, see Table 14-9 in the “Connected Party Presentation and Restriction Settings” section in the <i>Cisco CallManager System Guide</i>.</p>
Called Party Transformations	
Discard Digits	<p>From the Discard Digits drop-down list box, choose the discard digits instructions that you want to associate with this route pattern. The discard digits that display depend on the numbering plan that you choose from the Numbering Plan drop-down list box. See the “Discard Digits Instructions” section in the <i>Cisco CallManager System Guide</i> more information on discard instructions for the North American Numbering Plan.</p> <p>Note The called party transformation settings that are assigned to the route groups in a route/hunt list override any called party transformation settings that are assigned to a route pattern/hunt pilot that is associated with that route/hunt list.</p>

Table 21-1 *Route Pattern/Hunt Pilot Configuration Settings (continued)*

Field	Description
Called Party Transform Mask	Enter a transformation mask value. Valid entries for the NANP include the digits 0 through 9, the wildcard character X, the characters * and #, and blank. If the field is blank, no transformation takes place. Cisco CallManager sends the dialed digits exactly as dialed.
Prefix Digits (Outgoing Calls)	Enter prefix digits in the Prefix Digits (Outgoing Calls) field. Valid entries for the NANP include the digits 0 through 9, #, *, and blank. Note The appended prefix digit does not affect which directory numbers route to the assigned device.
ISDN Network-Specific Facilities Information Element	
Carrier Identification Code	Enter the appropriate carrier identification code (0, 3, or 4 digits) in the Carrier Identification Code field. Carrier identification codes allow customers to reach the services of interexchange carriers. The following list shows examples of commonly used carrier identification codes: <ul style="list-style-type: none"> • ATT—0288 • Sprint—0333 • WorldCom/MCI—0222 For a complete list of NANP carrier identification codes, go to http://www.nanpa.com/ .
Network Service Protocol	From the Network Service Protocol drop-down list box, choose the PRI protocol that matches the protocol of the terminating gateway.
Network Service	Choose the appropriate network service. The values vary depending on the network service protocol that you choose from the Network Service Protocol field.

Table 21-1 *Route Pattern/Hunt Pilot Configuration Settings (continued)*

Field	Description
Service Parameter Name	This field displays the service parameter name that is associated with the chosen network service. If no service parameter exists for the network service, the field displays <Not Exist>.
Service Parameter Value	Enter the appropriate service parameter value. Valid entries include the digits 0 through 9. If a service parameter does not exist for the network service, Cisco CallManager Administration disables this field.

Related Topics

- [Finding a Route Pattern/Hunt Pilot, page 21-2](#)
- [Adding a Route Pattern/Hunt Pilot, page 21-4](#)
- [Updating a Route Pattern/Hunt Pilot, page 21-6](#)
- [Copying a Route Pattern/Hunt Pilot, page 21-7](#)
- [Deleting a Route Pattern/Hunt Pilot, page 21-8](#)



Translation Pattern Configuration

The Cisco CallManager uses translation patterns to manipulate dialed digits before it routes a call. In some cases, the system does not use the dialed number. In other cases, the public switched telephone network (PSTN) does not recognize the dialed number.

Use the following topics to add, update, copy, or delete a translation pattern:

- [Finding a Translation Pattern, page 22-1](#)
- [Adding a Translation Pattern, page 22-4](#)
- [Updating a Translation Pattern, page 22-5](#)
- [Copying a Translation Pattern, page 22-6](#)
- [Deleting a Translation Pattern, page 22-7](#)
- [Translation Pattern Configuration Settings, page 22-8](#)

Finding a Translation Pattern

Because you might have several translation patterns in your network, Cisco CallManager lets you locate specific translation patterns by using specific criteria as the basis. Use the following procedure to locate translation patterns.

**Note**

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

Procedure

Step 1 Choose **Route Plan > Translation Pattern**.

The Find and List Translation Patterns window displays.

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

- Pattern (to search by translation pattern names)
- Description (to search by translation pattern descriptions)
- Partition (to search by the partition name)

**Note**

The criterion that you choose in this drop-down list box specifies how the list of translation patterns that your search generates will be sorted. For example, if you choose Description, the Description column will display as the left column of the results list.

From the second 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.

**Note**

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

A list of discovered translation patterns displays by

- Translation pattern icon
- Translation pattern
- Partition
- Description
- Route filter



Note You can delete multiple translation patterns from the Find and List Translation Patterns window by checking the check boxes next to the appropriate translation patterns and clicking **Delete Selected**. You can delete all the translation patterns 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 translation pattern that matches your search criteria.

The Translation Pattern Configuration window displays the translation pattern that you choose.

Related Topics

- [Adding a Translation Pattern, page 22-4](#)
- [Updating a Translation Pattern, page 22-5](#)
- [Copying a Translation Pattern, page 22-6](#)
- [Deleting a Translation Pattern, page 22-7](#)
- [Translation Pattern Configuration Settings, page 22-8](#)

Adding a Translation Pattern

This section describes how to add a translation pattern.

Before You Begin

Configure the following Cisco CallManager items before adding a translation pattern:

- Partition
- Route filter
- Calling search space

Procedure

-
- Step 1** Choose **Route Plan > Translation Pattern**.
 - Step 2** Click **Add a New Translation Pattern**.
 - Step 3** Enter the appropriate configuration settings as described in [Table 22-1](#).
 - Step 4** Click **Insert**.
-

Related Topics

- [Finding a Translation Pattern, page 22-1](#)
- [Updating a Translation Pattern, page 22-5](#)
- [Copying a Translation Pattern, page 22-6](#)
- [Deleting a Translation Pattern, page 22-7](#)
- [Translation Pattern Configuration Settings, page 22-8](#)

Updating a Translation Pattern

This section describes how to update a translation pattern.

Procedure

- Step 1** Choose **Route Plan > Translation Pattern**.
- Step 2** Locate the translation pattern that you want to update. See the [“Finding a Translation Pattern”](#) section on page 22-1.
- Step 3** Update the appropriate settings as described in the [“Translation Pattern Configuration Settings”](#) section on page 22-8.



Note Ensure that the translation pattern, that uses the selected partition, route filter, and numbering plan combination, is unique. Check the route pattern/hunt pilot, translation pattern, directory number, call park number, call pickup number, or meet-me number configuration windows if you receive an error that indicates duplicate entries.

- Step 4** Click **Update**.
- The window displays the updated translation pattern.
-

Related Topics

- [Finding a Translation Pattern, page 22-1](#)
- [Adding a Translation Pattern, page 22-4](#)
- [Copying a Translation Pattern, page 22-6](#)
- [Deleting a Translation Pattern, page 22-7](#)
- [Translation Pattern Configuration Settings, page 22-8](#)

Copying a Translation Pattern

This section describes how to copy a translation pattern.

Procedure

- Step 1** Choose **Route Plan > Translation Pattern**.
- Step 2** Locate the translation pattern that you want to copy. See the [“Finding a Translation Pattern”](#) section on page 22-1.
- Step 3** Check the check box next to the translation pattern that you want to copy.
- Step 4** Click the **Copy** icon of that translation pattern.
The window displays the copy of the translation pattern.
- Step 5** Update the appropriate settings as described in [Table 22-1](#).
- Step 6** Click **Insert** to add the new translation pattern.
-

Related Topics

- [Finding a Translation Pattern, page 22-1](#)
- [Adding a Translation Pattern, page 22-4](#)
- [Updating a Translation Pattern, page 22-5](#)
- [Deleting a Translation Pattern, page 22-7](#)
- [Translation Pattern Configuration Settings, page 22-8](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Deleting a Translation Pattern

This section describes how to delete a translation pattern.

Procedure

- Step 1** Choose **Route Plan > Translation Pattern**.
- Step 2** Locate the translation pattern that you want to delete. See the [“Finding a Translation Pattern”](#) section on page 22-1.
- Step 3** Check the check box of the translation pattern that you want to delete and click **Delete Selected**.
- A message displays that states that you cannot undo this action.
- Step 4** To delete the translation pattern, click **OK** or, to cancel the deletion, click **Cancel**.



Caution

Check carefully to ensure that you are deleting the correct translation pattern before you initiate this action. You cannot retrieve deleted translation patterns. If a translation pattern is accidentally deleted, you must rebuild it.



Tip

You can also delete a translation pattern by locating and displaying the translation pattern that you want to delete and clicking **Delete**.

Related Topics

- [Finding a Translation Pattern, page 22-1](#)
- [Adding a Translation Pattern, page 22-4](#)
- [Updating a Translation Pattern, page 22-5](#)
- [Copying a Translation Pattern, page 22-6](#)
- [Translation Pattern Configuration Settings, page 22-8](#)

Translation Pattern Configuration Settings

Table 22-1 describes the available fields in the Translation Pattern Configuration window.

Table 22-1 Translation Pattern Configuration Settings

Field	Description
Pattern Definition	
Translation Pattern	<p>Enter the translation pattern, including numbers and wildcards (do not use spaces), in the Translation Pattern field. For example, for the NANP, enter 9.@ for typical local access or 8XXX for a typical private network numbering plan. If you leave this field blank, you must select a partition from the Partition drop-down list box.</p> <p>Note Ensure that the translation pattern, which uses the chosen partition, route filter, and numbering plan combination, is unique. Check the route pattern/hunt pilot, translation pattern, directory number, call park number, call pickup number, or meet-me number if you receive an error that indicates duplicate entries. Alternatively, check the route plan report if you receive an error that indicates duplicate entries.</p>

Table 22-1 Translation Pattern Configuration Settings (continued)

Field	Description
Partition	<p>Choose a partition. If you do not want to assign a partition, choose <i><None></i>. If you choose <i><None></i>, you must enter a value in the Translation Pattern field.</p> <p>If more than 250 partitions exist, the ellipsis (...) button displays next to the drop-down list box. Click the ... button to display the Select Partition window. Enter a partial partition name in the List items where Name contains field. Click the desired partition name in the list of partitions that displays in the Select item to use box and click OK.</p> <p>Note To set the maximum list box items, choose System > Enterprise Parameters and choose CCMAdmin Parameters.</p> <p>Note Make sure that the combination of translation pattern, route filter, and partition is unique within the Cisco CallManager cluster.</p>
Description	Enter a description for the translation pattern.
Numbering Plan	Choose a numbering plan.

Table 22-1 Translation Pattern Configuration Settings (continued)

Field	Description
Route Filter	<p>Choosing an optional route filter restricts certain number patterns. See the “Route Pattern Wildcards and Special Characters” section in the <i>Cisco CallManager System Guide</i> and the “Route Filter Configuration” section on page 17-1 for more information.</p> <p>The route filters that display depend on the numbering plan that you choose from the Numbering Plan drop-down list box.</p> <p>If more than 250 route filters exist, the ellipsis button (...) displays next to the drop-down list box. Click the ... button to display the Select Route Filters window. Enter a partial route filter name in the List items where Name contains field. Click the desired route filter name in the list of route filters that displays in the Select item to use box and click OK.</p> <p>Note To set the maximum list box items, choose System > Enterprise Parameters and choose CCMAdmin Parameters.</p>
Calling Search Space	Choose the calling search space for which you are adding a translation pattern, if necessary.

Table 22-1 Translation Pattern Configuration Settings (continued)

Field	Description
MLPP Precedence	<p>Choose an MLPP precedence setting for this translation pattern from the drop-down list box:</p> <ul style="list-style-type: none"> • Flash Override—Highest precedence setting (level 0) for MLPP calls. • Flash—Second-highest precedence setting (level 1) for MLPP calls. • Immediate—Third-highest precedence setting (level 2) for MLPP calls. • Priority—Fourth-highest precedence setting (level 3) for MLPP calls. • Routine—Lowest precedence setting (level 4) for MLPP calls. • Default—Does not override the incoming precedence level but rather lets it pass unchanged.
Route Option	<p>The Route Option designation indicates whether you want this translation pattern used for routing calls (such as 9.@ or 8[2-9]XX) or for blocking calls. Choose the Route this pattern or Block this pattern radio button.</p> <p>If you choose the Block this pattern radio button, you must choose the reason for which you want this translation pattern to block calls. Choose a value from the drop-down list box:</p> <ul style="list-style-type: none"> • No Error • Unallocated Number • Call Rejected • Number Changed • Invalid Number Format • Precedence Level Exceeded
Provide Outside Dial Tone	Check the check box if appropriate.

Table 22-1 Translation Pattern Configuration Settings (continued)

Field	Description
Allow Overlap Sending	Check the check box if appropriate.
Urgent Priority	Cisco CallManager sets all translation patterns with urgent priority, and you cannot change the priority of the translation patterns.
Calling Party Transformations	
Use Calling Party's External Phone Number Mask	Check the check box if you want the full, external phone number to be used for calling line identification (CLID) on outgoing calls.
Calling Party Transform Mask	Enter a transformation mask value. Valid entries for the NANP include the digits 0 through 9; the wildcard characters X, asterisk (*), and octothorpe (#); and blank. If this field is blank and the preceding field is not checked, no calling party transformation takes place. See the “Adding a Route/Hunt List” section on page 20-4 for more detailed information.
Prefix Digits (Outgoing Calls)	Enter prefix digits. Valid entries for the NANP include the digits 0 through 9, #, *, and blank. Note The appended prefix digit does not affect which directory numbers route to the assigned device.

Table 22-1 Translation Pattern Configuration Settings (continued)

Field	Description
Calling Line ID Presentation	<p>Cisco CallManager uses calling line ID presentation (CLIP/CLIR) as a supplementary service to allow or restrict the originating caller's phone number on a call-by-call basis.</p> <p>Choose whether you want the Cisco CallManager to allow or restrict the display of the calling party's phone number on the called party's phone display for this translation pattern.</p> <p>Choose <i>Default</i> if you do not want to change calling line ID presentation. Choose <i>Allowed</i> if you want Cisco CallManager to allow the display of the calling number. Choose <i>Restricted</i> if you want Cisco CallManager to block the display of the calling number.</p> <p>For more information about this field, see Table 14-6 in the “Calling Party Number Transformations Settings” section in the <i>Cisco CallManager System Guide</i>.</p>
Calling Name Presentation	<p>Cisco CallManager uses calling name presentation (CNIP/CNIR) as a supplementary service to allow or restrict the originating caller's name on a call-by-call basis.</p> <p>Choose whether you want the Cisco CallManager to allow or restrict the display of the calling party's name on the called party's phone display for this translation pattern.</p> <p>Choose <i>Default</i> if you do not want to change calling name presentation. Choose <i>Allowed</i> if you want Cisco CallManager to display the calling name information. Choose <i>Restricted</i> if you want Cisco CallManager to block the display of the calling name information.</p> <p>For more information about this field, see Table 14-6 in the “Calling Party Number Transformations Settings” section in the <i>Cisco CallManager System Guide</i>.</p>

Table 22-1 Translation Pattern Configuration Settings (continued)

Field	Description
Connected Party Transformations	
Connected Line ID Presentation	<p>Cisco CallManager uses connected line ID presentation (COLP/COLR) as a supplementary service to allow or restrict the called party's phone number on a call-by-call basis.</p> <p>Choose whether you want Cisco CallManager to allow or restrict the display of the connected party's phone number on the calling party's phone display for this translation pattern.</p> <p>Choose <i>Default</i> if you do not want to change the connected line ID presentation. Choose <i>Allowed</i> if you want to display the connected party's phone number. Choose <i>Restricted</i> if you want Cisco CallManager to block the display of the connected party's phone number.</p> <p>For more information about this field, see Table 14-9 in the “Connected Party Presentation and Restriction Settings” section in the <i>Cisco CallManager System Guide</i>.</p>
Connected Name Presentation	<p>Cisco CallManager uses connected name presentation (CONP/CONR) as a supplementary service to allow or restrict the called party's name on a call-by-call basis.</p> <p>Choose whether you want Cisco CallManager to allow or restrict the display of the connected party's name on the calling party's phone display for this translation pattern.</p> <p>Choose <i>Default</i> if you do not want to change the connected name presentation. Choose <i>Allowed</i> if you want to display the connected party's name. Choose <i>Restricted</i> if you want Cisco CallManager to block the display of the connected party's name.</p> <p>For more information about this field, see Table 14-9 in the “Connected Party Presentation and Restriction Settings” section in the <i>Cisco CallManager System Guide</i>.</p>

Table 22-1 Translation Pattern Configuration Settings (continued)

Field	Description
Called Party Transformations	
Discard Digits	<p>Choose the discard digits instructions that you want to be associated with this translation pattern. See the “Discard Digits Instructions” section in the <i>Cisco CallManager System Guide</i> for more information.</p> <p>Note The discard digits that display depend on the numbering plan that you choose from the Numbering Plan drop-down list box.</p>
Called Party Transform Mask	<p>Enter a transformation mask value. Valid entries for the NANP include the digits 0 through 9; the wildcard characters X, asterisk (*), and octothorpe (#); and blank. If the field is blank, no transformation takes place. The dialed digits get sent exactly as dialed.</p>
Prefix Digits (Outgoing Calls)	<p>Enter prefix digits. Valid entries for the NANP include the digits 0 through 9, #, *, and blank.</p> <p>Note The appended prefix digit does not affect which directory numbers route to the assigned device.</p>

Related Topics

- [Finding a Translation Pattern, page 22-1](#)
- [Adding a Translation Pattern, page 22-4](#)
- [Updating a Translation Pattern, page 22-5](#)
- [Copying a Translation Pattern, page 22-6](#)
- [Deleting a Translation Pattern, page 22-7](#)



External Route Plan Wizard

The external route plan wizard allows Cisco CallManager administrators to quickly configure external routing to the public switched telephone network (PSTN), to private branch exchanges (PBXs), or to other Cisco CallManager systems.

Refer to the “[Understanding Route Plans](#)” section in the *Cisco CallManager System Guide* for more detailed information about how the wizard generates the external route plan.

Use the following topics to set up a route plan with the external route plan wizard:

- [Creating an External Route Plan, page 23-2](#)
- [Setting the Routing Options, page 23-2](#)
- [Providing Tenant Information, page 23-4](#)
- [Entering Location Information, page 23-5](#)
- [Selecting Gateways, page 23-6](#)
- [Providing Gateway Information, page 23-7](#)
- [Generating the External Route Plan, page 23-9](#)
- [Confirming the External Route Plan, page 23-10](#)
- [Finishing the External Route Plan, page 23-11](#)
- [Deleting an External Route Plan, page 23-12](#)

Creating an External Route Plan

The following procedure describes how to begin to create an external route plan.

Before You Begin

Define all gateways before you use the external route plan wizard. To set up new gateways, choose **Device > Gateway** in Cisco CallManager Administration.

Procedure

-
- Step 1** Choose **Route Plan > External Route Plan Wizard**.
- Step 2** To create an external route plan, click **Next** in the External Route Plan Wizard introduction window.
-

Related Topics

- [Setting the Routing Options, page 23-2](#)
- [Providing Tenant Information, page 23-4](#)
- [Entering Location Information, page 23-5](#)
- [Selecting Gateways, page 23-6](#)
- [Providing Gateway Information, page 23-7](#)
- [Generating the External Route Plan, page 23-9](#)
- [Confirming the External Route Plan, page 23-10](#)
- [Finishing the External Route Plan, page 23-11](#)
- [Deleting an External Route Plan, page 23-12](#)

Setting the Routing Options

The following procedure describes how to set routing options for the external route plan.

Procedure

- Step 1** Check the check boxes for local call fallback, toll bypass call fallback, long-distance call fallback, international call fallback, and equal access suppression as appropriate.



Note If you choose local call fallback, toll bypass call fallback, long-distance call fallback, or international call fallback, the external route plan wizard includes route groups with remote gateways in the associated route/hunt lists.

- Step 2** In the Access code for toll bypass and fallback calls field, enter the access code for calls that are routed to remote or local gateways. Use only numeric values. (Many systems use 9 for external calls.)

If the access code is entered for toll bypass and fallback calls, Cisco CallManager uses that access code in the prefix digits entry for route groups that are associated with those call types.



Note The access code entered in this field applies to the entire dial plan. Cisco CallManager allows only one access code per dial plan.

- Step 3** In the Access code for extensions that are served by a connected PBX field, enter the access code for calls between Cisco CallManager and the adjacent PBX. (Many systems use 8 for calls to adjacent PBX systems.)

If the access code that is entered for the extensions is served by a connected PBX, that access code, followed by a dot (.), gets appended to the route patterns that are associated with these extensions.

- Step 4** Click **Next**.
-

Related Topics

- [Creating an External Route Plan, page 23-2](#)
- [Providing Tenant Information, page 23-4](#)
- [Entering Location Information, page 23-5](#)

- [Selecting Gateways, page 23-6](#)
- [Providing Gateway Information, page 23-7](#)
- [Generating the External Route Plan, page 23-9](#)
- [Confirming the External Route Plan, page 23-10](#)
- [Finishing the External Route Plan, page 23-11](#)
- [Deleting an External Route Plan, page 23-12](#)

Providing Tenant Information

The following procedure describes how to add tenant information for the external route plan.

Procedure

-
- Step 1** In the Tenant Name field, enter the tenant name. (Generally, use the name of the organization for which the route plan is being built.)



Note Cisco recommends that you use a short tenant name because the calling search space and partition names incorporate it.

- Step 2** In the Number of physical locations in the entire system field, enter the number of geographical locations that are associated with the organization. This field should reflect all Cisco CallManagers in the system that use unique area codes. The default number specifies two locations.

- Step 3** Click **Next**.
-

Related Topics

- [Creating an External Route Plan, page 23-2](#)
- [Setting the Routing Options, page 23-2](#)
- [Entering Location Information, page 23-5](#)
- [Selecting Gateways, page 23-6](#)

- [Providing Gateway Information, page 23-7](#)
- [Generating the External Route Plan, page 23-9](#)
- [Confirming the External Route Plan, page 23-10](#)
- [Finishing the External Route Plan, page 23-11](#)
- [Deleting an External Route Plan, page 23-12](#)

Entering Location Information

The Location Entry window provides information for the number of locations that are specified in the Tenant Information window. The following procedure describes how to add location information for the external route plan.

Procedure

-
- Step 1** In the Location Name field, enter the name of the location if it differs from the one shown. Ensure each location name is unique for the tenant to which it applies. Use only alphanumeric characters for the location name.
- Step 2** In the Local Area Code(s) field, enter the local area codes that are available at this location. (Local area codes comprise all area codes in the calling area. Cisco CallManager does not consider calls within the calling area to be long-distance calls.)

If your area includes more than one local (toll-free) area code, use commas to separate the area codes in the list. Place the primary local area code first, followed by the secondary and tertiary local area codes.



Note The primary local area code sets prefix digits on local route patterns. Not listing the primary area code in the correct order adversely affects route filter generation.

- Step 3** Enter the 7- or 10-digit number that is the main number for the organization at this location.

- Step 4** Specify the number of digits that are required for local calls at this location. The route plan wizard uses this information to determine how many route lists to create for this location. If you choose 10-digit or 7-digit dialing, the wizard creates one route list for this location. If you choose metro dialing, the wizard creates two route lists for the location.
- Step 5** Repeat [Step 1](#) through [Step 4](#) to add location information for other locations.
-

Related Topics

- [Creating an External Route Plan, page 23-2](#)
- [Setting the Routing Options, page 23-2](#)
- [Providing Tenant Information, page 23-4](#)
- [Selecting Gateways, page 23-6](#)
- [Providing Gateway Information, page 23-7](#)
- [Generating the External Route Plan, page 23-9](#)
- [Confirming the External Route Plan, page 23-10](#)
- [Finishing the External Route Plan, page 23-11](#)
- [Deleting an External Route Plan, page 23-12](#)

Selecting Gateways

The following procedure describes how to choose gateways for the external route plan.



Note

You cannot choose gateways that are used by existing route groups in this window.

Procedure

- Step 1** Check the check boxes for all the gateways that are associated with this route plan in all locations.

Step 2 If you want to include all the gateways that are defined in the system, click **Select All**.

Step 3 If you have selected several gateways and want to deselect all of your selections, click **Select None**.



Note You must choose at least one gateway before continuing with this procedure.

Step 4 Click **Next**.

Related Topics

- [Creating an External Route Plan, page 23-2](#)
- [Setting the Routing Options, page 23-2](#)
- [Providing Tenant Information, page 23-4](#)
- [Entering Location Information, page 23-5](#)
- [Providing Gateway Information, page 23-7](#)
- [Generating the External Route Plan, page 23-9](#)
- [Finishing the External Route Plan, page 23-11](#)
- [Deleting an External Route Plan, page 23-12](#)

Providing Gateway Information

The following procedure describes how to add gateway information for the gateways in the external route plan.

Procedure

Step 1 In the Location of the gateway drop-down list box, choose the gateway location.

Step 2 In the Type of carrier to which the gateway is connected drop-down list box, choose the type of connection for this gateway.

- Step 3** Specify the calling number that will be sent to the adjacent switch when a call is routed through this gateway.
- Step 4** Check the Discard dialed access code check box if this gateway connects to a PBX that does not require the Cisco CallManager access code.
- Step 5** Enter the range of directory numbers or extension numbers that are associated with the adjacent PBX. Use commas to separate multiple entries. Use X wildcard characters to specify ranges of digits. For example, if the PBX serves extensions numbered 8000 through 8999 and 9000 through 9999, enter 8XXX, 9XXX to create route patterns for the identified directory number ranges.



Note If you provide directory number ranges, the wizard generates one route list for each unique range (route pattern) that you enter. If you provide an access code for the directory number ranges and do not check the Discard dialed access code check box, the wizard generates one route list for each unique range (route pattern) that you enter and precedes each route list with the access code and a dot (.).

- Step 6** Click **Next**.
- Step 7** To add gateway information for the additional gateways, repeat [Step 1](#) through [Step 6](#).
-

Related Topics

- [Creating an External Route Plan, page 23-2](#)
- [Setting the Routing Options, page 23-2](#)
- [Providing Tenant Information, page 23-4](#)
- [Entering Location Information, page 23-5](#)
- [Selecting Gateways, page 23-6](#)
- [Generating the External Route Plan, page 23-9](#)
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- [Finishing the External Route Plan, page 23-11](#)
- [Deleting an External Route Plan, page 23-12](#)

Generating the External Route Plan

Perform one of the following actions:

- To generate the external route plan, click **Next**.

**Note**

The wizard can take several minutes to generate the external route plan, depending on the complexity of the route plan and the system load. Do not start additional processes that would further load the system during this time.

- To prevent the external route plan wizard from generating this route plan, click **Cancel**.

**Note**

If you click **Cancel**, Cisco CallManager discards all data that is associated with the current route plan. You cannot undo this action; you must reenter the information.

Related Topics

- [Creating an External Route Plan, page 23-2](#)
- [Setting the Routing Options, page 23-2](#)
- [Providing Tenant Information, page 23-4](#)
- [Entering Location Information, page 23-5](#)
- [Selecting Gateways, page 23-6](#)
- [Providing Gateway Information, page 23-7](#)
- [Confirming the External Route Plan, page 23-10](#)
- [Finishing the External Route Plan, page 23-11](#)
- [Deleting an External Route Plan, page 23-12](#)

Confirming the External Route Plan

The following procedure describes how to confirm an external route plan.

Procedure

- Step 1** Check the external route plan wizard status report to ensure that the route plan contains the proper elements.
- Step 2** To complete the external route plan, click **Next**.



Note Cisco recommends that you print the status report for future reference.

If you determine that the external route plan is incorrect based on the information that is shown in the status report, proceed to the final window of the external route plan wizard. The final window allows you to delete the entire route plan, if needed.

Related Topics

- [Creating an External Route Plan, page 23-2](#)
- [Setting the Routing Options, page 23-2](#)
- [Providing Tenant Information, page 23-4](#)
- [Entering Location Information, page 23-5](#)
- [Selecting Gateways, page 23-6](#)
- [Providing Gateway Information, page 23-7](#)
- [Finishing the External Route Plan, page 23-11](#)
- [Deleting an External Route Plan, page 23-12](#)

Finishing the External Route Plan

Perform one of the following actions:

- If the information that is shown on the external route plan wizard status report is correct, click **Finish** to complete the external route plan.
- If the information that is shown on the status report is incorrect, click **Delete External Route Plan** to remove all data that was generated by the external route plan wizard.



Caution

Clicking “Delete External Route Plan” deletes all data that the external route plan wizard generated. You cannot undo this action. You must reenter all external route plan information.

Related Topics

- [Creating an External Route Plan, page 23-2](#)
- [Setting the Routing Options, page 23-2](#)
- [Providing Tenant Information, page 23-4](#)
- [Entering Location Information, page 23-5](#)
- [Selecting Gateways, page 23-6](#)
- [Providing Gateway Information, page 23-7](#)
- [Confirming the External Route Plan, page 23-10](#)
- [Deleting an External Route Plan, page 23-12](#)

Deleting an External Route Plan

The following procedure describes how to delete an external route plan.

If the system is using any element that was generated by the external route plan wizard (for example, if Cisco IP Phones belong to a generated partition), the delete function fails. If generated elements are used, you must move the system components that are using those elements to non-generated elements before using the delete function.



Caution

This procedure deletes all data that the external route plan wizard generated. You cannot undo this action. You must reenter all external route plan information.

Procedure

-
- Step 1** Choose **Route Plan > External Route Plan Wizard**.
- Step 2** To remove all data that was generated by the external route plan wizard, click **Delete External Route Plan**.
-

Related Topics

- [Creating an External Route Plan, page 23-2](#)
- [Setting the Routing Options, page 23-2](#)
- [Providing Tenant Information, page 23-4](#)
- [Entering Location Information, page 23-5](#)
- [Selecting Gateways, page 23-6](#)
- [Providing Gateway Information, page 23-7](#)
- [Generating the External Route Plan, page 23-9](#)
- [Confirming the External Route Plan, page 23-10](#)
- [Finishing the External Route Plan, page 23-11](#)



Route Plan Report

The route plan report lists all assigned and unassigned directory numbers (DN), call park numbers, call pickup numbers, conference numbers, route patterns, translation patterns, message-waiting indicators, voice mail ports, and Cisco CallManager Attendant Console pilot numbers in the system. The route plan report allows you to view either a partial or full list and to go directly to the associated configuration windows by clicking the Pattern/Directory Number, Partition, or Route Detail fields.

In addition, the route plan report allows you to save report data into a .csv file that you can import into other applications. The .csv file contains more detailed information than the web pages, including directory numbers for phones, route patterns, pattern usage, device name, and device description.

Cisco CallManager uses the route plan to route both internal calls and external public switched telephone network (PSTN) calls. For more detailed information on the route plan, refer to the “[Understanding Route Plans](#)” section in *Cisco CallManager System Guide*.

Use the following procedures to view route plan records:

- [Viewing Route Plan Records, page 24-2](#)
- [Deleting Unassigned Directory Numbers, page 24-4](#)
- [Viewing Route Plan Reports in a File, page 24-6](#)

Viewing Route Plan Records

This section describes how to view route plan records. Because you might have several records in your network, Cisco CallManager Administration lets you locate specific route plan records on the basis of specific criteria. Use the following procedure to generate customized route plan reports.

Procedure

Step 1 Choose **Route Plan > Route Plan Report**.

The Route Plan Report window displays. Use the three drop-down list boxes to specify a route plan report that meets your requirements.

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

- All Patterns
- Unassigned DN
- Call Park
- Conference
- Directory Number
- Translation Pattern
- Call Pickup Group
- Route Pattern
- Message Waiting
- Voice Mail Port
- Attendant Console

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

- Pattern/Directory Number
- Partition

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

- begins with
- contains
- ends with
- is exactly
- is not empty
- is empty

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 route plans that are registered in the database, click **Find** without entering any search text.



Note The route plan report shows the pattern/directory number, the corresponding partition and pattern type, and the route detail. The Route Detail column shows route list (with route group and line groups and associated gateway, and ports used information) or gateway information.

A list of discovered route plans displays by

- Pattern/Directory Number icon
- Pattern/Directory Number
- Partition
- Type
- Route Detail

Step 4 Click the pattern/directory number icon or name, the associated partition, or the route detail from the list of records that matches your search criteria.

The window displays the pattern that you choose.

Related Topics

- [Route Plan Report, page 24-1](#)
- [Viewing Route Plan Reports in a File, page 24-6](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Deleting Unassigned Directory Numbers

This section describes how to delete an unassigned directory number from the route plan report. Directory numbers get configured and removed in the Directory Number Configuration window of Cisco CallManager Administration. When a directory number gets removed from a device or a phone gets deleted, the directory number still exists in the Cisco CallManager database. To delete the directory number from the database, use the Route Plan Report window.

Procedure

Step 1 Choose **Route Plan > Route Plan Report**.

The Route Plan Report window displays. Use the three drop-down list boxes to specify a route plan report that lists all unassigned DNs.

Step 2 Three ways exist to delete directory numbers:

- a. Click the directory number that you want to delete. When the Directory Number Configuration window displays, click **Delete**.
- b. Check the check box next to the directory number that you want to delete. Click **Delete Selected**.
- c. To delete all found unassigned directory numbers, click **Delete all Found Items**.

A warning message verifies that you want to delete the directory number.

Step 3 To delete the directory number, click **OK**. To cancel the delete request, click **Cancel**.

Related Topics

- [Route Plan Report, page 24-1](#)
- [Viewing Route Plan Records, page 24-2](#)
- [Adding a Directory Number, page 49-39](#)
- [Updating Unassigned Directory Numbers, page 24-5](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Updating Unassigned Directory Numbers

This section describes how to update the settings of an unassigned directory number from the route plan report. Directory numbers get configured and removed in the Directory Number Configuration window of Cisco CallManager Administration. When a directory number gets removed from a device, the directory number still exists in the Cisco CallManager database. To update the settings of the directory number, use the Route Plan Report window.

Procedure

Step 1 Choose **Route Plan > Route Plan Report**.

The Route Plan Report window displays. Use the three drop-down list boxes to specify a route plan report that lists all unassigned DNs.

Step 2 Click the directory number that you want to update.

The Directory Number Configuration window displays.



Note You can update all the settings of the directory number except the directory number and partition.

Step 3 Make the required updates such as calling search space or forwarding options.

Step 4 Click **Update**.

The Directory Number Configuration window redisplay, and the directory number field is blank.

Related Topics

- [Route Plan Report, page 24-1](#)
- [Viewing Route Plan Records, page 24-2](#)
- [Adding a Directory Number, page 49-39](#)
- [Deleting Unassigned Directory Numbers, page 24-4](#)
- [Understanding Route Plans, Cisco CallManager System Guide](#)

Viewing Route Plan Reports in a File

This section contains information on how to view route plan reports in a .csv file.

Procedure

Step 1 Choose **Route Plan > Route Plan Report**.

The Route Plan Report window displays.

Step 2 Click **View In File**. A dialog box displays.

From this dialog box, you can either save the file or import it into another application.

Step 3 Click **Save**.

Another window displays that allows you to save this file to a location of your choice.



Note You may also save the file as a different file name, but the file name must have a .csv extension.

Step 4 Choose the location in which to save the file and click **Save**. This action should save the file to the location that you designated.

Step 5 Locate the .csv file that you just saved and double-click its icon to view it.

Related Topics

- [Route Plan Report, page 24-1](#)
- [Viewing Route Plan Records, page 24-2](#)
- [Understanding Route Plans, *Cisco CallManager System Guide*](#)



PART 4

Service Configuration





Cisco IPMA Configuration Wizard

With the Cisco IPMA Configuration Wizard, IPMA configuration takes less time and eliminates errors. The partitions, calling search spaces, route point, and translation pattern automatically get created when the administrator successfully runs and completes the configuration wizard. The wizard also creates BAT templates for the IPMA manager phone, the IPMA assistant phone, and all other users phones. The administrator can use the BAT templates to configure the managers, assistants, and all other users. Refer to the *Bulk Administration Tool User Guide*.

The Cisco IPMA Configuration Wizard provides windows for each configuration parameter. The windows provide the administrator with preconfigured information. If the administrator prefers to use other configuration information (for example, partition names), the administrator can change the preconfigured information to the appropriate information.

For more information on how to use the Cisco IPMA Configuration Wizard, refer to the [Cisco IPMA Configuration Wizard](#) in the *Cisco CallManager Features and Services Guide*.





Cisco CallManager Attendant Console Configuration

Cisco CallManager Attendant Console, a client-server application, allows you to set up Cisco IP Phones as attendant consoles. Employing a graphical user interface, the attendant console uses speed-dial buttons and quick directory access to look up phone numbers, monitor line status, and direct calls. A receptionist or administrative assistant can use the attendant console to handle calls for a department or company, or another employee can use it to manage his own telephone calls.

The attendant console installs on a PC with IP connectivity to the Cisco CallManager system. The attendant console works with a Cisco IP Phone that is registered to a Cisco CallManager system. Multiple attendant consoles can connect to a single Cisco CallManager system.

The application registers with and receives call-dispatching, login, line state, and directory services from the Cisco Telephony Call Dispatcher (TCD) service.

This section describes the following configuration procedures for Cisco CallManager Attendant Console:

- [Configuring Cisco CallManager Attendant Console Users, page 26-3](#)
- [Configuring the ac User, page 26-8](#)
- [Configuring Pilot Points, page 26-9](#)
- [Associating Devices and Pilot Points with the ac User, page 26-17](#)
- [Configuring Hunt Groups, page 26-18](#)
- [Activating the Cisco Telephony Call Dispatcher Service, page 26-26](#)

- [Activating the CTIManager Service, page 26-27](#)
- [Cisco CallManager Attendant Console Server Configuration, page 26-28](#)
- [Viewing Cisco CallManager Attendant Console Performance Monitors, page 26-30](#)
- [Creating Cisco CallManager Attendant Console Dial Rules, page 26-30](#)
- [Installing the Plugin on an Attendant PC, page 26-32](#)
- [Configuring Cisco CallManager Attendant Console Settings, page 26-33](#)
- [Configuring Cisco CallManager Attendant Console System Files, page 26-36](#)

Cisco CallManager Attendant Console Configuration Checklist

Perform the following steps to set up the attendant console:

1. In Cisco CallManager Administration, add attendant console users.
2. In Cisco CallManager Administration, configure pilot points and hunt groups.
3. Create the ac user and associate all pilot points and attendant console devices with the user.
4. Verify that the Cisco Telephony Call Dispatcher (TCD) service activates and runs on all servers that run the Cisco CallManager service.
5. Verify that the CTIManager service runs on one server in the cluster.
6. Make sure that each attendant Cisco IP Phone is set up correctly for use with the attendant console.
7. Make sure that the attendant console PC is set up correctly for use with the attendant console.
8. Install and configure the attendant console on each attendant console user PC.

Related Topic

- [Cisco CallManager Attendant Console Configuration Checklist](#), *Cisco CallManager System Guide*

Configuring Cisco CallManager Attendant Console Users

This section covers the following procedures:

- [Finding an Attendant Console User, page 26-3](#)
- [Adding an Attendant Console User, page 26-4](#)
- [Updating or Deleting an Attendant Console User, page 26-6](#)
- [Configuring the ac User, page 26-8](#)

Finding an Attendant Console User

Procedure

Step 1 Choose **Service > Cisco CM Attendant Console > Cisco CM Attendant Console User**.

The Find and List window displays.

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

- begins with
- contains
- ends with
- is exactly
- is not empty
- is empty

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 attendant console users that are registered in the database, click **Find** without entering any search text.

A list of attendant console users displays by Name.

Related Topics

- [Adding an Attendant Console User, page 26-4](#)
- [Updating or Deleting an Attendant Console User, page 26-6](#)
- [Configuring the ac User, page 26-8](#)

Adding an Attendant Console User

This section describes how to add an attendant console user. You must add users through the Cisco CallManager Attendant Console User Configuration window in Cisco CallManager Administration before the users can log in to an attendant console.



Note Be aware that attendant console user IDs and passwords are *not* the same as Directory users and passwords that are entered in the User area of Cisco CallManager.

Procedure

Step 1 Choose **Service > Cisco CM Attendant Console > Cisco CM Attendant Console User**.

Step 2 In the upper, right corner of the window, click the **Add a New Cisco CallManager Attendant Console User** link.

The Cisco CallManager Attendant Console User Configuration window displays, as shown in [Figure 26-1](#).

Figure 26-1 Cisco CallManager Attendant Console User Configuration Window

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

Cisco Systems

Cisco CallManager Attendant Console User Configuration

Add a New Cisco CallManager Attendant Console User
Back to Find/List Cisco CallManager Attendant Console Users

Cisco CallManager Attendant Console User: New

Status: Ready

User ID*

Password

Confirm

* indicates required item

66010

- Step 3** Enter the appropriate configuration settings as described in [Table 26-1](#).
- Step 4** Click **Insert** to add the new user. The Cisco CallManager Attendant Console User Configuration window refreshes, and the new User ID displays in the list on the left side of the window.
- Step 5** To add additional users, repeat [Step 3](#) and [Step 4](#).

Related Topics

- [Finding an Attendant Console User, page 26-3](#)
- [Updating or Deleting an Attendant Console User, page 26-6](#)
- [Configuring the ac User, page 26-8](#)
- [Cisco CallManager Attendant Console, Cisco CallManager System Guide](#)

Updating or Deleting an Attendant Console User

This section describes how to view, update, or delete a Cisco attendant console user.

Before You Begin

To find out which hunt groups are using the attendant console user, click the **Dependency Records** link from the Cisco CallManager Attendant Console User 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 an attendant console user that is in use, Cisco CallManager displays an error message. To delete an attendant console user that is currently in use, you must perform either or both of the following tasks:

- Assign a different attendant console user to any hunt groups that are using the attendant console user that you want to delete. See the [“Updating or Deleting Hunt Group Members” section on page 26-22](#).
- Delete the hunt groups that are using the attendant console user. See the [“Updating or Deleting Hunt Group Members” section on page 26-22](#).

Procedure

- Step 1** Locate the user by using the procedure in the [“Finding an Attendant Console User” section on page 26-3](#).
- Step 2** Click the name of the user that you want to modify or delete.
- Step 3** To remove the user, click **Delete**.



Tip From the Find and List window, you can delete multiple users by checking the check boxes next to the appropriate users and clicking **Delete Selected**. You can delete all users in the window by checking the check box next to the Cisco CallManager Attendant Console User title and clicking **Delete Selected**.

- Step 4** To modify the user settings, see [Table 26-1](#). To save the changes, click **Update**.
-

Related Topics

- [Finding an Attendant Console User, page 26-3](#)
- [Adding an Attendant Console User, page 26-4](#)
- [Configuring the ac User, page 26-8](#)
- [Cisco CallManager Attendant Console User Configuration Settings, page 26-7](#)
- [Understanding Cisco CallManager Attendant Console Users, *Cisco CallManager System Guide*](#)

Cisco CallManager Attendant Console User Configuration Settings

[Table 26-1](#) describes Cisco CallManager Attendant Console user configuration settings.

Table 26-1 Attendant Console User Configuration Settings

Field	Description
User ID	Enter the login name for the attendant console user. Enter up to 50 alphanumeric characters.
Password	Enter a password of up to 50 alphanumeric characters.
Confirm	Enter the same password again.

Related Topics

- [Finding an Attendant Console User, page 26-3](#)
- [Adding an Attendant Console User, page 26-4](#)
- [Updating or Deleting an Attendant Console User, page 26-6](#)

Configuring the ac User

You must configure one user named “ac” and associate the attendant phones and the pilot points with the user. If you do not configure this user, the attendant console cannot interact with CTIManager, and the attendant cannot receive calls.

Perform the following procedure to configure the ac user.

Procedure

- Step 1** From Cisco CallManager Administration, choose **User > Add a New User**. The User Information window displays, as shown in [Figure 26-2](#).

Figure 26-2 User Information Window

The screenshot shows the 'User Configuration' window for 'User : Attendant Console'. The window has a yellow background and a red title bar. On the left, there is a sidebar with 'Application Profiles of Attendant' and a list of links: 'Device Association', 'Cisco IPBA', 'Extension Mobility', and 'SoftPhone'. The main area contains the following fields and controls:

- Status:** Ready
- Update** button
- First Name:** Attendant
- Last Name*:** Console
- User ID:** ac
- User Password*:** Change button
- PIN*:** Change button
- Telephone Number:** [Empty field]
- Manager User ID:** [Empty field]
- Department:** [Empty field]
- User Locale:** (None)
- Enable CTI Application Use:** [Checked]
- Call Park Retrieval Allowed:** [Checked]

In the top right corner, there are links for 'Add a New User' and 'Back to User List'. A vertical label '79748' is visible on the right side of the window.

- Step 2** In the First Name and Last Name fields, enter **ac** or another name that you can remember.
- Step 3** In the User ID field, enter **ac**.
- Step 4** In the User Password field, enter **12345**.
- Step 5** In the Confirm Password field, enter **12345**.

- Step 6** Enter a PIN and telephone number.
- Step 7** Check the **Enable CTI Application Use** check box. You must check this box for the attendant console to interact with CTIManager.
- Step 8** Check the **Call Park Retrieval Allowed** check box.
If you forget to check the check box, an error message displays when the attendant attempts to log in to the attendant PC.
- Step 9** Click **Insert**.
- Step 10** Make sure that you associate the devices by performing the procedure in [“Associating Devices and Pilot Points with the ac User”](#) section on page 26-17.
-

Related Topics

- [Adding a New User, page 53-1](#)
- [Managing User Directory Information, Cisco CallManager System Guide](#)

Configuring Pilot Points

Before the Cisco Telephony Call Dispatcher (TCD) can route calls, you must configure pilot points and hunt groups through Cisco CallManager Administration.



Note

After you configure the pilot points, make sure that you configure the ac user and associate all pilot points with the ac user.

This section contains the following topics:

- [Finding a Pilot Point, page 26-10](#)
- [Adding a Pilot Point, page 26-11](#)
- [Updating or Deleting a Pilot Point, page 26-12](#)
- [Resetting a Pilot Point, page 26-13](#)
- [Pilot Point Configuration Settings, page 26-15](#)
- [Associating Devices and Pilot Points with the ac User, page 26-17](#)

Finding a Pilot Point

This section describes how to find a pilot point.

Procedure

- Step 1** Choose **Service > Cisco CM Attendant Console > Pilot Point**.
The Find and List window displays.
- Step 2** From the drop-down list box, choose one of the following criteria:
- begins with
 - contains
 - ends with
 - is exactly
 - exists
 - does not exist
- 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 pilot points that are registered in the database, click **Find** without entering any search text.

A list of pilot points displays.

Related Topics

- [Adding a Pilot Point, page 26-11](#)
- [Updating or Deleting a Pilot Point, page 26-12](#)
- [Resetting a Pilot Point, page 26-13](#)
- [Pilot Point Configuration Settings, page 26-15](#)
- [Configuring the ac User, page 26-8](#)
- [Associating Devices and Pilot Points with the ac User, page 26-17](#)

- [Configuring Hunt Groups](#), page 26-18
- [Understanding Pilot Points and Hunt Groups](#), *Cisco CallManager System Guide*

Adding a Pilot Point

This section describes how to add a pilot point.

Procedure

- Step 1** Choose **Service > Cisco CM Attendant Console > Pilot Point**.
- Step 2** Enter the appropriate settings as described in [Table 26-2](#).
- Step 3** Click **Insert**.

Now that the pilot point is created, the Pilot Point Configuration window refreshes to display the name of the new pilot point in the list on the left. The new pilot point and its settings display.

After the pilot point is created, you must configure a hunt group to specify how the calls that come in to the pilot point are redirected.



Tip After you configure the pilot points, remember to configure the ac user and associate the devices/pilot points with the ac user. See the [“Configuring the ac User”](#) section on page 26-8 and the [“Associating Devices and Pilot Points with the ac User”](#) section on page 26-17 for more information.

Related Topics

- [Finding a Pilot Point](#), page 26-10
- [Updating or Deleting a Pilot Point](#), page 26-12
- [Resetting a Pilot Point](#), page 26-13
- [Pilot Point Configuration Settings](#), page 26-15
- [Configuring the ac User](#), page 26-8

- [Associating Devices and Pilot Points with the ac User](#), page 26-17
- [Configuring Hunt Groups](#), page 26-18
- [Understanding Pilot Points and Hunt Groups](#), *Cisco CallManager System Guide*

Updating or Deleting a Pilot Point

This section describes how to view, update, or delete a pilot point.

Before You Begin

To find out which virtual directory numbers are using the pilot point, click the **Dependency Records** link from the Pilot Point 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 pilot point that is in use, Cisco CallManager displays an error message. To delete a pilot point that is currently in use, you must delete the virtual directory numbers that are using the pilot point. See [Step 4](#).



Note

You do not have to restart Cisco TCD or Cisco CallManager after you delete a pilot point for the deletion to take effect.

Procedure

- Step 1** Locate the pilot point by using the procedure in the [“Finding a Pilot Point” section on page 26-10](#).
- Step 2** Click the name of the pilot point that you want to modify or delete. The window refreshes to display information for the chosen pilot point.
- Step 3** To remove the pilot point, click **Delete**.

Approximately 10 minutes after you delete a pilot point, Cisco TCD stops directing calls to any hunt group members that are associated with that pilot point.

**Tip**

From the Find and List window, you can delete multiple pilot points by checking the check boxes next to the appropriate pilot points and clicking **Delete Selected**. You can delete all pilot points in the window by checking the check box next to the Cisco CallManager Attendant Console Pilot Point title and clicking **Delete Selected**.

Step 4 To modify the pilot point settings, see [Table 26-2](#).

Step 5 To save the modifications, click **Update**.

Related Topics

- [Finding a Pilot Point, page 26-10](#)
- [Adding a Pilot Point, page 26-11](#)
- [Resetting a Pilot Point, page 26-13](#)
- [Configuring the ac User, page 26-8](#)
- [Associating Devices and Pilot Points with the ac User, page 26-17](#)
- [Pilot Point Configuration Settings, page 26-15](#)
- [Configuring Hunt Groups, page 26-18](#)
- [Understanding Pilot Points and Hunt Groups, *Cisco CallManager System Guide*](#)

Resetting a Pilot Point

You must reset the pilot point after you update pilot point configuration settings. When you reset the pilot point, the Cisco CallManager service continues to run, and call processing continues to occur. Perform the following procedure to reset the pilot point:

Procedure

- Step 1** Choose **Service > Cisco CM Attendant Console > Pilot Point**.
- The Pilot Point Configuration window displays, and the list on the left side of the window shows all currently configured pilot points.
- Step 2** Click the name of the pilot point that you want to modify or delete. The window refreshes to display information for the chosen pilot point.
- Step 3** Make the desired changes. See [Table 26-2](#) for a description of pilot point configuration settings.
- Step 4** Click **Update**.
- Step 5** Click **Reset**.
- The Reset window displays.
- Step 6** Click one of the following buttons:
- **Restart**—Restarts the selected device for the pilot point without shutting the device down (reregisters the phones with Cisco CallManager).
 - **Reset**—Shuts down the selected device for the pilot point and brings it back up (performs a complete shutdown and reinitialization of the phone).
 - **Close**—Returns you to the previous window without restarting or resetting the selected device.
-

Related Topics

- [Finding a Pilot Point, page 26-10](#)
- [Adding a Pilot Point, page 26-11](#)
- [Updating or Deleting a Pilot Point, page 26-12](#)
- [Configuring the ac User, page 26-8](#)
- [Associating Devices and Pilot Points with the ac User, page 26-17](#)
- [Pilot Point Configuration Settings, page 26-15](#)
- [Configuring Hunt Groups, page 26-18](#)
- [Understanding Pilot Points and Hunt Groups, *Cisco CallManager System Guide*](#)

Pilot Point Configuration Settings

Table 26-2 describes pilot point configuration settings.

Table 26-2 Pilot Point Configuration Settings

Field	Description
Pilot Name	Enter up to 50 alphanumeric characters, including spaces, to specify a descriptive name for the pilot point.
Device Pool	The device pool comprises a group of Cisco CallManagers in prioritized order. The first Cisco CallManager in the list represents the primary Cisco CallManager for the pilot point.
Partition	<p>Choose the partition to which the pilot point belongs. Make sure that the pilot point that you enter in the Pilot Number field is unique within the partition that you choose. If you do not want to restrict access to the pilot number, choose <None> for the partition.</p> <p>If more partitions 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 Partition window. Enter a partial partition name in the List items where Name contains field. Click the desired partition name in the list of partitions that displays in the Select item to use box, and click OK.</p>
Calling Search Space	To designate the partitions that the pilot point searches when it attempts to route a call, choose a calling search space from the drop-down list.

Table 26-2 Pilot Point Configuration Settings (continued)

Field	Description
Pilot Number (DirN)	<p>Enter a directory number in this field to designate a directory number for this pilot point.</p> <p>Make sure that this number is unique throughout the system (that is, it cannot be a shared line appearance).</p>
Route Calls To	<p>From the drop-down list, choose the First Available Hunt Group Member option to route incoming calls to the first available member of a hunt group.</p> <p>From the drop-down list, choose the Longest Idle Hunt Group Member option to order members based on the time that each directory number or line remains idle.</p> <p>If the voice-mail number is the longest idle member of the group, Cisco TCD will route the call to voice mail without first checking the other members of the group.</p> <p>If you want to use the Circular Hunting or Broadcast Hunting routing options, use the Attendant Console Configuration Tool as described in the “Using the Attendant Console Configuration Tool” section on page 26-37.</p>

Related Topics

- [Adding a Pilot Point, page 26-11](#)
- [Updating or Deleting a Pilot Point, page 26-12](#)
- [Understanding Pilot Points and Hunt Groups, Cisco CallManager System Guide](#)

Associating Devices and Pilot Points with the ac User

Before the attendant uses the attendant console, you must associate the attendant console phones and pilot points to the ac user. Perform the following procedure:

Procedure

- Step 1** Make sure that the ac user information appears in the User Information window. If it does not display, perform a search for the user. See the [“Searching the Global Directory” section on page 54-1](#) for more information on how to perform this task.
- Step 2** In the Application Profiles column of the User Information window, click **Device Association**.
- Step 3** Perform one of the following tasks:
- To view all devices, click **Select Devices**, and go to [Step 4](#).
 - To limit the list of available devices to a specific selection, enter the criteria by which you want to search by using the following methods:
 - Choose device name, description, or directory number.
 - Choose the comparison operator.
 - Enter a text or number entry.
 - Click **Select Devices**, and go to [Step 4](#).
- Step 4** Check the check box(es) of the attendant console phones/pilot points that you must associate with the user.
- Step 5** Click **Update** to assign the phones/pilot points to the ac user.
-

Related Topics

- [Configuring the ac User, page 26-8](#)
- [Adding a New User, page 53-1](#)

Configuring Hunt Groups

After you configure the pilot point, you must configure the hunt group. A hunt group comprises a list of destinations (either directory numbers or attendant console user/line numbers) that determine the call redirection order.

This section covers the following procedures:

- [Adding Hunt Group Members, page 26-18](#)
- [Configuring Linked Hunt Groups, page 26-21](#)
- [Updating or Deleting Hunt Group Members, page 26-22](#)
- [Hunt Group Configuration Settings, page 26-24](#)

Adding Hunt Group Members

This section describes how to add hunt group members.

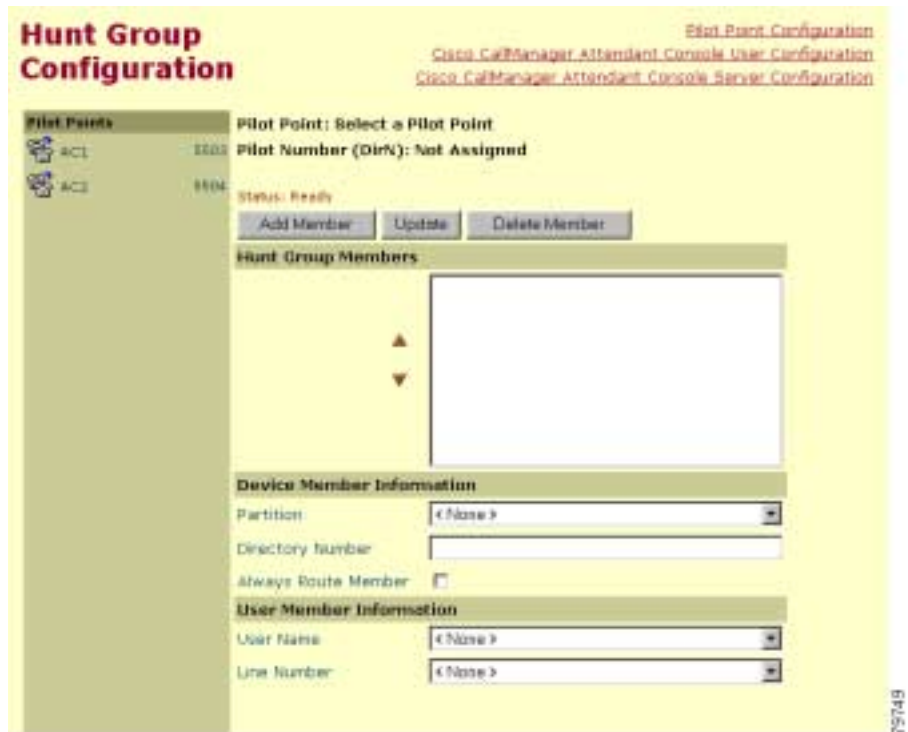
Procedure

Step 1 Choose **Service > Cisco CM Attendant Console > Hunt Group**.

The Hunt Group Configuration window displays.

[Figure 26-3](#) shows an example of the Hunt Group Configuration window.

Figure 26-3 Hunt Group Configuration Window



- Step 2** Click the pilot point for which you want to add hunt group members. A list of available pilot points appears on the left side of the Hunt Group Configuration window.
- Step 3** Click **Add Member**. The Hunt Group Members list initially displays the text <<Not Configured>>.

- Step 4** Decide whether the hunt group member that you want to add will be a directory number (device member) or a user and line number (user member):
- If you specify a directory number, Cisco TCD always attempts to route the call to that number.



Note Cisco TCD handles overflow conditions by routing calls to multiple attendant consoles or voice-mail numbers. In the Hunt Group Configuration window, check the Always Route Member check box, so the voice-mail number receives multiple calls at the same time.

- If you specify an attendant console user and line number, Cisco TCD first checks whether the attendant console user is logged in to an attendant console and online before attempting to route the call. When you specify a user and line number, the user can log in to and receive calls on any Cisco IP Phone in the cluster that the attendant console controls.

- Step 5** Enter the appropriate configuration settings for the new hunt group member as described in [Table 26-3](#):
- If the hunt group member is a directory number, fill in only the Partition and Directory Number fields in the **Device Member Information** section. The optional Always Route Member check box only applies to directory numbers.
 - If the hunt group member is a user and line number, fill in only the User Name and Line Number fields in the **User Member Information** section.



Note The User Name that you specify designates an attendant console user. This user does not duplicate a User ID that is added through the Cisco CallManager User area of Cisco CallManager Administration.

As you make selections, the Hunt Group Members list box reflects the information that you choose. The Hunt Group Members list displays either the device directory number or the attendant console user name and line number; for example:

#1 Call directory number 35201 (directory number example)

#2 Direct Call to Mary Brown, Line 1 (user and line number example)

Step 6 To add more hunt group members to the pilot point, repeat [Step 4](#) and [Step 5](#).

**Tip**

To reorder the hunt group list, choose the member that you want to reorder from the list. Click the up and down arrows to move that member to a new position in the list.

Step 7 Click **Update** to save the hunt group member information and complete hunt group configuration.

Related Topics

- [Updating or Deleting Hunt Group Members, page 26-22](#)
- [Configuring Linked Hunt Groups, page 26-21](#)
- [Hunt Group Configuration Settings, page 26-24](#)
- [Understanding Pilot Points and Hunt Groups, Cisco CallManager System Guide](#)

Configuring Linked Hunt Groups

This section describes how to configure linked hunt groups.

Procedure

Step 1 For each hunt group in the chain, use the following information when performing [Step 1](#) through [Step 5](#) from the “[Adding Hunt Group Members](#)” section on [page 26-18](#).

- For all except the last hunt group in the chain, make sure that the final member of the hunt group is the pilot point for the next hunt group.

**Caution**

Cisco strongly recommends that you do not include any other pilot point numbers (besides the final member) in the hunt group. Including other pilot point numbers in the hunt group may cause a continuous route loop.

- Check the **Always Route Member** check box for only the final member of each hunt group.
- To handle overflow conditions, choose a voice-mail or auto-attendant number as the final member of the last linked hunt group in the chain. Check the **Always Route Member** check box to ensure that voice mail can handle multiple, simultaneous calls.

Step 2 After you configure each hunt group, click **Update** to save the information.



Caution

Cisco strongly recommends that you do not link the last hunt group back to the first hunt group.

Step 3 Verify configuration of the linked hunt groups by reviewing the information that you entered in the previous steps.

Related Topics

- [Adding Hunt Group Members, page 26-18](#)
- [Updating or Deleting Hunt Group Members, page 26-22](#)
- [Hunt Group Configuration Settings, page 26-24](#)
- [Understanding Pilot Points and Hunt Groups, Cisco CallManager System Guide](#)
- [Understanding Linked Hunt Groups, Cisco CallManager System Guide](#)

Updating or Deleting Hunt Group Members

This section describes how to view, update, or delete hunt group members.

Procedure

Step 1 Choose **Service > Cisco CM Attendant Console > Hunt Group**.

The Hunt Group Configuration window displays.

- Step 2** Click the name of the pilot point that is associated with the hunt group for which you want to view, modify, or delete members.
- The Hunt Group Configuration window displays information for the chosen pilot point.
- Step 3** Make any desired changes. See [Table 26-3](#) for a description of hunt group configuration settings:
- To update settings for a hunt group member, choose that member name in the list; modify the settings as needed; then, click **Update** to save the changes.
 - To change the order of the hunt group members, choose the name of the member that you want to move and click the arrow buttons to move it to a new position in the list.
 - To delete a hunt group member, highlight that member name in the list and click **Delete Member**.
 - Before you click the **Update** button, you can click **Cancel Changes** at any time to restore any settings that you changed.
- Step 4** To save the changes, click **Update**.
-

Related Topics

- [Adding Hunt Group Members, page 26-18](#)
- [Configuring Linked Hunt Groups, page 26-21](#)
- [Hunt Group Configuration Settings, page 26-24](#)
- [Understanding Pilot Points and Hunt Groups, Cisco CallManager System Guide](#)
- [Understanding Linked Hunt Groups, Cisco CallManager System Guide](#)

Hunt Group Configuration Settings

Table 26-3 describes hunt group configuration settings.

Table 26-3 Hunt Group Configuration Settings

Field	Description
Partition	<p>If a hunt group member is a directory number, fill in the Partition and Directory Number fields in the Device Member Information section.</p> <p>This field designates the route partition to which the directory number belongs:</p> <ul style="list-style-type: none"> • If the directory number for this hunt group member is in a partition, you must choose a partition from the drop-down list. • If the directory number is not in a partition, choose None.
Directory Number	<p>Enter the directory number of the hunt group member device in this field.</p> <p>When the directory number is not in the specified partition, an error dialog box displays.</p>
Always Route Member	<p>Always Route Member, an optional check box, applies only to directory numbers.</p> <p>If this check box is checked, Cisco Telephony Call Dispatcher (TCD) always routes the call to this hunt group member, whether it is busy or not.</p> <p>If this check box is checked, Cisco TCD does not check whether the line is available before routing the call.</p> <p>To manage overflow conditions, check this check box for voice-mail or auto-attendant numbers that handle multiple, simultaneous calls.</p> <p>For linked hunt groups, only check the Always Route Member check box when you are configuring the final member of each hunt group.</p>

Table 26-3 *Hunt Group Configuration Settings (continued)*

Field	Description
User Name	<p>If the hunt group member is a user and line number, fill in only the User Name and Line Number fields in the User Member Information section.</p> <p>From the drop-down list, choose attendant console users that will serve as hunt group members.</p> <p>Only attendant console users that are added in the Cisco CallManager Attendant Console User Configuration window appear in this list.</p>
Line Number	<p>From the drop-down list, choose the appropriate line numbers for the hunt group.</p> <p>Note You can add the same user to the same line only once within a single hunt group. For example, you cannot add Mary Brown, Line 1, more than once in the hunt group.</p>

Related Topics

- [Adding Hunt Group Members, page 26-18](#)
- [Updating or Deleting Hunt Group Members, page 26-22](#)
- [Understanding Pilot Points and Hunt Groups, Cisco CallManager System Guide](#)

Activating the Cisco Telephony Call Dispatcher Service

The following procedure describes how to activate the Cisco TCD service on each server in the cluster that runs the Cisco CallManager service.

Procedure

- Step 1** Choose **Application > Cisco CallManager Serviceability**.
- Step 2** Choose **Tools > Service Activation**.
- Step 3** From the server list on the left side of the window, choose a server that runs the Cisco CallManager service.
- The window refreshes.
- Step 4** Check the **Cisco Telephony Call Dispatcher** check box.
- Step 5** Click **Update**.
- The service activates and starts automatically on the server.
- Step 6** Perform this procedure on every server in the cluster that runs the Cisco CallManager service.
-

Related Topics

- [Understanding the Cisco Telephony Call Dispatcher](#), *Cisco CallManager System Guide*
- *Cisco CallManager Serviceability Administration Guide*

Activating the CTIManager Service

For hunt groups and the attendant console to function properly, verify that the CTIManager service runs on one server in the cluster. Perform the following procedure to activate the service if it is not activated:

Procedure

- Step 1** Choose **Application > Cisco CallManager Serviceability**.
- Step 2** Choose **Tools > Control Center**.
- Step 3** From the left side of the window, choose any server from the server list.
The window refreshes.
The Service Name column lists all services that are configured on this server.
- Step 4** Check the **Cisco CTIManager** check box.
- Step 5** Click **Update**.
The service activates and starts automatically on the server.
-

Related Topics

- *Cisco CallManager Serviceability Administration Guide*
- [Services](#), *Cisco CallManager System Guide*
- [Computer Telephony Integration](#), *Cisco CallManager System Guide*

Cisco CallManager Attendant Console Server Configuration

The Cisco CallManager Attendant Console Server Configuration window lists service parameters and enables you to configure trace parameters for the Cisco Telephony Call Dispatcher (TCD). You obtain information about the parameters by clicking the “i” button help icon in the upper, right corner of the Cisco CallManager Attendant Console Server Configuration window.

**Caution**

Do not change any service parameters without permission of a Cisco Technical Assistance Center engineer. Doing so may cause system failure.

Perform the following steps to update Cisco TCD trace parameters.

Procedure

Step 1 Choose **Service > Cisco CM Attendant Console > Cisco CM Attendant Console Server**.

The Cisco CallManager Attendant Console Server Configuration window appears.

Step 2 From the Cisco CallManager Attendant Console Servers list, choose a server.

**Note**

You must activate the Cisco CallManager Attendant Console service on a server before the server displays in the Cisco CallManager Attendant Console Servers list. For more information on activating a service, refer to the *Cisco CallManager Serviceability Administration Guide*.

The window refreshes and displays all configured service parameters for the Cisco TCD. [Figure 26-4](#) shows an example of the Cisco CallManager Attendant Console Server Configuration window.

Figure 26-4 Cisco CallManager Attendant Console Server Configuration Window

[Edit Port Configuration](#)
[Host Group Configuration](#)
[Cisco CallManager Attendant Console User Configuration](#)
[Select Another Cisco CallManager Attendant Console Server](#)
[Parameters for all servers](#)
[Trace Configuration](#)

Current Server : NRVANKAY-CM

Current Service: Cisco Telephony Call Dispatcher

Status: Ready

Parameter Name	Parameter Value	Suggested Value
CONLineStatePort*	3223	3223
LSSAccessPassword*	private	private
LSSListenPort*	3224	3224
TcdSrvListenPort*	4321	4321
AllowRoutingwithUnknownLineState*	False	False
RedirectWithDirectingPartyCSS*	True	True
KeepOriginalCalledPartyIDForwarded*	True	True
ResetOriginalCalled*	True	True

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Note

After you insert or choose a server from the Cisco CallManager Attendant Console Server Configuration window, you can click **Trace Configuration** in the Cisco CallManager Attendant Console Server Configuration window and then refer to the *Cisco CallManager Serviceability Administration Guide* and the *Cisco CallManager Serviceability System Guide* to configure trace parameters.

Related Topic

- [Understanding Cisco CallManager Attendant Console Service Parameters, Cisco CallManager System Guide](#)

Viewing Cisco CallManager Attendant Console Performance Monitors

Perform the following procedures to view CcmLineLinkState and other performance monitoring information for Cisco TCD and the attendant console:

Procedure

- Step 1 Log in to the Cisco CallManager server.
 - Step 2 Choose **Start > Programs > Administrative Tools > Performance**.
 - Step 3 Click the View report data icon.
 - Step 4 Click the + (Add counter) icon.
 - Step 5 Choose **System Monitor**, enable **All Counters**, and choose **Cisco CallManager Attendant Console** from the Object drop-down list box.
 - Step 6 Click **Add**.
-

Related Topics

- [Cisco CallManager Attendant Console Configuration, page 26-1](#)
- [Cisco CallManager Attendant Console, Cisco CallManager System Guide](#)

Creating Cisco CallManager Attendant Console Dial Rules

You can create dial rules and directory lookup rules for Cisco CallManager Attendant Console to transform directory numbers and caller IDs. Dial rules transform directory numbers to create a dialable pattern. Directory lookup rules transform caller IDs to numbers that can be looked up in the directory.

-
- Step 1 On the Cisco CallManager Attendant Console server, open the DialRuleExamples.xml file that is located in the C:\Program Files\Cisco\CallManagerAttendant\etc directory.

- Step 2** Edit the DialRuleExamples.xml file to create the necessary dial and directory lookup rules.

The following examples show the appropriate format for the dial rules and directory lookup rules.

```
<DialRules>
<DialRule BeginsWith="408525" NumDigits="10" DigitsToRemove="5"
PrefixWith="89"/>
</DialRules>
<DirectoryLookupRules>
<DirectoryLookupRule BeginsWith="5" NumDigits="5" DigitsToRemove=""
PrefixWith="40852"/>
</DirectoryLookupRules>
```

For more detailed descriptions of the dial rules and directory lookup rule parameters, refer to [“Cisco CallManager Attendant Console Dial Rules”](#) in the *Cisco CallManager System Guide*.

- Step 3** Rename the DialRuleExamples.xml file to DialRules.xml.
- Step 4** Copy the DialRules.xml file to all Cisco CallManager servers in the cluster.
-

Related Topics

- [Cisco CallManager Attendant Console Server Configuration, page 26-28](#)
- [Cisco CallManager Attendant Console Dial Rules, Cisco CallManager System Guide](#)

Installing the Plugin on an Attendant PC

This section describes how to install the attendant console on a user PC.

Procedure

- Step 1** If you have not already done so, add the attendant console user and the phone that you want to associate with the attendant console to the Cisco CallManager database.
- Step 2** From each Cisco CallManager Attendant Console PC, browse into a server that is running Cisco CallManager Administration and log in with administrative privileges.



Tip To browse into the server, enter `http://<CM-server-name>/CCMAdmin/main.asp`, where `<CM-server-name>` equals the name of the server, in the Address bar in the web browser.

- Step 3** From Cisco CallManager Administration, choose **Application > Install Plugins**.
- Step 4** Click the icon for the Cisco CallManager Attendant Console.
The Cisco CallManager Attendant Console installation wizard runs.
- Step 5** To acknowledge the installation, click **Yes**.
- Step 6** In the initial installation wizard window, click **Next**.
- Step 7** You can install the attendant console to the default location or use the Browse button to specify a new location; after specifying a location, click **Next**.
- Step 8** In the Ready to Install window, click **Next**.
- Step 9** After the installation program finishes installing files, choose whether you want to restart the computer now or later; then, click **Finish**.
- Step 10** If prompted, restart the computer.

After you install the application, you can configure or update any attendant console settings that you did not configure during the installation process.

Related Topics

- [Configuring Cisco CallManager Attendant Console Settings, page 26-33](#)
- [Cisco CallManager Attendant Console Installation and Configuration, Cisco CallManager System Guide](#)
- [Cisco CallManager Attendant Console, Cisco CallManager System Guide](#)

Configuring Cisco CallManager Attendant Console Settings

Configure each attendant console to meet the following criteria:

- Provide the attendant console username and password.
- Connect to the correct Cisco CallManager TCD server and directory number for the Cisco IP Phone that the attendant uses with the attendant console.

After you install the attendant console, you must configure the attendant console before a user can log in to the console. Use the procedure in this section to configure settings that are not specified during installation, to view current settings, or to update the attendant console configuration.

After it is configured, the attendant console operates with the specified settings until the administrator changes them.

Procedure

-
- Step 1** On the PC where the attendant console is installed, choose **Start > Programs > Cisco CallManager > Cisco CallManager Attendant Console** or click the Cisco CallManager Attendant Console icon on the desktop; then, click **Yes** to launch the attendant console.
 - Step 2** Click **Settings**.
 - Step 3** Enter the appropriate configuration settings, as described in [Table 26-4](#).
 - Step 4** Click **Save**. You have now configured the settings for the attendant console, and the settings can now be used for call-distribution activities.
-

Related Topics

- [Cisco CallManager Attendant Console Server Configuration, page 26-28](#)
- [Attendant Console Configuration Settings, page 26-34](#)
- [Cisco CallManager Attendant Console, *Cisco CallManager System Guide*](#)

Attendant Console Configuration Settings

[Table 26-4](#) describes Cisco CallManager Attendant Console configuration settings.

Table 26-4 Settings Dialog Box

Field/Check Box	Notes
Basic Tab (Cisco requires that you enter the information in the appropriate fields.)	
Attendant Server Host Name or IP Address	Enter the appropriate information in the field.
Directory Number of Your Phone	Confirm or enter the directory number of the Cisco IP Phone that the attendant uses with the attendant console. If you enter a directory number that appears on more than one device, the Device Selector dialog box displays when you click Save . Choose the device you want to use with the attendant console from the drop-down list box and click OK.
Advanced Tab (You can enter information in these optional fields to change the default settings.)	
Path of Local Directory File	Enter the user list file that specifies the directory information.

Table 26-4 Settings Dialog Box (continued)

Field/Check Box	Notes
Directory Reload Interval (in seconds)	Enter the time (in seconds) that the Cisco CallManager Attendant Console server waits before reloading the user list that displays in the Directory window of the Cisco CallManager Attendant Console.
Call Processing Server Host Name or IP Address	Enter the appropriate information in the field.
Local Host IP Address (for line state)	Enter the appropriate information in the field. Note If the attendant PC has two Network Interface Cards (NICs), you can specify the IP address that will receive line state updates.
Enable Trace	Check the check box to ensure that you can troubleshoot issues that are associated with the attendant console.
Audible Alerting Ring Setting	Click the button to choose a ring setting, a “beep,” that alerts the attendant to the call through the PC sound card and speakers.

Related Topics

- [Configuring Cisco CallManager Attendant Console Settings, page 26-33](#)
- [Cisco CallManager Attendant Console, Cisco CallManager System Guide](#)

Configuring Cisco CallManager Attendant Console System Files

Some Cisco CallManager Attendant Console configuration procedures, including configuring circular hunt groups, require that you must edit various system files.

This section covers the following procedures:

- [Configuring Held Icon Timers, page 26-36](#)
- [Using the Attendant Console Configuration Tool, page 26-37](#)

Configuring Held Icon Timers

The color of the held icons on the attendant console indicates how long a call has been on hold. To configure the duration after which the held icons change color, perform the following procedure.

**Note**

Cisco recommends that you do not change the default values of the held icon timers.

Procedure

-
- Step 1** Open the GlobalUI.properties files that are located on the attendant PC in the `..\Program Files\Cisco\CallManager Attendant Console\etc` directory.
 - Step 2** To change the time before the held icon turns yellow, edit the WaitTimeMedium parameter.
 - Step 3** To change the time before the held icon turns red, edit the WaitTimeLong parameter.
 - Step 4** Save and close the GlobalUI.properties file.
-

Related Topics

- [Configuring Cisco CallManager Attendant Console System Files, page 26-36](#)
- [Cisco CallManager Attendant Console, *Cisco CallManager System Guide*](#)

Using the Attendant Console Configuration Tool

This section describes how to use the Attendant Console Configuration Tool. The Attendant Console Configuration Tool enables you to perform the following tasks:

- Set the JTAPI user name and password.
- Set directory values.
- Enable call queuing for a pilot point.
- Configure circular hunt groups and broadcast hunt groups.

Before You Begin

Before you create circular or broadcast hunt groups, create the pilot points as described in the [“Configuring Pilot Points” section on page 26-9](#).

Procedure

- Step 1** Open the `acconfig.bat` file that is located in the `C:\Program Files\Cisco\CallManagerAttendant\bin` directory on the Cisco CallManager Attendant Console server.
- Step 2** Enter the appropriate values as described in [Table 26-5](#).
- Step 3** Click **Save and Close**.
-

Related Topics

- [Attendant Console Configuration Settings, page 26-34](#)
- [“Understanding Pilot Points and Hunt Groups”, *Cisco CallManager System Guide*](#)
- [“Understanding Call Queuing”, *Cisco CallManager System Guide*](#)

Attendant Console Configuration Tool Configuration Settings

Table 26-5 describes Attendant Console Configuration Tool configuration settings. Use the fields on the Basic tab to enter JTAPI and directory information. Use the fields on the Advanced tab to enable call queuing and to configure circular and broadcast hunt groups.

Table 26-5 Attendant Console Configuration Tool

Field	Description
Basic Tab	
JTAPI Username	<p>Enter the JTAPI username for the Cisco CallManager Attendant Console application.</p> <p>The default specifies ac. To maximize security for your application, change the default value.</p>
JTAPI Password	<p>Enter the JTAPI password for the Cisco CallManager Attendant Console application.</p> <p>The default specifies 12345. To maximize security for your application, change the default value.</p>
Department Attribute	<p>Enter the attribute that your directory uses to store department information. The default for DC-Directory and Netscape directory specifies departmentNumber. The default for Active Directory specifies department.</p> <p>If you use a different corporate directory, enter the appropriate department attribute in this field.</p>

Table 26-5 Attendant Console Configuration Tool (continued)

Field	Description
LDAP Paging Size	<p>Enter the paging size for Cisco CallManager Attendant use when user lists are generated. The default specifies 500. The default search result size limit for Active Directory specifies 1000.</p> <p>If you integrate Cisco CallManager with a corporate directory with a paging size that is less than 500, enter a value that is less than 500 in the LDAP Paging Size field.</p>
Advanced Tab	
Pilot Points	Choose the pilot point that you want to configure.
Enable Queuing	<p>If you want Cisco TCD to queue calls when all attendants in a hunt group are busy, check the Enable Queuing check box. To complete the call-queuing configuration, enter values in the Queue Size and Hold Time (in Seconds) fields.</p>
Routing Algorithm	<p>Choose the routing option that you want to use for the pilot point that you choose in the Pilot Points drop-down list box. Available options include</p> <ul style="list-style-type: none"> • Circular Hunting • Broadcast Hunting <p>Note The routing option that you chose when you configure the pilot point, either Longest Idle or First Available, also displays in the drop-down list box.</p>

Table 26-5 Attendant Console Configuration Tool (continued)

Field	Description
Queue Size	<p>This field specifies the number of calls that are allowed in the queue. If the queue is full, Cisco TCD routes calls to the “always route” hunt group member that is specified on the Hunt Group Configuration window. If you do not specify an always route member, Cisco TCD drops the call when the queue size limit is reached.</p> <p>The default specifies 32.</p>
Hold Time (in Seconds)	<p>This field specifies the maximum amount of time (in seconds) that Cisco TCD keeps a call in the queue.</p> <p>If a call remains on hold for the number of seconds entered in this field and you configured an “always route” hunt group member on the Hunt Group Configuration window, Cisco TCD sends the call to the always route member that is specified on the Hunt Group Configuration window. If you do not configure an always route member, the call remains in the queue until an attendant becomes available.</p> <p>Enter 0 in this field to keep calls in the queue until an attendant becomes available.</p> <p>The default specifies 0.</p>



Annunciator Configuration

An annunciator, a SCCP device that uses the Cisco Media Streaming Application service, enables Cisco CallManager to play pre-recorded announcements (.wav files) and tones to Cisco IP Phones and gateways. The annunciator, which works with Cisco Multilevel Precedence Preemption, enables Cisco CallManager to alert callers as to why the call fails. Annunciator can also play tones for some transferred calls and some conferences.

Use the following topics to add, update, and delete annunciators:

- [Before You Begin, page 27-2](#)
- [Finding an Annunciator, page 27-2](#)
- [Adding an Annunciator, page 27-4](#)
- [Updating an Annunciator, page 27-5](#)
- [Copying an Annunciator, page 27-6](#)
- [Resetting an Annunciator, page 27-7](#)
- [Deleting an Annunciator, page 27-7](#)
- [Annunciator Configuration Settings, page 27-9](#)
- [Customizing an Announcement, page 27-10](#)

Before You Begin

Verify that you have activated the Cisco IP Voice Media Streaming Application service on the server where you plan to configure the annunciator.

**Tip**

When you activate the Cisco IP Media Streaming Application service in Cisco CallManager Serviceability, Cisco CallManager automatically adds the annunciator to the database.

After you activate the service, the annunciator device registers with the Cisco CallManager; verify whether the annunciator exists by locating the Performance Monitor counter.

Cisco recommends that you do not manually add an annunciator device unless you deleted the device from the database and the Cisco IP Media Streaming Application service is still activated.

**Caution**

When you deactivate the Cisco IP Voice Media Streaming Application service, Cisco CallManager automatically deletes the annunciator device from the database.

Finding an Annunciator

Perform the following procedure to find an annunciator:

Procedure

Step 1 Choose **Service > Media Resource > Annunciator**.

The Find and List window displays.

**Tip**

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

To find a specific annunciator quickly, specify the search criteria by performing the following procedure.

- Step 2** From the first Find Annunciators where drop-down list box, choose either Device Name, Device Pool, or Description.



Note The criterion that you choose in this drop-down list box specifies how the list of annunciators that your search generates will be sorted. For example, if you choose Device Pool, the Device Pool column will display as the left column of the results list.

- Step 3** From the second Find Annunciators where drop-down list box, choose one of the search criteria.

- Step 4** Enter the appropriate search text, if applicable, and click **Find**. You can also specify how many items per page to display.

A list of configured annunciators displays.



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

- Step 5** Click the annunciator icon or name, the Description, or the associated Device Pool from the list of records that match your search criteria.

The window displays the annunciator that you choose.

Related Topics

- [Adding an Annunciator, page 27-4](#)
- [Updating an Annunciator, page 27-5](#)
- [Copying an Annunciator, page 27-6](#)

- [Resetting an Annunciator, page 27-7](#)
- [Deleting an Annunciator, page 27-7](#)
- [Annunciator Configuration Settings, page 27-9](#)

Adding an Annunciator

This section describes how to add an annunciator.



Tip

When you activate the Cisco IP Media Streaming Application service in Cisco CallManager Serviceability, Cisco CallManager automatically adds the annunciator device to the database. Cisco recommends that you do not manually add an annunciator device unless you have deleted the device and the Cisco IP Media Streaming Application is still activated.

Before You Begin

Before you add an annunciator, verify that you have completed the following tasks:

- Activated the Cisco IP Voice Media Streaming Application service on the server where you plan to configure the annunciator
For information on activating services, refer to the *Cisco CallManager Serviceability Administration Guide*.
- Configured the appropriate servers
- Configured device pools

Procedure

-
- Step 1** Choose **Service > Media Resource > Annunciator**.
The Find and List annunciator window appears.
- Step 2** In the upper, right corner of the window, click the **Add a New Annunciator** link.
The annunciator window displays.
- Step 3** Enter the appropriate settings as described in [Table 27-1](#).

Step 4 Click **Insert**.

A message displays that states that the annunciator device must be reset before the changes take effect.

Step 5 Click **OK**.

Related Topics

- [Annunciator Configuration, page 27-1](#)
- [Finding an Annunciator, page 27-2](#)
- [Updating an Annunciator, page 27-5](#)
- [Copying an Annunciator, page 27-6](#)
- [Resetting an Annunciator, page 27-7](#)
- [Deleting an Annunciator, page 27-7](#)
- [Annunciator Configuration Settings, page 27-9](#)

Updating an Annunciator

This section describes how to update a annunciator (annunciator).

Procedure

Step 1 Locate the annunciator by using the procedure in the [“Finding an Annunciator” section on page 27-2](#).

Step 2 Click the annunciator that you want to update.

Step 3 Update the appropriate settings as described in [Table 27-1](#).

Step 4 Click **Update**.

A message displays that states that the changes take effect when the streaming to the device is idle.

Step 5 Click **OK**.

Step 6 Click the **Reset** button.

Related Topics

- [Finding an Annunciator, page 27-2](#)
- [Adding an Annunciator, page 27-4](#)
- [Copying an Annunciator, page 27-6](#)
- [Resetting an Annunciator, page 27-7](#)
- [Deleting an Annunciator, page 27-7](#)
- [Annunciator Configuration Settings, page 27-9](#)

Copying an Annunciator

To copy an annunciator, perform the following procedure:

Procedure

- Step 1** Locate the annunciator by using the procedure in the [“Finding an Annunciator” section on page 27-2](#).
- Step 2** Click the annunciator that you want to copy.
- Step 3** Click the **Copy** button.
- Step 4** Enter the appropriate settings as described in [Table 27-1](#).
- Step 5** Click **Insert**.
-

Related Topics

- [Annunciator Configuration Settings, page 27-9](#)
- [Finding an Annunciator, page 27-2](#)
- [Adding an Annunciator, page 27-4](#)
- [Updating an Annunciator, page 27-5](#)

- [Resetting an Annunciator, page 27-7](#)
- [Deleting an Annunciator, page 27-7](#)

Resetting an Annunciator

To reset an annunciator, perform the following procedure:

Procedure

-
- Step 1** Locate the annunciator by using the procedure in the [“Finding an Annunciator” section on page 27-2](#).
 - Step 2** Click the annunciator that you want to reset.
 - Step 3** Click the **Reset** button.
 - Step 4** To continue, click **OK**.
-

Related Topics

- [Annunciator Configuration Settings, page 27-9](#)
- [Finding an Annunciator, page 27-2](#)
- [Adding an Annunciator, page 27-4](#)
- [Updating an Annunciator, page 27-5](#)
- [Copying an Annunciator, page 27-6](#)
- [Deleting an Annunciator, page 27-7](#)

Deleting an Annunciator

This section describes how to delete an annunciator.

You cannot delete an annunciator if it is assigned to a media resource group. To find out which media resource groups are using the annunciator, click the **Dependency Records** link in the Annunciator 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 an annunciator that is in use, Cisco CallManager displays an error message. Before deleting an annunciator that is currently in use, you must perform either or both of the following tasks:

- Assign a different annunciator to a media resource group that uses the annunciator that you want to delete. See the [“Updating a Media Resource Group” section on page 31-5](#).
- Delete the media resource groups that uses the annunciator that you want to delete. See the [“Deleting a Media Resource Group” section on page 31-7](#).

**Caution**

When you deactivate the Cisco IP Voice Media Streaming Application service, Cisco CallManager automatically deletes the annunciator device that exists in the database.

Procedure

-
- Step 1** Locate the annunciator by using the procedure in the [“Finding an Annunciator” section on page 27-2](#).
- Step 2** Click the annunciator that you want to delete.
- Step 3** Click **Delete**.
- A warning message displays.
- Step 4** To delete the annunciator, click **OK**.
-



Related Topics

- [Finding an Annunciator, page 27-2](#)
- [Adding an Annunciator, page 27-4](#)
- [Updating an Annunciator, page 27-5](#)

Annunciator Configuration Settings

Table 27-1 describes the annunciator configuration settings.

Table 27-1 *Annunciator Configuration Settings*

Field	Description
Host Server	The system automatically appends the server name where the annunciator device exists with ANN. You can choose a different server if you want to do so.
Annunciator Name	<p>This field designates the name that is used when the device registers with the Cisco CallManager. Enter a name of up to 15 characters.</p> <p> Caution Enter letters, numbers, periods, dashes and underscores only.</p>
Description	<p>Enter a description of up to 54 characters. By default, the annunciator name displays.</p> <p> Caution Enter letters, numbers, periods, dashes and underscores only.</p>
Device Pool	Choose Default , or choose a device pool from the drop-down list of configured device pools.
Location	Choose a location from the configured list of locations.

Related Topics

- [Finding an Annunciator, page 27-2](#)
- [Adding an Annunciator, page 27-4](#)
- [Copying an Annunciator, page 27-6](#)
- [Resetting an Annunciator, page 27-7](#)
- [Updating an Annunciator, page 27-5](#)

Customizing an Announcement

If you want to customize a Cisco-provided announcement, perform the following procedure:

Procedure

-
- Step 1** Save a backup copy of all wave files that you plan to modify.
- Step 2** Copy an existing announcement wave file from the original language or country directory in C:\Program Files\Cisco\TFTPPath to a temporary directory. You will edit the file in the temporary directory.



Caution Only copy the base announcement wave file that does not have a codec name in the file name; for example, ANNMLPP-BPA.wav

- Step 3** Edit the file with sound-editing software, such as Microsoft Sound Recorder or Adobe Audition from Adobe.



Tip If you want to do so, you can insert custom recordings from a recording studio.

- Step 4** Verify that the Cisco MOH Audio Translator service runs on a Cisco CallManager server.
- Step 5** Choose **Service > Service Parameters**.
- Step 6** Choose the server where the Cisco MOH Audio Translator service runs.
- Step 7** Choose the **Cisco MOH Audio Translator** service.
- Step 8** Modify the service parameter, **Default MOH Volume Level**, to **-6**. Modifying this service parameter to -6 increases the volume of the announcement.
- Step 9** On the server where the Cisco MOH Audio Translator service runs, copy the modified wave file to the following directory:

C:\Program Files\Cisco\MOH\DropMOHAudioSourceFilesHere

The file converts into 4 wave files for the supported codecs.

Step 10 On the server that runs the Cisco TFTP service, move the five .wav files and the one .xml file from the MOH directory to the locale directory that exists in C:\Program Files\Cisco\TFTPPath.

For example, you could move the files to the following directory, if the locale applies:

C:\Program Files\Cisco\TFTPPath\English_United_States

**Caution**

If you do not move the files, the server considers the files to be valid music audio sources.

Step 11 Copy the five .wav files and the one .xml file to all servers that run the Cisco IP Voice Media Streaming Application service.

Step 12 Back up the modified announcement files.

**Caution**

You must restore these files after any Cisco CallManager upgrade. The Cisco CallManager upgrade does not retain these files.

Step 13 Update the service parameter value in [Step 5](#) to the default, that is, **-24**. When you restore this value, the volume that is used for Music On Hold decreases.

Related Topics

- [Multilevel Precedence and Preemption](#), *Cisco CallManager Features and Services Guide*
- [Annunciator](#), *Cisco CallManager System Guide*



Conference Bridge Configuration

Conference Bridge for Cisco CallManager, a software or hardware application, allows both ad hoc and Meet-Me voice conferencing. Each conference bridge can host several simultaneous, multiparty conferences.

Both hardware and software conference bridges can be active at the same time. Software and hardware conference devices differ in the number of streams and the types of codec that they support.

Refer to the “[Conference Bridges](#)” chapter of the *Cisco CallManager System Guide* for more information about conference bridges.



Note

The hardware model type for Conference Bridge contains a specific Media Access Control (MAC) address and device pool information.



Note

Be aware that different conference bridge fields display in Cisco CallManager Administration, depending on the conference bridge type that you choose.

Use the following topics to configure conference bridges:

- [Finding a Conference Bridge](#), page 28-2
- [Adding a Software Conference Device](#), page 28-4
- [Software Conference Bridge Configuration Settings](#), page 28-6
- [Adding a Hardware Conference Device](#), page 28-8
- [Hardware Conference Bridge Configuration Settings](#), page 28-9

- [Adding a Cisco IOS Conference Bridge Device, page 28-10](#)
- [Cisco IOS Conference Bridge Configuration Settings, page 28-12](#)
- [Adding a Cisco Video Conference Bridge Device, page 28-13](#)
- [Cisco Video Conference Bridge Configuration Settings, page 28-15](#)
- [Updating a Conference Device, page 28-16](#)
- [Deleting a Conference Device, page 28-17](#)
- [Updating Conference Bridge Parameters, page 28-18](#)
- [Adding a Meet-Me Number/Pattern, page 37-5](#)
- [Meet-Me Number/Pattern Configuration Settings, page 37-8](#)
- [Updating a Meet-Me Number/Pattern, page 37-6](#)
- [Deleting a Meet-Me Number/Pattern, page 37-7](#)

Finding a Conference Bridge

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



Note

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

Procedure

Step 1 Choose **Service > Media Resource > Conference Bridge**.

The Find and List Conference Bridges window displays. Use the two drop-down list boxes to search for a conference bridge.

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

- Name
- Description
- Device Pool



Note The criterion that you choose in this drop-down list box specifies how the list of conference bridges that your search generates will be sorted. For example, if you choose Description, the Description column will display as the left column of the results list.

From the second Find Conference Bridges where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly
- is not empty
- is empty

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 conference bridges that are registered in the database, click **Find** without entering any search text.

A list of discovered conference bridges displays by

- Conference Bridge icon
- Conference Bridge name
- Description
- Device Pool

- Status
- IP Address



Note You can delete multiple conference bridges from the Find and List Conference Bridges window by checking the check boxes next to the appropriate conference bridges and clicking **Delete Selected**. You can delete all conference bridges 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 Conference Bridge icon or name, the Description, or the associated Device Pool that matches your search criteria. The window displays the conference bridge that you choose.
-

Related Topics

- [Adding a Software Conference Device, page 28-4](#)
- [Adding a Hardware Conference Device, page 28-8](#)
- [Adding a Cisco IOS Conference Bridge Device, page 28-10](#)
- [Adding a Cisco Video Conference Bridge Device, page 28-13](#)
- [Updating a Conference Device, page 28-16](#)
- [Deleting a Conference Device, page 28-17](#)
- [Updating Conference Bridge Parameters, page 28-18](#)
- [Conference Bridges, *Cisco CallManager System Guide*](#)

Adding a Software Conference Device

This section describes how to add a software conference device. For Conference Bridge hardware configuration, see the [“Adding a Hardware Conference Device” section on page 28-8](#).

Before You Begin

Make sure that the following prerequisites are met before you proceed with the steps:

- Make sure that servers are configured. See the [“Server Configuration” section on page 2-1](#).
- Make sure that device pools are configured. See the [“Device Pool Configuration” section on page 8-1](#).
- Make sure that the Cisco IP Voice Media Streaming Application service is activated on the server. This optional software service runs on a server and allows software conferencing. Refer to the *Cisco CallManager Serviceability Administration Guide* for more information.

Procedure

- Step 1** Choose **Service > Media Resource > Conference Bridge**.
- Step 2** In the upper, right corner of the window, click the **Add a New Conference Bridge** link.
- The Conference Bridge Configuration window displays.
- Step 3** Enter the appropriate settings as described in [Table 28-1](#).
- Step 4** Click **Insert**.
- Step 5** Click **OK**.
- The window refreshes and shows the information, including the status, for the device that you just added.
- Step 6** To reset the conference bridge device and apply your changes, click the **Reset** button.
- A message displays to state that this action resets the conference bridge device.
- Step 7** Click **OK**.
-

Related Topics

- [Finding a Conference Bridge, page 28-2](#)
- [Software Conference Bridge Configuration Settings, page 28-6](#)
- [Adding a Hardware Conference Device, page 28-8](#)

- [Adding a Cisco IOS Conference Bridge Device](#), page 28-10
- [Adding a Cisco Video Conference Bridge Device](#), page 28-13
- [Updating a Conference Device](#), page 28-16
- [Deleting a Conference Device](#), page 28-17
- [Updating Conference Bridge Parameters](#), page 28-18
- [Conference Bridges](#), *Cisco CallManager System Guide*
- [Software Conference Devices](#), *Cisco CallManager System Guide*
- [Conference Bridge Types in Cisco CallManager Administration](#), *Cisco CallManager System Guide*

Software Conference Bridge Configuration Settings

[Table 28-1](#) describes the software conference bridge configuration settings.

Table 28-1 Software Conference Bridge Configuration Settings

Field	Description
Conference Bridge Type	<p>Choose Cisco Conference Bridge Software.</p> <p>For a description of this type, refer to the “Conference Bridge Types in Cisco CallManager Administration” section on page 20-5.</p>
Host Server	<p>Choose a host server that contains the Cisco IP Voice Media Streaming Application service that you want to use.</p> <p>If the server that you want to use does not appear in the drop-down list box, you must use Cisco CallManager Serviceability to activate the Cisco IP Voice Media Streaming Application service on that server.</p> <p>Tip A server can only use one software conference bridge.</p>

Table 28-1 Software Conference Bridge Configuration Settings (continued)

Field	Description
Conference Bridge Name	Enter a name in this required field for the conference device, up to 15 alphanumeric characters. Note If the specified device name is longer than 15 characters, the device cannot successfully register with the Cisco CallManager.
Description	Enter a description for the software conference device.
Device Pool	Choose a device pool that has the highest priority within the Cisco CallManager group that you are using or choose Default .
Location	Choose the appropriate location for this conference bridge. The location specifies the total bandwidth that is available for calls to and from this location. A location setting of <i>None</i> means that the locations feature does not keep track of the bandwidth that this conference bridge consumes.

Related Topics

- [Finding a Conference Bridge, page 28-2](#)
- [Adding a Software Conference Device, page 28-4](#)
- [Deleting a Conference Device, page 28-17](#)
- [Updating a Conference Device, page 28-16](#)
- [Conference Bridges, Cisco CallManager System Guide](#)
- [Software Conference Devices, Cisco CallManager System Guide](#)
- [Conference Bridge Types in Cisco CallManager Administration, Cisco CallManager System Guide](#)

Adding a Hardware Conference Device

This section describes how to add a hardware conference device. For Conference Bridge software configuration, see the [“Adding a Software Conference Device” section on page 28-4](#).

Before You Begin

Configure the Device pools. See the [“Device Pool Configuration” section on page 8-1](#).

Procedure

- Step 1** Choose **Service > Media Resource > Conference Bridge**.
- Step 2** In the upper, right corner of the window, click the **Add a New Conference Bridge** link.
- The Conference Bridge Configuration window displays.
- Step 3** Enter the appropriate settings as described in [Table 28-2](#).
- Step 4** Click **Insert**.
- Step 5** Click **OK**.
- The window refreshes and displays the conference device that you just added. The device should appear in the list on the left side of the window.
- Step 6** To reset the conference bridge device and apply your changes, click the **Reset** button.
- A message displays that states that this action resets the conference bridge device.
- Step 7** Click **OK**.
-

Related Topics

- [Finding a Conference Bridge, page 28-2](#)
- [Hardware Conference Bridge Configuration Settings, page 28-9](#)
- [Adding a Software Conference Device, page 28-4](#)
- [Adding a Cisco IOS Conference Bridge Device, page 28-10](#)

- [Adding a Cisco Video Conference Bridge Device](#), page 28-13
- [Updating a Conference Device](#), page 28-16
- [Deleting a Conference Device](#), page 28-17
- [Updating Conference Bridge Parameters](#), page 28-18
- [Updating a Meet-Me Number/Pattern](#), page 37-6
- [Adding a Meet-Me Number/Pattern](#), page 37-5
- [Conference Bridges](#), *Cisco CallManager System Guide*
- [Software Conference Devices](#), *Cisco CallManager System Guide*
- [Conference Bridge Types in Cisco CallManager Administration](#), *Cisco CallManager System Guide*

Hardware Conference Bridge Configuration Settings

Table 28-2 describes the hardware conference bridge configuration settings.

Table 28-2 Hardware Conference Bridge Configuration Settings

Field	Description
Conference Bridge Type	Choose Cisco Conference Bridge Hardware . For a description of this type, refer to the “ Conference Bridge Types in Cisco CallManager Administration ” section on page 20-5.
MAC Address	Enter a unique device MAC address in this required field. MAC addresses comprise 12 hexadecimal digits (0-9, A-F). Example 1231123245AB
Description	This field automatically generates from the MAC address that you provide.
Device Pool	Choose a device pool that has the highest priority within the Cisco CallManager group that you are using or choose Default .

Table 28-2 Hardware Conference Bridge Configuration Settings (continued)

Field	Description
Location	Choose the appropriate location for this conference bridge. The location specifies the total bandwidth that is available for calls to and from this location. A location setting of <i>None</i> means that the locations feature does not keep track of the bandwidth that this conference bridge consumes.
Special Load Information	Enter any special load information or leave blank to use default.

Related Topics

- [Finding a Conference Bridge, page 28-2](#)
- [Adding a Hardware Conference Device, page 28-8](#)
- [Updating a Conference Device, page 28-16](#)
- [Deleting a Conference Device, page 28-17](#)
- [Updating Conference Bridge Parameters, page 28-18](#)
- [Conference Bridges, Cisco CallManager System Guide](#)
- [Hardware Conference Devices, Cisco CallManager System Guide](#)
- [Conference Bridge Types in Cisco CallManager Administration, Cisco CallManager System Guide](#)

Adding a Cisco IOS Conference Bridge Device

This section describes how to add a Cisco IOS conference device.

Before You Begin

Configure the device pools. See the [“Device Pool Configuration” section on page 8-1](#).

Procedure

- Step 1** Choose **Service > Media Resource > Conference Bridge**.
- Step 2** In the upper, right corner of the window, click the **Add a New Conference Bridge** link.
- The Conference Bridge Configuration window displays.
- Step 3** Enter the appropriate settings as described in [Table 28-3](#).
- Step 4** Click **Insert**.
- Step 5** Click **OK**.
- The window refreshes and displays the conference device that you just added. The device should appear in the list on the left side of the window.
- Step 6** To reset the conference bridge device and apply your changes, click the **Reset** button.
- A message displays that states that this action resets the conference bridge device.
- Step 7** Click **OK**.
-

Related Topics

- [Finding a Conference Bridge, page 28-2](#)
- [Adding a Software Conference Device, page 28-4](#)
- [Adding a Hardware Conference Device, page 28-8](#)
- [Cisco IOS Conference Bridge Configuration Settings, page 28-12](#)
- [Adding a Cisco Video Conference Bridge Device, page 28-13](#)
- [Updating a Conference Device, page 28-16](#)
- [Deleting a Conference Device, page 28-17](#)
- [Updating Conference Bridge Parameters, page 28-18](#)
- [Updating a Meet-Me Number/Pattern, page 37-6](#)
- [Deleting a Meet-Me Number/Pattern, page 37-7](#)

- [Conference Bridges](#), *Cisco CallManager System Guide*
- [Conference Bridge Types in Cisco CallManager Administration](#), *Cisco CallManager System Guide*

Cisco IOS Conference Bridge Configuration Settings

[Table 28-3](#) describes the Cisco IOS conference bridge configuration settings.

Table 28-3 Cisco IOS Conference Bridge Configuration Settings

Field	Description
Conference Bridge Type	Choose Cisco IOS Conference Bridge or Cisco IOS Enhanced Conference Bridge . For a description of these types, refer to the “Conference Bridge Types in Cisco CallManager Administration” section on page 20-5.
Conference Bridge Name	Enter the same name that exists in the gateway Command Line Interface (CLI).
Description	This field automatically generates from the conference bridge name that you provide.
Device Pool	Choose a device pool or choose Default .
Location	Choose the appropriate location for this conference bridge. The location specifies the total bandwidth that is available for calls to and from this location. A location setting of <i>None</i> means that the locations feature does not keep track of the bandwidth that this conference bridge consumes.

Related Topics

- [Finding a Conference Bridge](#), page 28-2
- [Adding a Cisco IOS Conference Bridge Device](#), page 28-10
- [Updating a Conference Device](#), page 28-16
- [Deleting a Conference Device](#), page 28-17

- [Updating Conference Bridge Parameters, page 28-18](#)
- [Conference Bridges, Cisco CallManager System Guide](#)
- [Conference Bridge Types in Cisco CallManager Administration, Cisco CallManager System Guide](#)

Adding a Cisco Video Conference Bridge Device

This section describes how to add a Cisco video conference bridge device.

Before You Begin

Configure the device pools. See the [“Device Pool Configuration” section on page 8-1](#).

Procedure

-
- Step 1** Choose **Service > Media Resource > Conference Bridge**.
 - Step 2** In the upper, right corner of the window, click the **Add a New Conference Bridge** link.
The Conference Bridge Configuration window displays.
 - Step 3** Enter the appropriate settings as described in [Table 28-4](#).
 - Step 4** Click **Insert**.
 - Step 5** Click **OK**.
The window refreshes and displays the conference device that you just added. The device should appear in the list on the left side of the window.
 - Step 6** To reset the conference bridge device and apply your changes, click the **Reset** button.
A message displays that states that this action resets the conference bridge device.
 - Step 7** Click **OK**.
-

Related Topics

- [Finding a Conference Bridge, page 28-2](#)
- [Adding a Software Conference Device, page 28-4](#)
- [Adding a Hardware Conference Device, page 28-8](#)
- [Adding a Cisco IOS Conference Bridge Device, page 28-10](#)
- [Cisco Video Conference Bridge Configuration Settings, page 28-15](#)
- [Updating a Conference Device, page 28-16](#)
- [Deleting a Conference Device, page 28-17](#)
- [Updating Conference Bridge Parameters, page 28-18](#)
- [Conference Bridges, *Cisco CallManager System Guide*](#)
- [Conference Bridge Types in Cisco CallManager Administration, *Cisco CallManager System Guide*](#)
- [Cisco IP/VC 3511 MCU and Cisco IP/VC 3540 MCU Module Administrator Guide](#)

Cisco Video Conference Bridge Configuration Settings

Table 28-4 describes the Cisco video conference bridge configuration settings.

Table 28-4 Cisco Video Conference Bridge Configuration Settings

Field	Description
Conference Bridge Type	Choose Cisco Video Conference Bridge (IPVC-35xx) . For a description of this type, refer to the “ Conference Bridge Types in Cisco CallManager Administration ” section on page 20-5.
MAC Address	Enter a unique device MAC address in this required field. MAC addresses comprise 12 hexadecimal digits (0-9, A-F). Example 1231123245AB
Description	This field automatically generates from the conference bridge name that you provide.
Device Pool	Choose a device pool or choose Default .
Location	Choose the appropriate location for this conference bridge. The location specifies the total bandwidth that is available for calls to and from this location. A location setting of <i>None</i> means that the locations feature does not keep track of the bandwidth that this conference bridge consumes.

Related Topics

- [Finding a Conference Bridge, page 28-2](#)
- [Adding a Cisco Video Conference Bridge Device, page 28-13](#)
- [Updating a Conference Device, page 28-16](#)
- [Deleting a Conference Device, page 28-17](#)
- [Updating Conference Bridge Parameters, page 28-18](#)

- [Conference Bridges](#), *Cisco CallManager System Guide*
- [Conference Bridge Types in Cisco CallManager Administration](#), *Cisco CallManager System Guide*
- *Cisco IP/VC 3511 MCU and Cisco IP/VC 3540 MCU Module Administrator Guide*

Updating a Conference Device

This section describes how to update a Conference Device.

Before You Begin

Make sure that the following prerequisites are met before you proceed with the steps:

- Configure the servers. See the [“Server Configuration”](#) section on page 2-1.
- Configure the device pools. See the [“Device Pool Configuration”](#) section on page 8-1.
- Configure the Conference device. See the [“Adding a Software Conference Device”](#) section on page 28-4.
- For software conference bridges, activate the Cisco IP Voice Media Streaming Application service. Refer to the *Cisco CallManager Serviceability Administration Guide*.

Procedure

- Step 1** Locate the conference bridge by using the procedure in the [“Finding a Conference Bridge”](#) section on page 28-2.
- Step 2** Click the conference bridge that you want to update.
- Step 3** Update the appropriate settings as described in [Table 28-1](#), [Table 28-2](#), or [Table 28-3](#).
- Step 4** When you have completed your changes, click **Update**.
A message states that the changes take effect when you reset the conference bridge.
- Step 5** Click **OK**.

- Step 6** To reset the conference bridge device, click the **Reset** button.
A message displays that states that this action resets the conference bridge device.
- Step 7** Click **OK**.
-

Related Topics

- [Finding a Conference Bridge, page 28-2](#)
- [Adding a Software Conference Device, page 28-4](#)
- [Adding a Hardware Conference Device, page 28-8](#)
- [Adding a Cisco IOS Conference Bridge Device, page 28-10](#)
- [Adding a Cisco Video Conference Bridge Device, page 28-13](#)
- [Deleting a Conference Device, page 28-17](#)
- [Updating Conference Bridge Parameters, page 28-18](#)
- [Updating a Meet-Me Number/Pattern, page 37-6](#)
- [Deleting a Meet-Me Number/Pattern, page 37-7](#)
- [Conference Bridges, *Cisco CallManager System Guide*](#)

Deleting a Conference Device

This section describes how to delete a Conference Device.



Note

You cannot delete devices that are assigned to a media resource group. To do so, you must first remove the conference device from the media resource group(s) to which it is assigned.

Procedure

- Step 1** Locate the conference bridge by using the procedure in the [“Finding a Conference Bridge” section on page 28-2](#).
- Step 2** Click the conference bridge that you want to delete.

Step 3 Click **Delete**.

A message displays that states that you are about to permanently delete the device and that this action cannot be undone.

Step 4 If you want to continue with the deletion, click **OK**; otherwise, click **Cancel**.

The window refreshes again, and the conference device that you deleted is removed from the list of devices, and all active calls terminate.

Related Topics

- [Finding a Conference Bridge, page 28-2](#)
- [Adding a Software Conference Device, page 28-4](#)
- [Adding a Hardware Conference Device, page 28-8](#)
- [Adding a Cisco IOS Conference Bridge Device, page 28-10](#)
- [Adding a Cisco Video Conference Bridge Device, page 28-13](#)
- [Updating a Conference Device, page 28-16](#)
- [Updating Conference Bridge Parameters, page 28-18](#)
- [Updating a Meet-Me Number/Pattern, page 37-6](#)
- [Deleting a Meet-Me Number/Pattern, page 37-7](#)
- [Conference Bridges, *Cisco CallManager System Guide*](#)

Updating Conference Bridge Parameters

This section describes how to update conference bridge parameters.

**Note**

Cisco CallManager deletes the conference bridge service parameters if you deactivate the Cisco IP Voice Media Streaming Application service. If you activate the service after deactivating it, Cisco CallManager sets the service parameters to their default values.

Before You Begin

Make sure that the following prerequisites are met before you proceed with the steps:

- Configure the servers. See the “[Server Configuration](#)” section on page 2-1.
- Configure the device pools. See the “[Device Pool Configuration](#)” section on page 8-1.
- Configure Cisco CallManager. See the “[Cisco CallManager Configuration](#)” section on page 3-1.

Procedure

- Step 1** Choose **Service > Media Resource > Conference Bridge**.
- Step 2** From the top, right corner of the window, click **Conference Bridge Parameters**.
The maximum number of users that are configured for both an ad hoc conference and a Meet-Me conference using Unicast appears under the Conference Bridge Parameters heading.
- Step 3** Change the maximum number of users accordingly and click **Update**.
-

Related Topics

- [Finding a Conference Bridge, page 28-2](#)
- [Adding a Software Conference Device, page 28-4](#)
- [Adding a Hardware Conference Device, page 28-8](#)
- [Adding a Cisco IOS Conference Bridge Device, page 28-10](#)
- [Adding a Cisco Video Conference Bridge Device, page 28-13](#)
- [Updating a Conference Device, page 28-16](#)
- [Deleting a Conference Device, page 28-17](#)
- [Updating a Meet-Me Number/Pattern, page 37-6](#)
- [Deleting a Meet-Me Number/Pattern, page 37-7](#)
- [Conference Bridges, *Cisco CallManager System Guide*](#)



Media Termination Point Configuration

A Media Termination Point (MTP) software device allows Cisco CallManager to relay calls that are routed through SIP or H.323 endpoints or gateways.

MTP, a Cisco software application, installs on a server during the software installation process. You must activate and start the Cisco IP Voice Media Streaming App service on the server on which you configure the MTP device. For information on activating and starting services, refer to the *Cisco CallManager Serviceability Administration Guide*.

Each MTP device that is defined in the database registers with the Media Resource Manager (MRM). The MRM keeps track of the total available MTP devices in the system and of which devices have available resources.

During resource reservation, the MRM determines the number of resources and identifies the media resource type (in this case, the MTP) and the location of the registered MTP device. The MRM updates its share resource table with the registration information and propagates the registered information to the other Cisco CallManagers within the cluster.

The MTP and transcoder can register with the same Cisco CallManager. See the [“Transcoder Configuration” section on page 30-1](#) for more information.

Each MTP receives a list of Cisco CallManagers, in priority order, to which it should attempt to register. Each MTP can register with only one Cisco CallManager at a time.

**Note**

Cisco CallManager requires an RFC 2833 DTMF compliant MTP device to make SIP calls.

Use the following topics to add, update, and delete MTPs:

- [Finding a Media Termination Point, page 29-2](#)
- [Adding a Media Termination Point, page 29-4](#)
- [Updating a Media Termination Point, page 29-6](#)
- [Deleting a Media Termination Point, page 29-7](#)
- [Software MTP Configuration Settings, page 29-9](#)
- [Cisco IOS MTP Configuration Settings, page 29-10](#)

Finding a Media Termination Point

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

**Note**

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

Procedure

Step 1 Choose **Service > Media Resource > Media Termination Point**.

The Find and List Media Termination Points window displays. Use the two drop-down list boxes to search for a media termination point.

Step 2 From the first Find Media Termination Points where drop-down list box, choose one of the following criteria:

- Name
- Description
- Device Pool



Note The criterion that you choose in this drop-down list box specifies how the list of media termination points that your search generates will be sorted. For example, if you choose Device Pool, the Device Pool column will display as the left column of the results list.

From the second Find Media Termination Points where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly
- is not empty
- is empty

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 media termination points that are registered in the database, click **Find** without entering any search text.

A list of discovered media termination points displays by

- Media Termination Point icon
- Media Termination Point name
- Description
- Device Pool

- Status
- IP Address



Note You can delete multiple media termination points from the Find and List Media Termination Points window by checking the check boxes next to the appropriate media termination points and clicking **Delete Selected**. You can delete all media termination points in the window by checking the check box in the Matching records title bar and clicking **Delete Selected**.

- Step 4** Click the Media Termination Point icon or name, the Description, or the associated Device Pool from the list of records that match your search criteria. The window displays the media termination point that you choose.
-

Related Topics

- [Adding a Media Termination Point, page 29-4](#)
- [Transcoder Configuration, page 30-1](#)
- [Updating a Media Termination Point, page 29-6](#)
- [Deleting a Media Termination Point, page 29-7](#)
- [Software MTP Configuration Settings, page 29-9](#)
- [Cisco IOS MTP Configuration Settings, page 29-10](#)

Adding a Media Termination Point

This section describes how to add a Media Termination Point (MTP).



Note To perform this procedure, you must activate the Cisco IP Voice Media Streaming App service by using Cisco CallManager Serviceability. For information about activating services, refer to the *Cisco CallManager Serviceability Administration Guide*.

Before You Begin

Make sure that the following prerequisites are met before you proceed with the steps:

- Ensure servers are configured.
- Ensure device pools are configured.
- For SIP, ensure that you have an RFC 2833 DTMF compliant MTP device.



Note

Add only one Media Termination Point (MTP) device for each MTP application.

Procedure

Step 1 Choose **Service > Media Resource > Media Termination Point**.

The Find and List Media Termination Point window appears.

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

The Media Termination Point window displays.

Step 3 Enter the appropriate settings as described in [Table 29-1](#).

Step 4 Click **Insert**.

A message displays that states that the MTP device must be reset before the changes take effect.

Step 5 Click **OK**.

Related Topics

- [Media Termination Point Configuration, page 29-1](#)
- [Finding a Media Termination Point, page 29-2](#)
- [Transcoder Configuration, page 30-1](#)
- [Configuring a Transcoder, page 30-4](#)
- [Updating a Media Termination Point, page 29-6](#)

- [Deleting a Media Termination Point, page 29-7](#)
- [Software MTP Configuration Settings, page 29-9](#)
- [Cisco IOS MTP Configuration Settings, page 29-10](#)

Updating a Media Termination Point

This section describes how to update a Media Termination Point (MTP).



Note

To perform this procedure, you must activate the Cisco IP Voice Media Streaming App service by using Cisco CallManager Serviceability. For information about activating services, refer to the *Cisco CallManager Serviceability Administration Guide*.

Before You Begin

Make sure that the following prerequisites are met before you proceed with the steps:

- Ensure servers are configured.
- Ensure device pools are configured.
- Ensure media termination points are configured.

Procedure

- Step 1** Locate the media termination point by using the procedure in the [“Finding a Media Termination Point”](#) section on page 29-2.
- Step 2** Click the media termination point that you want to update.
- Step 3** Update the appropriate settings as described in [Table 29-1](#).
- Step 4** Click **Update**.

A message displays that states that the changes take effect when the streaming to the device is idle.
- Step 5** Click **OK**.

Step 6 Click the **Reset** button.

The Reset Device dialog box displays.

Step 7 To restart the MTP device without shutting it down, click the **Restart** button. To shut down the MTP device and bring it back up, click the **Reset** button.

Related Topics

- [Media Termination Point Configuration, page 29-1](#)
- [Finding a Media Termination Point, page 29-2](#)
- [Transcoder Configuration, page 30-1](#)
- [Adding a Media Termination Point, page 29-4](#)
- [Deleting a Media Termination Point, page 29-7](#)
- [Software MTP Configuration Settings, page 29-9](#)
- [Cisco IOS MTP Configuration Settings, page 29-10](#)

Deleting a Media Termination Point

This section describes how to delete a Media Termination Point (MTP).

Before You Begin

Make sure that the following prerequisites are met before you proceed with the steps:

- Ensure servers are configured.
- Ensure device pools are configured.
- Ensure media termination points are configured.

You cannot delete a media termination point if it is assigned to media resource groups. To find out which media resource groups are using the media termination point, click the **Dependency Records** link from the Media Termination Point 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 media termination point that is in use,

Cisco CallManager displays an error message. Before deleting a media termination point that is currently in use, you must perform either or both of the following tasks:

- Assign a different media termination point to any media resource groups that are using the media termination point that you want to delete. See the [“Updating a Media Resource Group” section on page 31-5](#).
- Delete the media resource groups that are using the media termination point that you want to delete. See the [“Deleting a Media Resource Group” section on page 31-7](#).

**Note**

You cannot delete a device if it is assigned to the Media Resource Group.

Procedure

-
- Step 1** Locate the media termination point by using the procedure in the [“Finding a Media Termination Point” section on page 29-2](#).
- Step 2** Click the media termination point that you want to delete.
- Step 3** Click **Delete**.
- A warning message displays.
- Step 4** To delete the MTP, click **OK**.
-

Related Topics

- [Media Termination Point Configuration, page 29-1](#)
- [Finding a Media Termination Point, page 29-2](#)
- [Transcoder Configuration, page 30-1](#)
- [Adding a Media Termination Point, page 29-4](#)
- [Updating a Media Termination Point, page 29-6](#)

Software MTP Configuration Settings

Table 29-1 describes software media termination point configuration settings.

Table 29-1 Software MTP Configuration Settings

Field	Description
Media Termination Point Type	Choose Cisco Media Termination Point Software . For specific information on this MTP type, refer to “Media Termination Points” in the <i>Cisco CallManager System Guide</i> .
Host Server	This field displays for the Cisco Media Termination Point Software type. Choose the server on which you want MTP to run.
Media Termination Point Name	Enter a name for the MTP, up to 15 alphanumeric characters.
Description	Enter any description for the MTP.
Device Pool	Choose a device pool that has the highest priority within the Cisco CallManager group that you are using or choose Default .

Related Topics

- [Finding a Media Termination Point, page 29-2](#)
- [Adding a Media Termination Point, page 29-4](#)
- [Updating a Media Termination Point, page 29-6](#)
- [Media Termination Points, Cisco CallManager System Guide](#)

Cisco IOS MTP Configuration Settings

Table 29-2 describes Cisco IOS media termination point configuration settings.

Table 29-2 Cisco IOS MTP Configuration Settings

Field	Description
Media Termination Point Type	Choose Cisco IOS Enhanced Software Media Termination Point . For specific information on this MTP type, refer to “ Media Termination Points ” in the <i>Cisco CallManager System Guide</i> .
Media Termination Point Name	Enter a name for the MTP, up to 15 alphanumeric characters. Tip Ensure that you enter the same MTP name that exists in the gateway Command Line Interface (CLI).
Description	Enter any description for the MTP.
Device Pool	Choose a device pool that has the highest priority within the Cisco CallManager group that you are using or choose Default .

Related Topics

- [Finding a Media Termination Point, page 29-2](#)
- [Adding a Media Termination Point, page 29-4](#)
- [Updating a Media Termination Point, page 29-6](#)
- [Media Termination Points, Cisco CallManager System Guide](#)
- [Transcoders, page 21-1](#)



Transcoder Configuration

The Media Resource Manager (MRM) has responsibility for resource registration and resource reservation of transcoders within a Cisco CallManager cluster. Cisco CallManager simultaneously supports registration of both the Media Termination Point (MTP) and Transcoder and concurrent MTP and transcoder functionality within a single call.

The Cisco CallManager invokes a transcoder on behalf of endpoint devices when the two devices are using different codecs and would normally not be able to communicate. When inserted into a call, the transcoder converts the data streams between the two disparate codecs to enable communications between them.

A transcoder control process gets created for each transcoder device that is defined in the database. Each transcoder registers with the MRM when it initializes. The MRM keeps track of the transcoder resources and advertises their availability throughout the cluster.

Use the following topics to configure transcoders:

- [Finding a Transcoder, page 30-2](#)
- [Configuring a Transcoder, page 30-4](#)
- [Updating a Transcoder, page 30-5](#)
- [Copying a Transcoder, page 30-6](#)
- [Resetting a Transcoder, page 30-7](#)
- [Deleting a Transcoder, page 30-8](#)
- [Transcoder Configuration Settings, page 30-9](#)

Finding a Transcoder

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

**Note**

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

Procedure

Step 1 Choose **Service > Media Resource > Transcoder**.

The Find and List Transcoders window displays. Use the two drop-down list boxes to search for a transcoder.

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

- Name
- Description
- Device Pool

**Note**

The criterion that you choose in this drop-down list box specifies how the list of transcoders that your search generates will be sorted. For example, if you choose Device Pool, the Device Pool column will display as the left column of the results list.

From the second Find Transcoders where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly

- is empty
- is not empty

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 transcoders that are registered in the database, click **Find** without entering any search text.

A list of discovered transcoders displays by

- Transcoder icon
- Transcoder name
- Description
- Device Pool
- Status
- IP Address



Note You can delete multiple transcoders from the Find and List Transcoders window by checking the check boxes next to the appropriate transcoders and clicking **Delete Selected**. You can delete all transcoders 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 Transcoder icon or name, the Description, or the associated Device Pool that matches your search criteria.

The window displays the transcoder that you choose.

Related Topics

- [Configuring a Transcoder, page 30-4](#)
- [Updating a Transcoder, page 30-5](#)
- [Copying a Transcoder, page 30-6](#)
- [Resetting a Transcoder, page 30-7](#)

- [Deleting a Transcoder](#), page 30-8
- [Transcoder Configuration Settings](#), page 30-9
- [Transcoders](#), *Cisco CallManager System Guide*

Configuring a Transcoder

This section describes how to configure a transcoder.

Procedure

- Step 1** Choose **Service > Media Resource > Transcoder**.
- Step 2** In the upper, right corner of the window, click the **Add a New Transcoder** link.
- Step 3** Enter the appropriate settings as described in [Table 30-1](#).
- Step 4** Click **Insert**.

The window refreshes and shows specific information, including the status, for the transcoder that you just configured.

Related Topics

- [Transcoder Configuration](#), page 30-1
- [Media Termination Point Configuration](#), page 29-1
- [Conference Bridge Configuration](#), page 28-1
- [Finding a Transcoder](#), page 30-2
- [Updating a Transcoder](#), page 30-5
- [Copying a Transcoder](#), page 30-6
- [Resetting a Transcoder](#), page 30-7

- [Deleting a Transcoder](#), page 30-8
- [Transcoder Configuration Settings](#), page 30-9
- [Transcoders](#), *Cisco CallManager System Guide*
- [Transcoder Types in Cisco CallManager Administration](#), *Cisco CallManager System Guide*

Updating a Transcoder

This section describes how to update a transcoder.

Procedure

Step 1 Locate the transcoder by using the procedure in the [“Finding a Transcoder” section on page 30-2](#).

Step 2 Choose the transcoder that you want to update.

Step 3 Update the appropriate settings as described in [Table 30-1](#).

Step 4 Click **Update**.

A message displays that states that the transcoder must be reset before the changes will take effect.

Step 5 Click **OK**.

Step 6 Click the **Reset** button and then click **OK** to continue.

Related Topics

- [Transcoder Configuration](#), page 30-1
- [Media Termination Point Configuration](#), page 29-1
- [Conference Bridge Configuration](#), page 28-1
- [Configuring a Transcoder](#), page 30-4
- [Finding a Transcoder](#), page 30-2
- [Copying a Transcoder](#), page 30-6
- [Resetting a Transcoder](#), page 30-7

- [Deleting a Transcoder, page 30-8](#)
- [Transcoder Configuration Settings, page 30-9](#)
- [Transcoders, Cisco CallManager System Guide](#)

Copying a Transcoder

This section describes how to copy a transcoder.

Procedure

- Step 1** Locate the transcoder by using the procedure in the [“Finding a Transcoder” section on page 30-2](#).
- Step 2** From the Matching records list, click the **Copy** icon that corresponds to the transcoder that you want to copy.
- Step 3** Click **Insert**.

The screen refreshes, and the new transcoder is added to the database.

Related Topics

- [Transcoder Configuration, page 30-1](#)
- [Media Termination Point Configuration, page 29-1](#)
- [Conference Bridge Configuration, page 28-1](#)
- [Finding a Transcoder, page 30-2](#)
- [Configuring a Transcoder, page 30-4](#)
- [Updating a Transcoder, page 30-5](#)
- [Resetting a Transcoder, page 30-7](#)
- [Deleting a Transcoder, page 30-8](#)
- [Transcoder Configuration Settings, page 30-9](#)
- [Transcoders, Cisco CallManager System Guide](#)

Resetting a Transcoder

This section describes how to reset a Transcoder.

Procedure

- Step 1** Choose **Service > Media Resource > Transcoder**.
- Step 2** From the Transcoders list, choose the transcoder that you want to reset.
The window refreshes and displays the transcoder that you chose.
- Step 3** Click **Reset**.
The Reset dialog box displays.
- Step 4** Click **OK**.
-

Related Topics

- [Transcoder Configuration, page 30-1](#)
- [Media Termination Point Configuration, page 29-1](#)
- [Conference Bridge Configuration, page 28-1](#)
- [Configuring a Transcoder, page 30-4](#)
- [Finding a Transcoder, page 30-2](#)
- [Updating a Transcoder, page 30-5](#)
- [Copying a Transcoder, page 30-6](#)
- [Deleting a Transcoder, page 30-8](#)
- [Transcoder Configuration Settings, page 30-9](#)
- [Transcoders, *Cisco CallManager System Guide*](#)

Deleting a Transcoder

This section describes how to delete a transcoder.

Before You Begin

You cannot delete a transcoder that is assigned to a Media Resource Group. To find out which media resource groups are using the transcoder, click the **Dependency Records** link from the Transcoder 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 transcoder that is in use, Cisco CallManager displays an error message. Before deleting a transcoder that is currently in use, you must remove the transcoder from the media resource group(s) to which it is assigned.

Procedure

-
- Step 1** Locate the transcoder by using the procedure in the [“Finding a Transcoder” section on page 30-2](#).
 - Step 2** From the list of matching records, choose the transcoder that you want to delete. The window refreshes and displays the transcoder that you chose.
 - Step 3** Click **Delete**.
A message displays that states that you are about to permanently delete this transcoder and that you cannot undo this action.
 - Step 4** If you want to continue, click **OK** or to cancel the deletion, click **Cancel**.
After the window refreshes, the transcoder that you deleted no longer appears in the transcoder list.
-

Related Topics

- [Transcoder Configuration, page 30-1](#)
- [Media Termination Point Configuration, page 29-1](#)
- [Conference Bridge Configuration, page 28-1](#)
- [Configuring a Transcoder, page 30-4](#)

- [Finding a Transcoder](#), page 30-2
- [Updating a Transcoder](#), page 30-5
- [Copying a Transcoder](#), page 30-6
- [Transcoder Configuration Settings](#), page 30-9
- [Transcoders](#), *Cisco CallManager System Guide*

Transcoder Configuration Settings

Table 30-1 describes the transcoder configuration settings.

Table 30-1 Transcoder Configuration Settings

Field	Description
Transcoder Type	Choose the appropriate transcoder type: Cisco Media Termination Point Hardware , Cisco IOS Media Termination Point , or Cisco IOS Enhanced Media Termination Point . For specific information on these transcoder types, refer to “Transcoders” in the <i>Cisco CallManager System Guide</i> .
Device Name	This field displays if you chose Cisco IOS Media Termination Point or Cisco IOS Enhanced Media Termination Point as the transcoder type. Enter the same transcoding name that you entered in the gateway Command Line Interface (CLI).
MAC Address	For Cisco media termination point hardware, enter a MAC address, which must be 12 characters.
Description	Enter a description (up to 50 characters) or leave blank to generate automatically from the MAC address or device name that you provide.

Table 30-1 Transcoder Configuration Settings (continued)

Field	Description
Device Pool	Choose a device pool. For more detailed information on the chosen device pool, click View Details .
Special Load Information	Enter any special load information into the Special Load Information field or leave blank to use default. Valid characters include letters, numbers, dashes, dots (periods), and underscores.

Related Topics

- [Configuring a Transcoder, page 30-4](#)
- [Finding a Transcoder, page 30-2](#)
- [Updating a Transcoder, page 30-5](#)
- [Copying a Transcoder, page 30-6](#)
- [Transcoders, Cisco CallManager System Guide](#)



Media Resource Group Configuration

Media resource management comprises working with media resource groups and media resource group lists. Media resource management provides a mechanism for managing media resources, so all Cisco CallManagers within a cluster can share them. Media resources provide conferencing, transcoding, media termination, annunciator, and music on hold services.

You can associate a Media Resource Group, a logical grouping of media servers, with a geographical location or with a site as desired. You can also form Media Resource Groups to control the usage of servers or the type of service (unicast or multicast) that is desired.

You can group devices of the following types into a single Media Resource Group:

- Conference Bridge (CFB)
- Media Termination Point (MTP)
- Music On Hold Server (MOH)
- Transcoder (XCODE)
- Annunciator (ANN)

Use the following topics to configure Media Resource Groups:

- [Finding a Media Resource Group, page 31-2](#)
- [Adding a Media Resource Group, page 31-4](#)
- [Updating a Media Resource Group, page 31-5](#)
- [Copying a Media Resource Group, page 31-6](#)
- [Deleting a Media Resource Group, page 31-7](#)

- [Media Resource Group Configuration Settings, page 31-9](#)
- [Understanding Media Resources, Cisco CallManager System Guide](#)
- [Media Resource Group and Media Resource Group List Configuration Checklist, Cisco CallManager System Guide](#)

Finding a Media Resource Group

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



Note

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

Procedure

-
- Step 1** Choose **Service > Media Resource > Media Resource Group**.
- The Find and List Media Resource Group window displays. Use the two drop-down list boxes to search for a media resource group.
- Step 2** From the first Find Media Resource Groups where drop-down list box, choose one of the following criteria:
- Name
 - Description



Note

The criterion that you choose in this drop-down list box specifies how the list of media resource groups that your search generates will be sorted. For example, if you choose Description, the Description column will display as the left column of the results list.

From the second Find Media Resource Groups where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly
- is empty
- is not empty

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 media resource groups that are registered in the database, click **Find** without entering any search text.

A list of discovered media resource groups displays by

- Media Resource Group icon
- Media Resource Group name
- Description
- Multicast



Note You can delete multiple media resource groups from the Find and List Media Resource Group window by checking the check boxes next to the appropriate media resource groups and clicking **Delete Selected**. You can delete all media resource groups 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 Media Resource Group icon or name, the Description, or the Multicast setting that matches your search criteria.

The window displays the media resource group that you choose.

Related Topics

- [Adding a Media Resource Group, page 31-4](#)
- [Updating a Media Resource Group, page 31-5](#)
- [Copying a Media Resource Group, page 31-6](#)
- [Deleting a Media Resource Group, page 31-7](#)
- [Media Resource Group Configuration Settings, page 31-9](#)
- [Understanding Media Resources, *Cisco CallManager System Guide*](#)
- [Media Resource Group and Media Resource Group List Configuration Checklist, *Cisco CallManager System Guide*](#)

Adding a Media Resource Group

Perform the following procedure to add a Media Resource Group.



Note

You cannot delete a media resource, such as a conference bridge, that is part of a Media Resource Group unless you first remove the resource from the Media Resource Group or you delete the Media Resource Group that contains the media resource.

Procedure

- Step 1** Choose **Service > Media Resource > Media Resource Group**.
- Step 2** In the upper, right corner of the window, click the **Add a New Media Resource Group** link.
- The Media Resource Group Configuration window displays.
- Step 3** Enter the appropriate settings as described in [Table 31-1](#).
- Step 4** Click **Insert**.
- The Status changes from *Ready* to *Insert completed*. The list of Media Resource Groups now includes the new Media Resource Group.
-

Related Topics

- [Finding a Media Resource Group, page 31-2](#)
- [Updating a Media Resource Group, page 31-5](#)
- [Copying a Media Resource Group, page 31-6](#)
- [Deleting a Media Resource Group, page 31-7](#)
- [Media Resource Group Configuration Settings, page 31-9](#)
- [Understanding Media Resources, *Cisco CallManager System Guide*](#)
- [Media Resource Group and Media Resource Group List Configuration Checklist, *Cisco CallManager System Guide*](#)

Updating a Media Resource Group

Perform the following procedure to update an existing Media Resource Group.



Note

You cannot delete a media resource, such as a conference bridge, that is part of a Media Resource Group unless you first remove the resource from the Media Resource Group or you delete the Media Resource Group that contains the media resource.

Procedure

- Step 1** Locate the media resource group by using the procedure in the [“Finding a Media Resource Group”](#) section on page 31-2.
- Step 2** Click the media resource group that you want to update.
- Step 3** Update the desired settings as described in [Table 31-1](#).



Note

Restarting devices resets all devices that are associated with this Media Resource Group. Cisco CallManager may drop active calls on affected gateways.

Step 4 Click **Update**.

The Status changes from *Ready* to *Update completed*.

Step 5 To restart all devices in a Media Resource Group (both available and selected resources), click the **Restart Devices** button.

Related Topics

- [Finding a Media Resource Group, page 31-2](#)
- [Adding a Media Resource Group, page 31-4](#)
- [Copying a Media Resource Group, page 31-6](#)
- [Deleting a Media Resource Group, page 31-7](#)
- [Media Resource Group Configuration Settings, page 31-9](#)
- [Understanding Media Resources, Cisco CallManager System Guide](#)
- [Media Resource Group and Media Resource Group List Configuration Checklist, Cisco CallManager System Guide](#)

Copying a Media Resource Group

Perform the following procedure to copy an existing Media Resource Group.

Procedure

- Step 1** Locate the media resource group by using the procedure in the [“Finding a Media Resource Group”](#) section on page 31-2.
- Step 2** From the Matching records list, click the **Copy** icon that corresponds to the media resource group that you want to copy.
- Step 3** Update the desired settings as described in [Table 31-1](#). To restart all devices in a Media Resource Group (both available and selected resources), click the **Restart Devices** button.



Note You must change at least the Media Resource Group Name.



Note Restarting devices resets all devices that are associated with this Media Resource Group. Cisco CallManager may drop active calls on affected gateways.

Step 4 Click **Insert**.

The screen refreshes, and the new media resource group is added to the database.

Related Topics

- [Finding a Media Resource Group, page 31-2](#)
- [Adding a Media Resource Group, page 31-4](#)
- [Updating a Media Resource Group, page 31-5](#)
- [Deleting a Media Resource Group, page 31-7](#)
- [Media Resource Group Configuration Settings, page 31-9](#)
- [Understanding Media Resources, *Cisco CallManager System Guide*](#)
- [Media Resource Group and Media Resource Group List Configuration Checklist, *Cisco CallManager System Guide*](#)

Deleting a Media Resource Group

Perform the following procedure to delete an existing Media Resource Group.

Before You Begin

You cannot delete a Media Resource Group that is assigned to a Media Resource Group List. To find out which media resource group lists are using the media resource group, click the **Dependency Records** link from the Media Resource Group 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 media resource group that is in use,

Cisco CallManager displays an error message. Before deleting a media resource group that is currently in use, you must perform either or both of the following tasks:

- Assign a different media resource group list to any media resource groups that are using the media resource group that you want to delete. See the [“Updating a Media Resource Group List”](#) section on page 32-5.
- Delete the media resource group lists that are using the media resource group that you want to delete. See the [“Deleting a Media Resource Group List”](#) section on page 32-7.

Procedure

- Step 1** Locate the media resource group by using the procedure in the [“Finding a Media Resource Group”](#) section on page 31-2.
- Step 2** From list of matching records, choose the media resource group that you want to delete.
- Step 3** Click the **Delete** button.
- A message displays that states that you are about to permanently delete this media resource group and that you cannot undo this action.
- Step 4** If you want to continue, click **OK** or to cancel the deletion, click **Cancel**.
- The chosen Media Resource Group no longer appears in the Media Resource Groups list.
-

Related Topics

- [Finding a Media Resource Group, page 31-2](#)
- [Adding a Media Resource Group, page 31-4](#)
- [Copying a Media Resource Group, page 31-6](#)
- [Updating a Media Resource Group, page 31-5](#)
- [Media Resource Group Configuration Settings, page 31-9](#)
- [Understanding Media Resources, *Cisco CallManager System Guide*](#)
- [Media Resource Group and Media Resource Group List Configuration Checklist, *Cisco CallManager System Guide*](#)

Media Resource Group Configuration Settings

Table 31-1 describes the configuration settings that are used for configuring Media Resource Groups.

Table 31-1 Media Resource Group Configuration Settings

Field	Description
Media Resource Group Name	Enter a unique name in this required field for the Cisco CallManager to identify the Media Resource Group. This name can comprise up to 50 characters. Valid characters include letters, numbers, spaces, dashes, dots (periods), and underscores.
Description	Enter a description for the Media Resource Group. This description can comprise up to 50 characters. Ensure Description does not contain double quotes (“), less than (<), greater than (>), or the percent sign (%).
Devices for this Group	This area comprises two panes that are used to define the media resources for a Media Resource Group: Available Media Resources and Selected Media Resources.

Table 31-1 Media Resource Group Configuration Settings (continued)

Field	Description
Available Media Resources	<p>This pane lists the media resources that can be chosen for a Media Resource Group. The list includes the following media resource types:</p> <ul style="list-style-type: none"> • Conference Bridges (CFB) • Media Termination Points (MTP) • Music On Hold Servers (MOH) • Transcoders (XCODE) • Annunciator (ANN) <p>Music On Hold servers that are configured for multicast are labeled as <i>(MOH)[Multicast]</i>.</p> <p>To add a media resource for this Media Resource Group, choose one from the list and click the down arrow. After a media resource is added, its name moves to the Selected Media Resources pane.</p>
Selected Media Resources	<p>This pane lists the media resources that were chosen for a Media Resource Group. For any Media Resource Group, you must choose at least one media resource.</p> <p>To delete (unselect) a media resource, choose its name in the list and click the up arrow.</p>
Use Multicast for MOH Audio	<p>To use multicast for Music On Hold Audio, check this check box. To do so, make sure that at least one of the Selected Media Resources is a multicast MOH server.</p> <p>Note The system administrator has responsibility for configuring or creating multicast audio sources.</p>

Related Topics

- [Finding a Media Resource Group, page 31-2](#)
- [Adding a Media Resource Group, page 31-4](#)

- [Updating a Media Resource Group, page 31-5](#)
- [Copying a Media Resource Group, page 31-6](#)
- [Deleting a Media Resource Group, page 31-7](#)
- [Media Resource Group List Configuration, page 32-1](#)
- [Understanding Media Resources, *Cisco CallManager System Guide*](#)
- [Media Resource Group and Media Resource Group List Configuration Checklist, *Cisco CallManager System Guide*](#)



Media Resource Group List Configuration

Media resource management comprises working with media resource groups and media resource group lists. Media resource management provides a mechanism for managing media resources, so all Cisco CallManagers within a cluster can share them. Media resources provide conferencing, transcoding, media termination, annunciator, and music on hold services.

A Media Resource Group List provides a prioritized grouping of Media Resource Groups. An application selects the required media resource, such as a Music On Hold server, from among the available media resources according to the priority order that is defined in a Media Resource Group List.

Use the following topics to configure Media Resource Group Lists:

- [Finding a Media Resource Group List, page 32-2](#)
- [Adding a Media Resource Group List, page 32-4](#)
- [Updating a Media Resource Group List, page 32-5](#)
- [Copying a Media Resource Group List, page 32-6](#)
- [Deleting a Media Resource Group List, page 32-7](#)
- [Media Resource Group List Configuration Settings, page 32-8](#)

Related Topics

- [Media Resource Group Configuration, page 31-1](#)
- [Understanding Media Resources, Cisco CallManager System Guide](#)
- [Media Resource Group and Media Resource Group List Configuration Checklist, Cisco CallManager System Guide](#)

Finding a Media Resource Group List

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



Note

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

Procedure

Step 1 Choose **Service > Media Resource > Media Resource Group List**.

The Find and List Media Resource Group Lists window displays. Use the drop-down list box to search for a media resource group list.

Step 2 From the Find Media Resource Group Lists where Name drop-down list box, choose the following criterion:

- begins with
- contains
- ends with
- is exactly
- is empty
- is not empty

- 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 media resource group lists that are registered in the database, click **Find** without entering any search text.

A list of discovered media resource group lists displays by

- Media Resource Group List icon
- Media Resource Group List name

**Note**

You can delete multiple media resource group lists from the Find and List Media Resource Group Lists window by checking the check boxes next to the appropriate media resource group lists and clicking **Delete Selected**. You can delete all media resource group lists 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 Media Resource Group List icon or name that matches your search criteria.

The window displays the media resource group list that you choose.

Related Topics

- [Adding a Media Resource Group List, page 32-4](#)
- [Updating a Media Resource Group List, page 32-5](#)
- [Copying a Media Resource Group List, page 32-6](#)
- [Deleting a Media Resource Group List, page 32-7](#)
- [Media Resource Group List Configuration Settings, page 32-8](#)
- [Media Resource Group Configuration, page 31-1](#)
- [Understanding Media Resources, *Cisco CallManager System Guide*](#)
- [Media Resource Group and Media Resource Group List Configuration Checklist, *Cisco CallManager System Guide*](#)

Adding a Media Resource Group List

Perform the following procedure to add a Media Resource Group List.

**Note**

You cannot delete a Media Resource Group that is assigned to a Media Resource Group List unless you first remove the Media Resource Group from the Media Resource Group List(s) to which it is assigned or you delete the Media Resource Group List.

Procedure

-
- Step 1** Choose **Service > Media Resource > Media Resource Group List**.
- Step 2** In the upper, right corner of the window, click the **Add a New Media Resource Group List** link.
- The Media Resource Group List Configuration window displays.
- Step 3** Enter the appropriate settings as described in [Table 32-1](#).
- Step 4** Click **Insert**.
- The Status changes from *Ready* to *Insert completed*. The Media Resource Group Lists list now includes the new Media Resource Group List.
-

Related Topics

- [Finding a Media Resource Group List, page 32-2](#)
- [Updating a Media Resource Group List, page 32-5](#)
- [Copying a Media Resource Group List, page 32-6](#)
- [Deleting a Media Resource Group List, page 32-7](#)
- [Media Resource Group List Configuration Settings, page 32-8](#)
- [Media Resource Group Configuration, page 31-1](#)
- [Understanding Media Resources, Cisco CallManager System Guide](#)
- [Media Resource Group and Media Resource Group List Configuration Checklist, Cisco CallManager System Guide](#)

Updating a Media Resource Group List

Perform the following procedure to update an existing Media Resource Group List.

**Note**

You cannot delete a Media Resource Group that is assigned to a Media Resource Group List unless you first remove the Media Resource Group from the Media Resource Group List(s) to which it is assigned or you delete the Media Resource Group List.

Procedure

-
- Step 1** Locate the media resource group list by using the procedure in the [“Finding a Media Resource Group List”](#) section on page 32-2.
- Step 2** Click the media resource group list that you want to update.
- Step 3** Update the desired settings as described in [Table 32-1](#). To restart all devices in a Media Resource Group List (both available and selected Media Resource Groups), click the **Restart Devices** button.



Note Restarting devices resets all devices that are associated with this Media Resource Group List. Cisco CallManager may drop active calls on affected gateways.

- Step 4** Click **Update**.
The Status changes from *Ready* to *Update completed*.
- Step 5** To restart all devices in a Media Resource Group List (both available and selected Media Resource Groups), click the **Restart Devices** button.
-

Related Topics

- [Finding a Media Resource Group List, page 32-2](#)
- [Adding a Media Resource Group List, page 32-4](#)
- [Copying a Media Resource Group List, page 32-6](#)

- [Deleting a Media Resource Group List](#), page 32-7
- [Media Resource Group List Configuration Settings](#), page 32-8
- [Media Resource Group Configuration](#), page 31-1
- [Understanding Media Resources](#), *Cisco CallManager System Guide*
- [Media Resource Group and Media Resource Group List Configuration Checklist](#), *Cisco CallManager System Guide*

Copying a Media Resource Group List

Perform the following procedure to copy an existing Media Resource Group List.

Procedure

-
- Step 1** Locate the media resource group list by using the procedure in the [“Finding a Media Resource Group List”](#) section on page 32-2.
 - Step 2** From the Matching records list, click the **Copy** icon that corresponds to the media resource group list that you want to copy.
 - Step 3** Update the desired settings as described in [Table 32-1](#). To restart all devices in a Media Resource Group List (both available and selected Media Resource Groups), click the **Restart Devices** button.



Note You must change at least the Media Resource Group List Name.



Note Restarting devices resets all devices that are associated with this Media Resource Group List. Cisco CallManager may drop active calls on affected gateways.

- Step 4** Click **Insert**.
The screen refreshes, and the new media resource group list is added to the database.
-

Related Topics

- [Finding a Media Resource Group List, page 32-2](#)
- [Adding a Media Resource Group List, page 32-4](#)
- [Updating a Media Resource Group List, page 32-5](#)
- [Deleting a Media Resource Group List, page 32-7](#)
- [Media Resource Group List Configuration Settings, page 32-8](#)
- [Media Resource Group Configuration, page 31-1](#)
- [Understanding Media Resources, Cisco CallManager System Guide](#)
- [Media Resource Group and Media Resource Group List Configuration Checklist, Cisco CallManager System Guide](#)

Deleting a Media Resource Group List

Perform the following procedure to delete an existing Media Resource Group List.



Note

You cannot delete a Media Resource Group List that is assigned to a device pool(s) or to a device(s). You must first modify the device pool(s) or device(s) to which a Media Resource Group List is assigned.

Procedure

- Step 1** Locate the media resource group list by using the procedure in the [“Finding a Media Resource Group List”](#) section on page 32-2.
- Step 2** From list of matching records, choose the media resource group list that you want to delete.
- Step 3** Click the **Delete** button.

A message displays that states that you are about to permanently delete this media resource group list and that you cannot undo this action.

- Step 4** If you want to continue, click **OK** or to cancel the deletion, click **Cancel**.
The chosen Media Resource Group List no longer appears in the Media Resource Groups List list.
-

Related Topics

- [Finding a Media Resource Group List, page 32-2](#)
- [Adding a Media Resource Group List, page 32-4](#)
- [Copying a Media Resource Group List, page 32-6](#)
- [Updating a Media Resource Group List, page 32-5](#)
- [Media Resource Group List Configuration Settings, page 32-8](#)
- [Media Resource Group Configuration, page 31-1](#)
- [Understanding Media Resources, Cisco CallManager System Guide](#)
- [Media Resource Group and Media Resource Group List Configuration Checklist, Cisco CallManager System Guide](#)

Media Resource Group List Configuration Settings

[Table 32-1](#) describes the configuration settings that are used for configuring Media Resource Group Lists.

Table 32-1 Media Resource Group List Configuration Settings

Field	Description
Media Resource Group List Name	Enter a unique name in this required field for the Cisco CallManager to identify the Media Resource Group List. This name can comprise up to 50 characters. Valid characters include letters, numbers, spaces, dashes, dots (periods), and underscores.

Table 32-1 Media Resource Group List Configuration Settings (continued)

Field	Description
Available Media Resource Groups	<p>This window lists the media resource groups that can be chosen for a Media Resource Group List. The list includes only previously defined media resource groups.</p> <p>To add a media resource group for this Media Resource Group List, choose one from the list and click the down arrow that is located between the two panes.</p> <p>After a media resource group is added, its name moves to the Selected Media Resource Groups pane.</p>
Selected Media Resource Groups	<p>This pane lists the media resource groups that were chosen for a Media Resource Group List. For any Media Resource Group List, you must choose at least one media resource group.</p> <p>To delete (unselect) a media resource group, choose its name in the list and click the up arrow that is located between the two panes.</p> <p>Because media resource groups are listed in order of priority (highest to lowest), you must use the up and down arrows that are located to the right of this pane to reorder the Media Resource Group priority. To do so, choose a Media Resource Group in the list and use the up or down arrow to change its priority.</p>

Related Topics

- [Finding a Media Resource Group List, page 32-2](#)
- [Adding a Media Resource Group List, page 32-4](#)
- [Updating a Media Resource Group List, page 32-5](#)
- [Copying a Media Resource Group List, page 32-6](#)
- [Deleting a Media Resource Group List, page 32-7](#)
- [Media Resource Group Configuration, page 31-1](#)

- [Understanding Media Resources](#), *Cisco CallManager System Guide*
- [Media Resource Group and Media Resource Group List Configuration Checklist](#), *Cisco CallManager System Guide*



Service Parameters Configuration

Service parameters for Cisco CallManager allow you to configure different services on selected servers. You can view a list of parameters and their descriptions by clicking the **i** button in the upper, right corner of the Service Parameters Configuration window. You can view the list with a particular parameter at the top by clicking that parameter.

If you deactivate a service by using Cisco CallManager Serviceability, Cisco CallManager retains any updated service parameter values. If you start the service again, Cisco CallManager sets the service parameters to the changed values.



Note

For information about what happens to service parameter values during an upgrade, refer to *Upgrading Cisco CallManager*.

For more information about Cisco CallManager services, see [Services](#) in the *Cisco CallManager System Guide*.

Before You Begin

Ensure the following prerequisites are met before proceeding with the steps:

- Make sure that servers are configured. See the [“Server Configuration” section on page 2-1](#) for more information.
- Make sure that the service is activated. Refer to the *Cisco CallManager Serviceability Administration Guide* for more information.

**Caution**

Some changes to service parameters may cause system failure. Cisco recommends that you do not make any changes to service parameters unless you fully understand the feature that you are changing or unless the Cisco Technical Assistance Center (TAC) specifies the changes.

Use the following topics to configure or display service parameters:

- [Configuring Service Parameters for a Service on a Server, page 33-2](#)
- [Displaying Parameters for a Service, page 33-4](#)

Configuring Service Parameters for a Service on a Server

Use the following procedure to configure the service parameters for a particular service on a particular server.

Procedure

-
- Step 1** Choose **Service > Service Parameters**.
- Step 2** From the Server drop-down list box, choose a server.
- Step 3** From the Service drop-down list box, choose the service that contains the parameter that you want to update.



Note If the service that you want to configure does not appear in the drop-down list box, you must activate the service on the server by using Cisco CallManager Serviceability.

The Service Parameters Configuration window displays.

- Step 4** Update the appropriate parameter value. To set all service parameters for this instance of the service to the default values, click the **Set to Default** button.

To view a list of parameters and their descriptions, click the **i** button in the upper, right corner of the window, as shown in the [Figure 33-1](#). To view the list with a particular parameter at the top, click that parameter in the Service Parameters Configuration window.

Figure 33-1 Service Parameter Configuration Window



Note Some services contain service parameters that should rarely be changed. Cisco CallManager Administration does not automatically display these parameters when you access the Service Parameters Configuration window. To view all parameters, click **Advanced**. After all parameters display, you can redisplay the basic parameters by clicking **Condensed**. If the **Advanced** button is disabled, all parameters for that service display by default.

Step 5 Click **Update**.

The window refreshes, and Cisco CallManager updates the service parameter with your changes.

Related Topics

- [Displaying Parameters for a Service](#), page 33-4
- [Services](#), *Cisco CallManager System Guide*

Displaying Parameters for a Service

You may need to compare all service parameters that belong to a particular service on all servers in a cluster. You may also need to display only out-of-sync parameters (that is, service parameters for which values differ from one server to another) or parameters that have been modified from the suggested value.

Use the following procedure to display the service parameters for a particular service on all servers in a cluster.

Procedure

- Step 1** Choose **Service > Service Parameters**.
- Step 2** From the Server drop-down list box, choose a server.
- Step 3** From the Service drop-down list box, choose the service for which you want to display the service parameters on all servers in a cluster.



Note If the service that you want to configure does not appear in the drop-down list box, you must activate the service on the server by using Cisco CallManager Serviceability.

- Step 4** In the Service Parameters Configuration window that displays, click **Parameters for all servers**.

The Parameters for All Servers window displays. For the current service, the list shows all parameters in alphabetical order. For each parameter, the suggested value displays next to the parameter name. Under each parameter name, a list of servers that contain this parameter displays. Next to each server name, the current value for this parameter on this server displays.

For a given parameter, click on the server name or on the current parameter value to link to the corresponding service parameter page to change the value. Click **Previous** and **Next** to navigate between Parameters for All Servers windows.

- Step 5** If you need to display out-of-sync service parameters, click **Out of Sync Parameters for All Servers** at the top right of the Parameters for All Servers window.

The Out of Sync Parameters for All Servers window displays. For the current service, service parameters that have different values on different servers display in alphabetical order. For each parameter, the suggested value displays next to the parameter name. Under each parameter name, a list of servers that contain this parameter displays. Next to each server name, the current value for this parameter on this server displays.

For a given parameter, click on the server name or on the current parameter value to link to the corresponding service parameter page to change the value. Click **Previous** and **Next** to navigate between Out of Sync Parameters for All Servers windows.

- Step 6** If you need to display service parameters that have been modified from the suggested value, click **Modified Parameters for All Servers** at the top right of the window.

The Modified Parameters for All Servers window displays. For the current service, service parameters that have values different from the suggested values display in alphabetical order. For each parameter, the suggested value displays next to the parameter name. Under each parameter name, a list of servers that have different values from the suggested values displays. Next to each server name, the current value for this parameter on this server displays.

For a given parameter, click on the server name or on the current parameter value to link to the corresponding service parameter window to change the value. Click **Previous** and **Next** to navigate between Modified Parameters for All Servers windows.

Related Topics

- [Configuring Service Parameters for a Service on a Server, page 33-2](#)
- [Services, *Cisco CallManager System Guide*](#)



PART 5

Feature Configuration





Call Park

The Call Park feature allows you to place a call on hold, so it can be retrieved from another phone in the Cisco CallManager system (for example, a phone in another office or in a conference room). If you are on an active call at your phone, you can park the call to a call park extension by pressing the Park softkey or the Call Park button. Someone on another phone in your system can then dial the call park extension to retrieve the call.

For more information on how to use and configure the Call Park feature, refer to the [Call Park](#) chapter in the *Cisco CallManager Features and Services Guide*.





Call Pickup and Group Call Pickup Configuration

Two features, call pickup and group call pickup, allow you to answer a call that comes in on a directory number other than your own. When you hear an incoming call ringing on another phone, you can redirect the call to your phone by using the call pickup feature.

Cisco IP Phones provide two types of call pickup:

- Call pickup allows users to pick up incoming calls within their own group. Cisco CallManager automatically dials the appropriate call pickup group number when a user activates this feature on a phone.
- Group call pickup allows users to pick up incoming calls within their own group or in other groups. Users must dial the appropriate call pickup group number when a user activates this feature on a phone.

The following sections describe the procedures for configuring both of these features:

- [Finding a Call Pickup Group Number, page 35-2](#)
- [Adding a Call Pickup Group Number, page 35-4](#)
- [Updating a Call Pickup Group Number, page 35-6](#)
- [Deleting a Call Pickup Group Number, page 35-6](#)
- [Call Pickup Configuration Settings, page 35-7](#)
- [Assigning Call Pickup Group Numbers to Directory Numbers, page 35-8](#)

For information about using the call pickup feature, refer to the Cisco IP Phone user guide that came with your phone.

Finding a Call Pickup Group Number

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

**Note**

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

Procedure**Step 1** Choose **Feature > Call Pickup**.

The Find and List Call Pickup Numbers window displays. Use the two drop-down list boxes to search for a call pickup number.

Step 2 From the first Find call pickup numbers where drop-down list box, choose one of the following criteria:

- Call Pickup Number
- Partition
- Description

**Note**

The criterion that you choose in this drop-down list box specifies how the list of call pickup numbers that your search generates will be sorted. For example, if you choose Partition, the Partition column will display as the left column of the results list.

From the second Find call pickup numbers where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with

- is exactly
- is empty
- is not empty

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 call pickup numbers that are registered in the database, click **Find** without entering any search text.

A list of discovered call pickup numbers displays by

- Call Pickup icon
- Call Pickup Number
- Partition
- Description



Note You can delete multiple call pickup numbers from the Find and List Call Pickup Numbers window by checking the check boxes next to the appropriate call pickup numbers and clicking **Delete Selected**. You can delete all call pickup numbers in the window by checking the check box in the Matching records title bar and clicking **Delete Selected**. You cannot delete call pickup numbers that are assigned to directory numbers and lines.

Step 4 From the list of records, click the Call Pickup icon, number, associated partition, or description that matches your search criteria.

The window displays the call pickup number that you choose.

Related Topics

- [Adding a Call Pickup Group Number, page 35-4](#)
- [Updating a Call Pickup Group Number, page 35-6](#)

- [Deleting a Call Pickup Group Number, page 35-6](#)
- [Call Pickup Configuration Settings, page 35-7](#)

Adding a Call Pickup Group Number

This section describes how to add a call pickup group number to the Cisco CallManager database.

Procedure

- Step 1** Choose **Feature > Call Pickup**.
- Step 2** In the upper, right corner of the window, click the **Add a New Call Pickup Number** link.
- The Call Pickup Number Configuration window displays.
- Step 3** Enter the appropriate settings as described in [Table 35-1](#).
- Step 4** Click **Insert** to save the new call pickup group number in the database.
-

Related Topics

- [Call Pickup and Group Call Pickup Configuration, page 35-1](#)
- [Finding a Call Pickup Group Number, page 35-2](#)
- [Updating a Call Pickup Group Number, page 35-6](#)
- [Deleting a Call Pickup Group Number, page 35-6](#)
- [Call Pickup Configuration Settings, page 35-7](#)
- [Assigning Call Pickup Group Numbers to Directory Numbers, page 35-8](#)

Copying a Call Pickup Group Number

This section describes how to copy a call pickup group number.

Procedure

Step 1 Choose **Feature > Call Pickup**.



Note You can copy the call pickup number from the Find List window by clicking Copy, or you can choose the call pickup number and copy the settings from the Call Pickup Number Configuration window.

Step 2 From the Find List Call Pickup Numbers window, choose the call pickup number that you want to copy.

The Call Pickup Number Configuration window displays.

Step 3 Click the **Copy** button.

Step 4 Update the settings as described in [Table 35-1](#).

Step 5 Click **Insert** to save the new call pickup group number in the database.

Related Topics

- [Call Pickup and Group Call Pickup Configuration, page 35-1](#)
- [Finding a Call Pickup Group Number, page 35-2](#)
- [Updating a Call Pickup Group Number, page 35-6](#)
- [Deleting a Call Pickup Group Number, page 35-6](#)
- [Call Pickup Configuration Settings, page 35-7](#)
- [Assigning Call Pickup Group Numbers to Directory Numbers, page 35-8](#)

Updating a Call Pickup Group Number

This section describes how to update a call pickup group number. When you update a call pickup group number, Cisco CallManager automatically updates all directory numbers that are assigned to that call pickup group.

Procedure

- Step 1** Locate the call pickup group number or range of group numbers by using the procedure in the [“Finding a Call Pickup Group Number” section on page 35-2](#).
 - Step 2** Click the call pickup group number that you want to update.
 - Step 3** Update the appropriate fields as described in [Table 35-1](#).
 - Step 4** Click **Update** to save the changes in the database.
-

Related Topics

- [Call Pickup and Group Call Pickup Configuration, page 35-1](#)
- [Finding a Call Pickup Group Number, page 35-2](#)
- [Adding a Call Pickup Group Number, page 35-4](#)
- [Deleting a Call Pickup Group Number, page 35-6](#)
- [Call Pickup Configuration Settings, page 35-7](#)
- [Assigning Call Pickup Group Numbers to Directory Numbers, page 35-8](#)

Deleting a Call Pickup Group Number

This section describes how to delete a call pickup group number from the Cisco CallManager database.

Before You Begin

You cannot delete a call pickup group number that is assigned to a line or directory number. To see a list of the directory numbers that are using this call pickup group, click the **Dependency Records** link. 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. To enable call pickup again for those directory numbers, you must reassign each of them to a new call pickup group. For details, see the [“Assigning Call Pickup Group Numbers to Directory Numbers”](#) section on page 35-8.

Procedure

-
- Step 1** Locate the call pickup group number or range of group numbers by using the procedure in the [“Finding a Call Pickup Group Number”](#) section on page 35-2.
- Step 2** Click the call pickup group number or range of group numbers that you want to delete.
- Step 3** Click **Delete**.

The call pickup group no longer displays in the list of call pickup numbers.

Related Topics

- [Call Pickup and Group Call Pickup Configuration, page 35-1](#)
- [Finding a Call Pickup Group Number, page 35-2](#)
- [Adding a Call Pickup Group Number, page 35-4](#)
- [Updating a Call Pickup Group Number, page 35-6](#)
- [Assigning Call Pickup Group Numbers to Directory Numbers, page 35-8](#)

Call Pickup Configuration Settings

[Table 35-1](#) describes the call pickup configuration settings.

Table 35-1 Call Pickup Configuration Settings

Field	Description
Call Pickup Number	Enter a unique directory number (integers) for the call pickup group that you want to add.

Table 35-1 Call Pickup Configuration Settings (continued)

Field	Description
Description	Enter up to 30 alphanumeric characters for a description of the call pickup number; for example, Operations.
Partition	<p>If you want to use a partition to restrict access to the call pickup group, choose the desired partition from the drop-down list box. If you do not want to restrict access to the call pickup group, choose <None> for the partition.</p> <p>If more than 250 partitions exist, the ellipsis (...) button displays next to the drop-down list box. Click the ... button to display the Select Partition window. In the List items where Name contains field, enter a partial partition name. In the list of partitions that displays in the Select item to use box, click the desired partition name and click OK.</p> <p>Note Make sure that the combination of call pickup group number and partition is unique within the Cisco CallManager cluster.</p>

Related Topics

- [Call Pickup and Group Call Pickup Configuration, page 35-1](#)
- [Finding a Call Pickup Group Number, page 35-2](#)
- [Adding a Call Pickup Group Number, page 35-4](#)
- [Updating a Call Pickup Group Number, page 35-6](#)

Assigning Call Pickup Group Numbers to Directory Numbers

This section describes how to assign a call pickup group number to a directory number. Only directory numbers that are assigned to a call pickup group can use both types of call pickup: call pickup and group call pickup.

Before You Begin

Before you can assign a call pickup group number to a directory number, you must create a number for that group as described in the [“Adding a Call Pickup Group Number”](#) section on page 35-4.

Procedure

-
- Step 1** Choose **Device > Phone**.
- Step 2** Enter the appropriate search criteria to find the phone that you want to assign to a call pickup group and click **Find**.
- A list of phones that match the search criteria appears.
- Step 3** Choose the phone to which you want to assign a call pickup group number.
- Step 4** From the Directory Numbers list, choose the directory number that will be assigned the call pickup group number.
- Step 5** From the Call Pickup Group drop-down list box, choose the desired call pickup group number.
- Step 6** Click **Update** to save the changes in the database.
-

Related Topics

- [Call Pickup and Group Call Pickup Configuration, page 35-1](#)
- [Finding a Call Pickup Group Number, page 35-2](#)
- [Adding a Call Pickup Group Number, page 35-4](#)
- [Updating a Call Pickup Group Number, page 35-6](#)
- [Deleting a Call Pickup Group Number, page 35-6](#)



Cisco IP Phone Services Configuration

Using Cisco CallManager Administration, you define and maintain the list of Cisco IP Phone Services to which users can subscribe at their site. Cisco IP Phone Services comprise XML applications that enable the display of interactive content with text and graphics on Cisco IP Phones 7970, 7960, 7940, 7912, and 7905.



Note

Cisco IP Phones 7912 and 7905 only support text-based XML applications.

Cisco CallManager provides sample Cisco IP Phone Services applications. You can also create customized Cisco IP Phone applications for your site.

After you configure the list of services, you can add services to the phones in the database and assign them to phone buttons. In Cisco CallManager Administration, you can view and modify settings for phones and device profiles. Users can log on to the Cisco IP Phone User Options application and subscribe to these services for their Cisco IP Phones.

This section covers the following topics:

- [Finding a Cisco IP Phone Service, page 36-2](#)
- [Adding a Cisco IP Phone Service, page 36-4](#)
- [Updating a Cisco IP Phone Service, page 36-5](#)
- [Deleting a Cisco IP Phone Service, page 36-6](#)
- [Cisco IP Phone Service Configuration Settings, page 36-7](#)
- [Adding a Cisco IP Phone Service Parameter, page 36-8](#)

- [Updating a Cisco IP Phone Service Parameter, page 36-10](#)
- [Deleting a Cisco IP Phone Service Parameter, page 36-11](#)
- [Cisco IP Phone Service Parameter Settings, page 36-12](#)

Finding a Cisco IP Phone Service

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

**Note**

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

Procedure

Step 1 Choose **Feature > Cisco IP Phone Services**.

The Find and List IP Phone Services window displays. Use the two drop-down list boxes to search for a Cisco IP Phone Service.

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

- IP Phone Service
- Description

**Note**

The criterion that you choose in this drop-down list box specifies how the list of Cisco IP Phone Services that your search generates will be sorted. For example, if you choose Description, the Description column will display as the left column of the results list.

From the second Find Service 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 Cisco IP Phone Services that are registered in the database, click **Find** without entering any search text.

A list of discovered Cisco IP Phone Services displays by

- IP Phone Service icon
- IP Phone Service name
- Description



Note You can delete multiple Cisco IP Phone services from the Find and List IP Phone Services window by checking the check boxes next to the appropriate Cisco IP Phone Services and clicking **Delete Selected**. You can delete all Cisco IP Phone Services 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 IP Phone Service name or description that matches your search criteria.

The window displays the Cisco IP Phone Service that you choose.

Related Topics

- [Adding a Cisco IP Phone Service, page 36-4](#)
- [Updating a Cisco IP Phone Service, page 36-5](#)
- [Deleting a Cisco IP Phone Service, page 36-6](#)

- [Adding a Cisco IP Phone Service Parameter, page 36-8](#)
- [Cisco IP Phone Service Configuration Settings, page 36-7](#)

Adding a Cisco IP Phone Service

Perform the following steps to add a Cisco IP Phone Service.



Caution

Do not put Cisco IP Phone Services on any Cisco CallManager server at your site or any server that is associated with Cisco CallManager, such as the TFTP server or directory database publisher server. This precaution eliminates the possibility that errors in a Cisco IP Phone Service application will have an impact on Cisco CallManager performance or interrupt call-processing services.

Procedure

- Step 1** Choose **Feature > Cisco IP Phone Services**.
- Step 2** In the upper, right corner of the window, click the **Add a New IP Phone Service** link.
- The Cisco IP Phone Services Configuration window displays.
- Step 3** Enter the appropriate settings as described in [Table 36-1](#).
- Step 4** To add the service, click **Insert**.

After the service is added to the list, you can add and configure parameters for the service. See the “[Adding a Cisco IP Phone Service Parameter](#)” section on [page 36-8](#) for more information.

Related Topics

- [Finding a Cisco IP Phone Service, page 36-2](#)
- [Deleting a Cisco IP Phone Service, page 36-6](#)
- [Updating a Cisco IP Phone Service, page 36-5](#)
- [Adding a Cisco IP Phone Service Parameter, page 36-8](#)
- [Cisco IP Phone Service Configuration Settings, page 36-7](#)

Updating a Cisco IP Phone Service

Perform the following steps to update a Cisco IP Phone Service (for example, to change the service URL or other information).

**Note**

If you change the service URL, remove a Cisco IP Phone Service parameter, or change the name of a phone service parameter for a phone service to which users are subscribed, be sure to click **Update Subscriptions** to update all currently subscribed users with the changes. If you do not do so, users must resubscribe to the service to rebuild the URL correctly.

Procedure

-
- Step 1** Find the Cisco IP Phone service by using the procedure in the [“Finding a Cisco IP Phone Service”](#) section on page 36-2.
- Step 2** Click the name or description of the Cisco IP Phone Service that you want to update.
- Step 3** Update the appropriate settings as described in [Table 36-1](#).
- Step 4** Add, update, or delete parameters as needed as described in [“Adding a Cisco IP Phone Service Parameter”](#) section on page 36-8, [“Updating a Cisco IP Phone Service Parameter”](#) section on page 36-10, and [“Deleting a Cisco IP Phone Service Parameter”](#) section on page 36-11.
- Step 5** To apply the changes, update the Cisco IP Phone Services Configuration window:
- If the service was modified after subscriptions existed, click **Update Subscriptions** to rebuild all user subscriptions. You must update subscriptions if you changed the service URL, removed a phone service parameter, or changed the Parameter Name for a phone service parameter.
 - If the service is new and you do not need to rebuild user subscriptions, click **Update**.
-

Related Topics

- [Finding a Cisco IP Phone Service, page 36-2](#)
- [Adding a Cisco IP Phone Service, page 36-4](#)

- [Deleting a Cisco IP Phone Service, page 36-6](#)
- [Adding a Cisco IP Phone Service Parameter, page 36-8](#)
- [Cisco IP Phone Service Configuration Settings, page 36-7](#)

Deleting a Cisco IP Phone Service

Perform the following steps to delete a Cisco IP Phone Service.

Before You Begin

When you delete a Cisco IP Phone Service, Cisco CallManager removes all service information, user subscriptions, and user subscription data from the database. To find out which devices are using the Cisco IP Phone Service, click the **Dependency Records** link from the Cisco IP Phone Service 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 Cisco IP Phone Service that is in use, Cisco CallManager displays an error message. Before deleting a Cisco IP Phone Service that is currently in use, you must perform either or both of the following tasks:

- Assign a different Cisco IP Phone Service to any devices that are using the Cisco IP Phone Service that you want to delete. See the [“Updating a Phone” section on page 49-10](#).
- Delete the devices that are using the Cisco IP Phone Service that you want to delete. See the [“Deleting a Phone” section on page 49-11](#).

Procedure

-
- Step 1** Find the Cisco IP Phone service by using the procedure in the [“Finding a Cisco IP Phone Service”](#) section on page 36-2.
- Step 2** Click the name or description of the Cisco IP Phone Service that you want to delete.
- The Cisco IP Phone Services Configuration window displays.
- Step 3** Click **Delete**.
-

Related Topics

- [Finding a Cisco IP Phone Service, page 36-2](#)
- [Adding a Cisco IP Phone Service, page 36-4](#)
- [Updating a Cisco IP Phone Service, page 36-5](#)
- [Cisco IP Phone Service Configuration Settings, page 36-7](#)

Cisco IP Phone Service Configuration Settings

[Table 36-1](#) describes the Cisco IP Phone service configuration settings. See [Table 36-2](#) for Cisco IP Phone Service Parameter Settings.

Table 36-1 *Cisco IP Phone Service Configuration Settings*

Field	Description
Service Name	Enter the name of the service as it will display on the menu of available services in the Cisco IP Phone User Options application. Enter up to 32 characters for the service name.
Service Description	Enter a description of the content that the service provides.

Table 36-1 Cisco IP Phone Service Configuration Settings (continued)

Field	Description
Service URL	<p>Enter the URL of the server where the Cisco IP Phone Services application is located. Make sure that this server remains independent of the servers in your Cisco CallManager cluster. Do not specify a Cisco CallManager server or any server that is associated with Cisco CallManager (such as a TFTP server or directory database publisher server).</p> <p>For the services to be available, the phones in the Cisco CallManager cluster must have network connectivity to the server.</p>
Character Set	If you are using a language other than English for Service Name and Description, choose the character set for that language. Text that is input by the user displays incorrectly if the wrong character set is chosen.

Related Topics

- [Finding a Cisco IP Phone Service, page 36-2](#)
- [Adding a Cisco IP Phone Service, page 36-4](#)
- [Updating a Cisco IP Phone Service, page 36-5](#)
- [Deleting a Cisco IP Phone Service, page 36-6](#)

Adding a Cisco IP Phone Service Parameter

Use the following procedure to add and configure Cisco IP Phone Service parameters. Add the phone service before you configure parameters. Refer to the documentation for the individual Cisco IP Phone Service for specific information about whether the service uses parameters, how those parameters should be configured, and whether you should provide optional parameter definitions.

Procedure

- Step 1** Find the Cisco IP Phone service by using the procedure in the [“Finding a Cisco IP Phone Service”](#) section on page 36-2.
- Step 2** From the Cisco IP Phone Services list, choose the service to which you want to add parameters.
- The Cisco IP Phone Services Configuration window displays.
- Step 3** Click the **New** button to the right of the Parameters list box.
- The Configure Cisco IP Phone Service Parameter dialog appears.
- Step 4** Enter the appropriate settings as described in [Table 36-2](#).
- Step 5** To add the new parameter, click **Insert**.
- Step 6** To add additional parameters, if needed, repeat [Step 4](#) and [Step 5](#).
- Step 7** To add the last parameter, click **Insert and Close**.
- Step 8** To apply the changes, update the Cisco IP Phone Services Configuration window:
- If the service was modified after subscriptions existed, click **Update Subscriptions** to rebuild all user subscriptions. You must update subscriptions if you changed the service URL, removed a phone service parameter, or changed the name for a phone service parameter.
 - If the service is new and you do not need to rebuild user subscriptions, click **Update**.
-

Related Topics

- [Finding a Cisco IP Phone Service](#), page 36-2
- [Adding a Cisco IP Phone Service](#), page 36-4
- [Deleting a Cisco IP Phone Service](#), page 36-6
- [Updating a Cisco IP Phone Service](#), page 36-5
- [Updating a Cisco IP Phone Service Parameter](#), page 36-10
- [Deleting a Cisco IP Phone Service Parameter](#), page 36-11
- [Cisco IP Phone Service Parameter Settings](#), page 36-12

Updating a Cisco IP Phone Service Parameter

Perform the following steps to update a service parameter for a specific Cisco IP Phone Service.

**Note**

If you remove a Cisco IP Phone Service parameter or change the parameter name of a phone service for a phone service to which users are subscribed, be sure to click **Update Subscriptions** to update all currently subscribed users with the changes. If you do not do so, users must resubscribe to the service to rebuild the URL correctly.

Procedure

-
- Step 1** Find the Cisco IP Phone service by using the procedure in the “[Finding a Cisco IP Phone Service](#)” section on page 36-2.
- Step 2** From the Cisco IP Phone Services list, choose the phone service that you want to update.
- The Cisco IP Phone Services Configuration window displays.
- Step 3** In the Parameters list box, choose the name of the parameter that you want to update.
- Step 4** Click **Edit**.
- Step 5** Update the appropriate settings as described in [Table 36-2](#).
- Step 6** To apply the changes, click **Update**, or to apply the changes and close the dialog, click **Update and Close**.
- Step 7** To apply the changes, update the Cisco IP Phone Services Configuration window:
- If the service was modified after subscriptions existed, click **Update Subscriptions** to rebuild all user subscriptions. You must update subscriptions if you changed the service URL, removed a phone service parameter, or changed the name for a phone service parameter.
 - If the service is new and you do not need to rebuild user subscriptions, click **Update**.
-

Related Topics

- [Finding a Cisco IP Phone Service, page 36-2](#)
- [Deleting a Cisco IP Phone Service Parameter, page 36-11](#)
- [Cisco IP Phone Service Configuration Settings, page 36-7](#)
- [Cisco IP Phone Service Parameter Settings, page 36-12](#)

Deleting a Cisco IP Phone Service Parameter

Perform the following steps to delete a Cisco IP Phone Service.



Note

If you remove a phone service parameter or modify the Parameter Name of a phone service parameter for a phone service to which users are subscribed, you must click **Update Subscriptions** to update all currently subscribed users with the changes. If you do not do so, users must resubscribe to the service to rebuild the URL correctly.

Procedure

- Step 1** Find the Cisco IP Phone service by using the procedure in the [“Finding a Cisco IP Phone Service”](#) section on page 36-2.
- Step 2** From the Cisco IP Phone Services list, choose the phone service whose parameters you want to delete.
- Step 3** In the Parameters list box, choose the name of the parameter that you want to delete.
- Step 4** Click **Delete**.
- Step 5** To confirm the deletion, click **OK**.

- Step 6** To apply the changes, update the Cisco IP Phone Services Configuration window:
- If the service was modified after subscriptions existed, click **Update Subscriptions** to rebuild all user subscriptions. You must update subscriptions if you changed the service URL, removed a phone service parameter, or changed the Parameter Name for a phone service parameter.
 - If the service is new and you do not need to rebuild user subscriptions, click **Update**.
-

Related Topics

- [Updating a Cisco IP Phone Service Parameter, page 36-10](#)
- [Adding a Cisco IP Phone Service Parameter, page 36-8](#)
- [Finding a Cisco IP Phone Service, page 36-2](#)
- [Deleting a Cisco IP Phone Service, page 36-6](#)
- [Cisco IP Phone Service Parameter Settings, page 36-12](#)

Cisco IP Phone Service Parameter Settings

[Table 36-2](#) describes the Cisco IP Phone service parameter settings.

Table 36-2 *Cisco IP Phone Service Parameter Settings*

Field	Description
Parameter Name	Enter the exact query string parameter to use when you build the subscription URL; for example, symbol.
Parameter Display Name	Enter a descriptive parameter name to display to the user in the Cisco IP Phone User Options application; for example, Ticker Symbol.
Default Value	Enter the default value for the parameter. This value displays to the user when a service is being subscribed to for the first time; for example, CSCO.

Table 36-2 Cisco IP Phone Service Parameter Settings (continued)

Field	Description
Parameter Description	Enter a description of the parameter. The user can access the text that is entered here while the user is subscribing to the service. The parameter description should provide information or examples to help users input the correct value for the parameter.
Parameter is Required	If the user must enter data for this parameter before the subscription can be saved, check the Parameter is Required check box.
Parameter is a Password (mask contents)	You can mask entries in the Cisco IP Phone User Options application, so asterisks display rather than the actual user entry. You may want to do this for parameters such as passwords that you do not want others to be able to view. To mask a parameter entry, check the Parameter is a Password (mask contents) check box in the Configure Cisco IP Phone Service Parameter window in Cisco CallManager Administration.

Adding a Cisco IP Phone Service to a Phone Button

In addition to adding a Cisco IP Phone Service, so it is available to users on their phones, you can assign the service to a phone button that is configured as a service URL. This gives the user one-button access to the service without using the services button on the IP phone.

Perform the following steps to add a service to a service URL button:

1. Add the service to Cisco CallManager (see [Adding a Cisco IP Phone Service, page 36-4](#))
2. Customize a phone button template by configuring a Service URL button (see [Adding Phone Button Templates, page 51-4](#))
3. Add the customized phone button template to the phone (see [Adding a Phone, page 49-4](#))
4. Subscribe the service to the phone (see [Configuring Cisco IP Phone Services, page 49-31](#))

5. Add the service URL to a phone button (see [Configuring Service URL Buttons, page 49-34](#))

Related Topics

- [Finding a Cisco IP Phone Service, page 36-2](#)
- [Adding a Cisco IP Phone Service, page 36-4](#)
- [Updating a Cisco IP Phone Service, page 36-5](#)
- [Deleting a Cisco IP Phone Service, page 36-6](#)
- [Adding a Cisco IP Phone Service Parameter, page 36-8](#)
- [Updating a Cisco IP Phone Service Parameter, page 36-10](#)
- [Deleting a Cisco IP Phone Service Parameter, page 36-11](#)



Meet-Me Number/Pattern Configuration

Meet-Me conferences require an allocation of directory numbers. Cisco CallManager Administration provides the Meet-Me conference directory number range to users, so they can access the feature.

This section describes the following procedures:

- [Finding a Meet-Me Number/Pattern, page 37-1](#)
- [Copying a Meet-Me Number/Pattern, page 37-4](#)
- [Adding a Meet-Me Number/Pattern, page 37-5](#)
- [Updating a Meet-Me Number/Pattern, page 37-6](#)
- [Deleting a Meet-Me Number/Pattern, page 37-7](#)
- [Meet-Me Number/Pattern Configuration Settings, page 37-8](#)

Finding a Meet-Me Number/Pattern

Because you might have several meet-me numbers/patterns in your network, Cisco CallManager lets you locate specific meet-me numbers/patterns on the basis of specific criteria. Use the following procedure to locate meet-me numbers/patterns.

**Note**

During your work in a browser session, Cisco CallManager Administration retains your meet-me number/pattern search preferences. If you navigate to other menu items and return to this menu item, Cisco CallManager Administration retains your meet-me number/pattern search preferences until you modify your search or close the browser.

Procedure

Step 1 Choose **Feature > Meet-Me Number/Pattern**.

The Find and List Meet-Me Numbers window displays. Use the two drop-down list boxes to search for a meet-me number/pattern.

Step 2 From the first Find Number/Pattern where drop-down list box, choose one of the following criteria:

- Number
- Partition
- Description

**Note**

The criterion that you choose in this drop-down list box specifies how the list of meet-me numbers/patterns that your search generates will be sorted. For example, if you choose Partition, the Partition column will display as the left column of the results list.

From the second Find Number/Pattern 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 meet-me numbers/patterns that are registered in the database, click **Find** without entering any search text.

A list of discovered meet-me numbers/patterns displays by

- Meet-Me Number/Pattern icon
- Meet-Me Number/Pattern
- Partition
- Description

**Note**

You can delete multiple meet-me numbers/patterns from the Find and List Meet-Me Numbers window by checking the check boxes next to the appropriate meet-me numbers/patterns and clicking **Delete Selected**. You can delete all meet-me numbers/patterns 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 Meet-Me Number/Pattern icon, number, associated partition, or description that matches your search criteria.

The window displays the meet-me number/pattern that you choose.

Related Topics

- [Adding a Meet-Me Number/Pattern, page 37-5](#)
- [Updating a Meet-Me Number/Pattern, page 37-6](#)
- [Deleting a Meet-Me Number/Pattern, page 37-7](#)
- [Meet-Me Number/Pattern Configuration Settings, page 37-8](#)

Copying a Meet-Me Number/Pattern

This section describes how to copy a Meet-Me Number/Pattern.

Before You Begin

Make sure that the following prerequisites are met before proceeding with the steps:

- Configure the servers. See the [“Server Configuration” section on page 2-1](#).
- Configure the device pools. See the [“Device Pool Configuration” section on page 8-1](#).

Procedure

- Step 1** Choose **Feature > Meet-Me Number/Pattern**.
- Step 2** Find the Meet-Me Number/Pattern that you want to copy by using the procedure in the [“Finding a Meet-Me Number/Pattern” section on page 37-1](#).
- Step 3** Click the Meet-Me Number/Pattern that you want to copy.
The Meet-Me Number/Pattern Configuration window displays.
- Step 4** Click **Copy**.
- Step 5** Enter the appropriate settings as described in [Table 37-1](#).
- Step 6** To save the new meet-me number/pattern in the database, click **Insert**.
-

Related Topics

- [Finding a Meet-Me Number/Pattern, page 37-1](#)
- [Updating a Meet-Me Number/Pattern, page 37-6](#)
- [Deleting a Meet-Me Number/Pattern, page 37-7](#)
- [Adding a Software Conference Device, page 28-4](#)
- [Adding a Hardware Conference Device, page 28-8](#)
- [Adding a Cisco IOS Conference Bridge Device, page 28-10](#)
- [Updating a Conference Device, page 28-16](#)
- [Deleting a Conference Device, page 28-17](#)

- [Updating Conference Bridge Parameters](#), page 28-18
- [Partition Configuration](#), page 15-1
- [Conference Bridges](#), *Cisco CallManager System Guide*

Adding a Meet-Me Number/Pattern

This section describes how to add a Meet-Me Number/Pattern.

Before You Begin

Make sure that the following prerequisites are met before proceeding with the steps:

- Configure the servers. See the “[Server Configuration](#)” section on page 2-1.
- Configure the device pools. See the “[Device Pool Configuration](#)” section on page 8-1.

Procedure

-
- Step 1** Choose **Feature > Meet-Me Number/Pattern**.
- Step 2** In the upper, right corner of the window, click the **Add a New Meet-Me Number** link.
- The Meet-Me Number/Pattern Configuration window displays.
- Step 3** Enter the appropriate settings as described in [Table 37-1](#).
- Step 4** To save the new meet-me number/pattern in the database, click **Insert**.
-

Related Topics

- [Finding a Meet-Me Number/Pattern](#), page 37-1
- [Updating a Meet-Me Number/Pattern](#), page 37-6
- [Deleting a Meet-Me Number/Pattern](#), page 37-7
- [Adding a Software Conference Device](#), page 28-4
- [Adding a Hardware Conference Device](#), page 28-8

- [Adding a Cisco IOS Conference Bridge Device](#), page 28-10
- [Updating a Conference Device](#), page 28-16
- [Deleting a Conference Device](#), page 28-17
- [Updating Conference Bridge Parameters](#), page 28-18
- [Partition Configuration](#), page 15-1
- [Conference Bridges](#), *Cisco CallManager System Guide*

Updating a Meet-Me Number/Pattern

This section describes how to update a Meet-Me Number/Pattern.

Before You Begin

Make sure that the following prerequisites are met before proceeding with the steps:

- Configure the servers. See the [“Server Configuration”](#) section on page 2-1.
- Configure the device pools. See the [“Device Pool Configuration”](#) section on page 8-1.
- Configure the meet-me number/pattern. See the [“Adding a Meet-Me Number/Pattern”](#) section on page 37-5.

Procedure

-
- Step 1** Find the meet-me number/pattern by using the procedure in the [“Finding a Meet-Me Number/Pattern”](#) section on page 37-1.
 - Step 2** Click the Meet-Me Number/Pattern that you want to update.
 - Step 3** Update the appropriate settings as described in [Table 37-1](#).



Note You can change the number or pattern as needed (example, changing 5000 to 500X).

- Step 4** To save the changes in the database, click **Update**.
-

Related Topics

- [Adding a Software Conference Device, page 28-4](#)
- [Adding a Hardware Conference Device, page 28-8](#)
- [Adding a Cisco IOS Conference Bridge Device, page 28-10](#)
- [Updating a Conference Device, page 28-16](#)
- [Deleting a Conference Device, page 28-17](#)
- [Updating Conference Bridge Parameters, page 28-18](#)
- [Finding a Meet-Me Number/Pattern, page 37-1](#)
- [Adding a Meet-Me Number/Pattern, page 37-5](#)
- [Deleting a Meet-Me Number/Pattern, page 37-7](#)
- [Partition Configuration, page 15-1](#)
- [Conference Bridges, *Cisco CallManager System Guide*](#)

Deleting a Meet-Me Number/Pattern

This section describes how to delete a Meet-Me Number/Pattern.

Before You Begin

Make sure that the following prerequisites are met before proceeding with the steps:

- Configure the servers.
- Configure the device pools.
- Configure the meet-me number/pattern.

Procedure

-
- Step 1** Find the meet-me number/pattern by using the procedure in the [“Finding a Meet-Me Number/Pattern”](#) section on page 37-1.
- Step 2** Click the Meet-Me Number/Pattern that you want to delete.
- Step 3** Click **Delete**.
-

Related Topics

- [Adding a Software Conference Device, page 28-4](#)
- [Adding a Hardware Conference Device, page 28-8](#)
- [Adding a Cisco IOS Conference Bridge Device, page 28-10](#)
- [Updating a Conference Device, page 28-16](#)
- [Deleting a Conference Device, page 28-17](#)
- [Updating Conference Bridge Parameters, page 28-18](#)
- [Finding a Meet-Me Number/Pattern, page 37-1](#)
- [Adding a Meet-Me Number/Pattern, page 37-5](#)
- [Updating a Meet-Me Number/Pattern, page 37-6](#)
- [Conference Bridges, *Cisco CallManager System Guide*](#)

Meet-Me Number/Pattern Configuration Settings

[Table 37-1](#) describes the meet-me number/pattern configuration settings.

Table 37-1 Meet-Me Number/Pattern Configuration Settings

Field	Description
Directory Number or Pattern	Enter a Meet-Me Numbers/pattern or a range of numbers (such as 8000 to 8009).
Description	Enter up to 30 alphanumeric characters for a description of the meet-me number/pattern.

Table 37-1 Meet-Me Number/Pattern Configuration Settings (continued)

Field	Description
Partition	<p>To use a partition to restrict access to the meet-me/number pattern, choose the desired partition from the drop-down list box.</p> <p>If you do not want to restrict access to the meet-me number/pattern, choose <None> for the partition. See the “Partition Configuration” section on page 15-1 for more information.</p> <p>If more than 250 partitions exist, the ellipsis (...) button displays next to the drop-down list box. Click the ... button to display the Select Partition window. Enter a partial partition name in the List items where Name contains field. Click the desired partition name in the list of partitions that displays in the Select item to use box and click OK.</p> <p>Note Make sure that the combination of meet-me number/pattern and partition is unique within the Cisco CallManager cluster.</p>

Related Topics

- [Finding a Meet-Me Number/Pattern, page 37-1](#)
- [Adding a Meet-Me Number/Pattern, page 37-5](#)
- [Updating a Meet-Me Number/Pattern, page 37-6](#)
- [Deleting a Meet-Me Number/Pattern, page 37-7](#)



Cisco Voice-Mail Port Configuration

The optional Cisco Unity software, available as part of Cisco IP Telephony Solutions, provides voice-messaging capability for users when they are unavailable to answer calls. This section describes the procedures that are required for adding and configuring, updating, and deleting Cisco voice-mail ports by choosing Voice Mail from the Feature menu of the Cisco CallManager window and choosing the submenu options.

For more information about configuring Cisco Unity, refer to the *Cisco CallManager 4.0 Integration Guide for Cisco Unity 4.0*.

You can add and delete ports that are associated with a Cisco Unity voice-mail server to the Cisco CallManager database without using the Cisco Voice Mail Port Wizard. This section describes the following procedures:

- [Finding a Cisco Voice-Mail Port, page 38-2](#)
- [Adding Cisco Voice-Mail Ports, page 38-4](#)
- [Deleting a Cisco Voice-Mail Port, page 38-5](#)
- [Updating a Cisco Voice-Mail Port, page 38-6](#)
- [Copying an Existing Cisco Voice-Mail Port, page 38-7](#)
- [Cisco Voice-Mail Port Configuration Settings, page 38-8](#)

Finding a Cisco Voice-Mail Port

Because you will typically have a number of Cisco voice-mail ports in your network, Cisco CallManager lets you locate specific Cisco voice-mail ports on the basis of specific criteria. Use the following procedure to locate Cisco voice-mail ports.

**Note**

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

Procedure

Step 1 Choose **Feature > Voice Mail > Cisco Voice Mail Port**.

The Find and List Voice Mail Ports window displays. Use the two drop-down list boxes to search for a Cisco voice-mail port.

Step 2 From the first Find voice mail ports where drop-down list box, choose one of the following criteria:

- Device Name
- Description
- Directory Number
- Calling Search Space
- Device Pool

**Note**

The criterion that you choose in this drop-down list box specifies how the list of Cisco voice-mail ports that your search generates will be sorted. For example, if you choose Device Pool, the Device Pool column will display as the left column of the results list.

From the second Find voice mail ports where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly
- is empty
- is not empty

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 Cisco voice-mail ports that are registered in the database, click **Find** without entering any search text.

A list of discovered Cisco voice-mail ports displays by

- Voice Mail Port icon
- Device Name
- Description
- Device Pool
- Status
- IP Address



Note You can delete multiple Cisco voice-mail ports from the Find and List Voice Mail Ports window by checking the check boxes next to the appropriate Cisco voice-mail ports and clicking **Delete Selected**. You can delete all Cisco voice-mail ports 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 Voice Mail Port icon, Device Name, Description, or associated Device Pool that matches your search criteria. The window displays the Cisco voice-mail port that you choose.
-

Related Topics

- [Adding Cisco Voice-Mail Ports, page 38-4](#)
- [Deleting a Cisco Voice-Mail Port, page 38-5](#)
- [Updating a Cisco Voice-Mail Port, page 38-6](#)
- [Copying an Existing Cisco Voice-Mail Port, page 38-7](#)

Adding Cisco Voice-Mail Ports

To connect a Cisco Unity voice-messaging system to Cisco CallManager, you must add Cisco voice-mail ports to the Cisco CallManager database.



Tip

You can also use the Cisco Voice Mail Port Wizard to add a new Cisco voice-mail server and ports or to add multiple ports to an existing server rather than the procedure that is described here. See [“Cisco Voice Mail Port Wizard” section on page 39-1](#) for more information.

Perform this procedure to add individual Cisco voice-mail ports to the Cisco CallManager database.

Procedure

- Step 1** Choose **Feature > Voice Mail > Cisco Voice Mail Port**.
- Step 2** In the upper, right corner of the window, click the **Add a New Voice Mail Port** link.
- Step 3** Enter the appropriate settings as described in [Table 38-1](#).
- Step 4** To add the new Cisco voice-mail port device, click **Insert**.
-

Related Topics

- [Finding a Cisco Voice-Mail Port, page 38-2](#)
- [Deleting a Cisco Voice-Mail Port, page 38-5](#)
- [Updating a Cisco Voice-Mail Port, page 38-6](#)
- [Copying an Existing Cisco Voice-Mail Port, page 38-7](#)
- [Cisco Voice-Mail Port Configuration Settings, page 38-8](#)
- [Cisco Voice Mail Port Wizard, page 39-1](#)
- [Cisco Unity Configuration Checklist, *Cisco CallManager System Guide*](#)

Deleting a Cisco Voice-Mail Port

To delete a single Cisco voice-mail port from Cisco CallManager, follow these procedures.

Before You Begin

When you delete a Cisco voice-mail port that a directory number uses, the number remains in the Cisco CallManager database. To determine which directory numbers are using the voice-mail port, click the **Dependency Records** link from the Voice Mail Port 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](#).

When you delete a voice-mail port that is in use, Cisco CallManager displays an error message. Before deleting a voice-mail port that is currently in use, you can assign a different voice-mail port to any directory number that is using the voice-mail port that you want to delete. See the [“Updating a Directory Number” section on page 49-41](#).

After you delete the voice-mail port, you can delete the directory number that was using the voice-mail port. See the [“Deleting Unassigned Directory Numbers” section on page 24-4](#).

**Tip**

Instead of using the procedure that is described here, you can use the Cisco Voice Mail Port Wizard to delete ports from an existing server. See [“Cisco Voice Mail Port Wizard” section on page 39-1](#) for more information.

Procedure

-
- Step 1** Find the Cisco voice-mail port by using the procedure in the [“Finding a Cisco Voice-Mail Port” section on page 38-2](#).
- Step 2** Click the Cisco voice-mail port that you want to delete.
- Step 3** Click **Delete**.
-

Related Topics

- [Finding a Cisco Voice-Mail Port, page 38-2](#)
- [Adding Cisco Voice-Mail Ports, page 38-4](#)
- [Updating a Cisco Voice-Mail Port, page 38-6](#)
- [Copying an Existing Cisco Voice-Mail Port, page 38-7](#)
- [Cisco Voice-Mail Port Configuration Settings, page 38-8](#)
- [Cisco Voice Mail Port Wizard, page 39-1](#)
- [Cisco Unity Configuration Checklist, *Cisco CallManager System Guide*](#)

Updating a Cisco Voice-Mail Port

Follow these procedures to update a Cisco voice-mail port (for example, to make minor changes such as updating the Description).

Procedure

-
- Step 1** Find the Cisco voice-mail port by using the procedure in the [“Finding a Cisco Voice-Mail Port” section on page 38-2](#).
- Step 2** Choose the Cisco voice-mail port that you want to update.

- Step 3** Update the appropriate settings as described in [Table 38-1](#).
- Step 4** Click **Update**.
-

Related Topics

- [Finding a Cisco Voice-Mail Port, page 38-2](#)
- [Adding Cisco Voice-Mail Ports, page 38-4](#)
- [Deleting a Cisco Voice-Mail Port, page 38-5](#)
- [Copying an Existing Cisco Voice-Mail Port, page 38-7](#)
- [Cisco Voice-Mail Port Configuration Settings, page 38-8](#)
- [Cisco Voice Mail Port Wizard, page 39-1](#)
- [Cisco Unity Configuration Checklist, Cisco CallManager System Guide](#)

Copying an Existing Cisco Voice-Mail Port

If you want to add several similar Cisco voice-mail ports to the Cisco CallManager database, you can add one and then copy its basic settings to apply to another Cisco voice-mail port.



Tip

You will find it much easier to use the Cisco Voice Mail Port Wizard to add a new Cisco voice-mail server and ports or to add multiple ports to an existing server instead of using the procedure that is described here. See [“Cisco Voice Mail Port Wizard” section on page 39-1](#) for more information.

To copy a Cisco voice-mail port and its settings, follow this procedure.

Procedure

- Step 1** Find the Cisco voice-mail port by using the procedure in the [“Finding a Cisco Voice-Mail Port” section on page 38-2](#).
- Step 2** From the Matching records list, click the **Copy** icon that corresponds to the Cisco voice-mail port that you want to copy.

Step 3 Update the appropriate settings as described in [Table 38-1](#).



Note You must change the Port Name and Directory Number fields.

Step 4 Click **Insert**.

Related Topics

- [Finding a Cisco Voice-Mail Port, page 38-2](#)
- [Adding Cisco Voice-Mail Ports, page 38-4](#)
- [Deleting a Cisco Voice-Mail Port, page 38-5](#)
- [Updating a Cisco Voice-Mail Port, page 38-6](#)
- [Cisco Voice-Mail Port Configuration Settings, page 38-8](#)
- [Cisco Voice Mail Port Wizard, page 39-1](#)

Cisco Voice-Mail Port Configuration Settings

[Table 38-1](#) describes the Cisco voice-mail port configuration settings.

Table 38-1 Cisco Voice Mail Port Configuration Settings

Field	Description
Device Information	
Port Name	<p>Enter a name to identify the Cisco voice-mail port. You must add a device for each port on Cisco voice mail. If 24 ports exist, you must define 24 devices.</p> <p>The name must have no more than nine characters.</p> <p>Note For Cisco Unity, this name must match the name in the Unity Telephony Integration Manager (UTIM) configuration files, such as CiscoUM-VI1 or Cisco UM-VI2.</p>
Description	Enter the purpose of the device.

Table 38-1 Cisco Voice Mail Port Configuration Settings (continued)

Field	Description
Device Pool	Choose the default value or a specific device pool.
Calling Search Space	Choose the appropriate calling search space. A calling search space comprises a collection of partitions that are searched for numbers that were called from this device. Choose the name of the calling search space that allows calls to the subscriber phones and to any network devices.
Location	Choose the default value None . The location specifies the total bandwidth that is available for calls to and from this device. A location setting of <i>None</i> means that the locations feature does not keep track of the bandwidth that is consumed by this device.
Directory Number Information	
Directory Number	Enter the number that is associated with this voice-mail port. Make sure that this field is unique in combination with the Partition field.
Partition	Choose the partition to which the directory number belongs. Choose <None> if partitions are not used. If you choose a partition, you must choose a calling search space that includes that partition. If more than 250 partitions exist, the ellipsis (...) button displays next to the drop-down list box. Click the ... button to display the Select Partition window. Enter a partial partition name in the List items where Name contains field. Click the desired partition name in the list of partitions that displays in the Select item to use box, and click OK .
Calling Search Space	Choose the appropriate calling search space. A calling search space comprises a collection of partitions that are searched for numbers that are called from this directory number. If you choose a partition, you must choose a calling search space that includes that partition.

Table 38-1 Cisco Voice Mail Port Configuration Settings (continued)

Field	Description
Display (Internal Caller ID)	This field indicates text that appears on the called party phone when a call is placed from this line.
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.
External Number Mask	<p>Specify the mask that is used to format caller ID information for external (outbound) calls. The mask can contain up to 50 characters. Enter the literal digits that you want to appear in the caller ID information and use Xs to represent the directory number of the device.</p> <p>When Automated Alternate Routing (AAR) routes calls due to insufficient bandwidth, Cisco CallManager uses the value in this field to place the call if sufficient bandwidth is not available.</p> <p>Example</p> <p>DN 1000 (external mask 9728131000) calls DN 1001 (external mask 2144131001). If insufficient bandwidth blocks the call, Cisco CallManager uses the AAR prefix digits along with 2144131001 to place the call to 1001.</p>

Related Topics

- [Finding a Cisco Voice-Mail Port, page 38-2](#)
- [Adding Cisco Voice-Mail Ports, page 38-4](#)
- [Deleting a Cisco Voice-Mail Port, page 38-5](#)
- [Updating a Cisco Voice-Mail Port, page 38-6](#)
- [Copying an Existing Cisco Voice-Mail Port, page 38-7](#)
- [Cisco Voice Mail Port Wizard, page 39-1](#)
- [Cisco Unity Configuration Checklist, *Cisco CallManager System Guide*](#)



Cisco Voice Mail Port Wizard

The optional Cisco Unity software, available as part of Cisco IP Telephony Solutions, provides voice-messaging capability for users when they are unavailable to answer calls. This section describes the procedures that are required for adding and configuring Cisco voice-mail ports in Cisco CallManager for both this voice-messaging systems.

For more information about configuring Cisco Unity, refer to the *Cisco CallManager 4.0 Integration Guide for Cisco Unity 4.0*.

For more information on voice-mail connectivity to Cisco CallManager, refer to “[Voice Mail Connectivity to Cisco CallManager](#)” in the *Cisco CallManager System Guide*.

The Cisco Voice Mail Port Wizard tool allows Cisco CallManager administrators to quickly add and delete ports that are associated with a Cisco voice-mail server to the Cisco CallManager database. This section describes the following procedures:

- [Adding a New Cisco Voice-Mail Server and Ports, page 39-1](#)
- [Adding Ports to an Existing Cisco Voice-Mail Server, page 39-7](#)
- [Deleting Ports from an Existing Cisco Voice-Mail Server, page 39-9](#)

Adding a New Cisco Voice-Mail Server and Ports

To use the Cisco Voice Mail Port Wizard to add a new Cisco voice-mail server and ports to the Cisco CallManager database, perform the following steps.

Before You Begin

The Cisco Voice Mail Port Wizard requires a range of consecutive directory numbers for the voice-mail ports. Make sure the voice-mail pilot number and subsequent numbers are available.

Procedure

-
- Step 1** Choose **Feature > Voice Mail > Cisco Voice Mail Port Wizard**.
- If no Cisco voice-mail ports exist, enter the name of the Cisco voice-mail server to add and continue with [Step 5](#). Otherwise, continue with [Step 2](#).
- Step 2** Choose **Create a new Cisco Voice Mail server and add ports to it**.
- Step 3** Click **Next**.
- Step 4** Enter the name of the Cisco voice-mail server.



Note For Cisco Unity, this name must match the name in the Unity Telephony Integration Manager (UTIM) configuration file (the default is CiscoUM-VI). The wizard automatically appends the *<port number>* suffix when it adds the ports.

- Step 5** Click **Next**.
- The Cisco Voice Mail Ports window displays.
- Step 6** From the drop-down list box, choose the number of ports to add.
- Step 7** Click **Next**.
- The Cisco Voice Mail Device Information window displays.
- Step 8** Enter the appropriate configuration settings, as described in [Table 39-1](#). The wizard applies these configuration settings to all the new ports.

Table 39-1 Voice Mail Port Wizard Device Information Configuration Settings

Field	Description
Description	Enter the purpose of device.
Device Pool	Choose the default value Default or any defined device pool.

Table 39-1 Voice Mail Port Wizard Device Information Configuration Settings

Field	Description
Calling Search Space	Choose the appropriate calling search space. A calling search space comprises a collection of partitions that are searched for numbers that are called from this directory number.
Location	Choose the default value None or any defined location. The location specifies the total bandwidth that is available for calls to and from this device. A location setting of <i>None</i> means that the locations feature does not keep track of the bandwidth that is consumed by this device.

Step 9 Click **Next**.

The Cisco Voice Mail Directory Numbers window displays.

Step 10 Enter the directory number settings for the new Cisco voice-mail server as described in [Table 39-2](#).

Table 39-2 Voice Mail Port Wizard Directory Number Configuration Settings

Field	Description
Beginning Directory Number	Enter the number that people call to access the Cisco voice-mail server. Each new port receives the next available directory number.

Table 39-2 Voice Mail Port Wizard Directory Number Configuration Settings (continued)

Field	Description
Partition	<p>Choose the partition to which this set of directory numbers belong. Choose None if partitions are not used. If you choose a partition, you must choose a calling search space that includes that partition.</p> <p>If more than 250 partitions exist, the ellipsis (...) button displays next to the drop-down list box. Click the ... button to display the Select Partition window. Enter a partial partition name in the List items where Name contains field. Click the desired partition name in the list of partitions that displays in the Select item to use box, and click OK.</p>
Calling Search Space	<p>Choose the appropriate calling search space. A calling search space comprises a collection of partitions that are searched for numbers that are called from this directory number.</p> <p>If you choose a partition, you must choose a calling search space that includes that partition.</p>
Display	This field indicates text that appears on the calling party phone when a call is placed to this line.
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 <i>None</i> specifies that no rerouting of blocked calls will be attempted.
External Number Mask	Specify the mask used to format caller ID information for external (outbound) calls. The mask can contain up to 50 characters. Enter the literal digits that you want to appear in the caller ID information and use Xs to represent the directory number of the device.

Step 11 Click **Next**.

A window that asks whether you want to add these directory numbers to a line group displays.

Step 12 Choose one of the options that display:

- If you choose to add directory numbers to a new line group, skip to [Step 13](#).
- If you choose to add directory numbers to an existing line group, skip to [Step 15](#).
- If you choose to add directory numbers to a line group later, skip to [Step 17](#).

Step 13 Choose the “Yes. Add directory numbers to a **new** Line Group” option and click **Next**.**Step 14** In the Line Group window that displays, enter the name of the new line group and click **Next**.

The Ready to Add Cisco Voice Mail Ports summary window displays. This summary window lists the settings that you configured in the previous windows. The Cisco Voice Mail Port Wizard automatically assigns the correct values each port.

Skip to [Step 18](#).

Step 15 Choose the “Yes. Add directory numbers to an **existing** Line Group” option and click **Next**.**Step 16** In the Line Group window that displays, choose a line group from the Line Group Name drop-down list box and click **Next**.

The Ready to Add Cisco Voice Mail Ports summary window displays. This summary window lists the settings that you configured in the previous windows. The Cisco Voice Mail Port Wizard automatically assigns the correct values for each port.

Skip to [Step 18](#).

- Step 17** Choose the “No. I will add them later” option and click **Next**.
- The Ready to Add Cisco Voice Mail Ports summary window displays. This summary window lists the settings that you configured in the previous windows. The Cisco Voice Mail Port Wizard automatically assigns the correct values for each port.
- Step 18** If this information is correct, click **Finish** to add the new ports.
- If the information shown is not correct, click the **Back** button to edit the information or **Cancel** to quit without adding any ports.
- Step 19** After the Cisco Voice Mail Port Wizard finishes adding the new voice-mail ports that you specified, the Cisco Voice Mail Port Wizard Results window displays.
- The window directs you to the other steps that you need to complete before you can start using these new voice-mail ports.
-

Next Steps

Make sure that you set up the message-waiting indicator (MWI) device. For more information, refer to the “[Cisco Unity Configuration Checklist](#)” section in the *Cisco CallManager System Guide*.

Related Topics

- [Cisco Voice Mail Port Wizard, page 39-1](#)
- [Adding Ports to an Existing Cisco Voice-Mail Server, page 39-7](#)
- [Deleting Ports from an Existing Cisco Voice-Mail Server, page 39-9](#)
- [Message Waiting Configuration, page 40-1](#)
- [Cisco Unity Configuration Checklist, Cisco CallManager System Guide](#)

Adding Ports to an Existing Cisco Voice-Mail Server

To use the Cisco Voice Mail Port Wizard to add ports to an existing Cisco voice-mail server, perform the following steps.

Before You Begin

The Cisco Voice Mail Port Wizard requires a range of consecutive directory numbers for the voice-mail ports. Make sure that the voice-mail pilot number and subsequent numbers are available.

The voice-mail pilot number designates the number that people call to access the Cisco voice-mail server.

Procedure

- Step 1** Choose **Feature > Voice Mail > Cisco Voice Mail Port Wizard**.
- Step 2** Choose **Add ports to an existing Cisco Voice Mail server**.
- Step 3** Click **Next**.

The Cisco Voice Mail Server window displays.
- Step 4** From the drop-down list box, choose the name of an existing Cisco voice-mail server (pilot number), and click **Next**.

The Cisco Voice Mail Ports window displays and identifies the number of ports that are currently configured.
- Step 5** From the drop-down list box, choose the number of ports to add and click **Next**.

The Cisco Voice Mail Directory Numbers window displays the configuration information for the Cisco voice-mail server to which you added the ports. The Cisco Voice Mail Port Wizard automatically selects consecutive directory numbers following the last port and uses the same Partition, Calling Search Space, Display, AAR Group, and External Number Mask settings as the Cisco voice-mail pilot directory number. You can enter a different range of directory numbers in the New Directory Numbers field.
- Step 6** If you need to change the number of ports, click the **Back** button.
- Step 7** Click **Next**.

A window that asks whether you want to add these directory numbers to a line group displays.

- Step 8** Choose one of the options that display:
- If you choose to add directory numbers to a new line group, skip to [Step 9](#).
 - If you choose to add directory numbers to an existing line group, skip to [Step 11](#).
 - If you choose to add directory numbers to a line group later, skip to [Step 13](#).
- Step 9** Choose the “Yes. Add directory numbers to a **new** Line Group” option and click **Next**.
- Step 10** In the Line Group window that displays, enter the name of the new line group and click **Next**.
- The Ready to Add Cisco Voice Mail Ports summary window displays. This summary window lists the settings that you configured in the previous windows. The Cisco Voice Mail Port Wizard automatically assigns the correct values for each port.
- Skip to [Step 14](#).
- Step 11** Choose the “Yes. Add directory numbers to an **existing** Line Group” option and click **Next**.
- Step 12** In the Line Group window that displays, choose a line group from the Line Group Name drop-down list box and click **Next**.
- The Ready to Add Cisco Voice Mail Ports summary window displays. This summary window lists the settings that you configured in the previous windows. The Cisco Voice Mail Port Wizard automatically assigns the correct values for each port.
- Skip to [Step 14](#).
- Step 13** Choose the “No. I will add them later” option and click **Next**.
- The Ready to Add Cisco Voice Mail Ports summary window displays. This summary window lists the settings that you configured in the previous windows. The Cisco Voice Mail Port Wizard automatically assigns the correct values for each port.
- Step 14** If this information is correct, click **Finish** to add the new ports.
- If the information shown is not correct, click the **Back** button to edit the information or click **Cancel** to quit without adding any ports.
-

Related Topics

- [Cisco Voice Mail Port Wizard, page 39-1](#)
- [Adding a New Cisco Voice-Mail Server and Ports, page 39-1](#)
- [Deleting Ports from an Existing Cisco Voice-Mail Server, page 39-9](#)
- [Cisco Unity Configuration Checklist, Cisco CallManager System Guide](#)

Deleting Ports from an Existing Cisco Voice-Mail Server

To delete ports from an existing Cisco voice-mail server, perform the following steps to use the Cisco Voice Mail Port Wizard.

Procedure

-
- Step 1** Choose **Feature > Voice Mail > Cisco Voice Mail Port Wizard**.
- Step 2** Choose **Delete ports from an existing Cisco Voice Mail server** and click **Next**.
The Cisco Voice Mail Server window displays.
- Step 3** From the drop-down list box, choose the name of an existing Cisco voice-mail server (pilot number) and click **Next**.
The Cisco Voice Mail Ports window, which indicates the number of ports that are currently configured, displays.
- Step 4** From the drop-down list box, choose the number of ports to delete and click **Next**.
The Ready to Delete Cisco Voice Mail Ports summary window displays.
The summary window provides information about the ports to be deleted. The Cisco Voice Mail Port Wizard automatically updates the port numbers and directory numbers so they are consecutive.
- Step 5** If this information is correct, click **Finish** to delete the selected ports.
If the information shown is not correct, click the **Back** button to edit the information or to quit without deleting any ports, click **Cancel**.
-

Related Topics

- [Cisco Voice Mail Port Wizard, page 39-1](#)
- [Adding a New Cisco Voice-Mail Server and Ports, page 39-1](#)
- [Adding Ports to an Existing Cisco Voice-Mail Server, page 39-7](#)
- [Cisco Unity Configuration Checklist, *Cisco CallManager System Guide*](#)



Message Waiting Configuration

The Message Waiting Configuration window allows you to define a message waiting on or message waiting off directory number that a directory-connected based voice-messaging system uses to determine whether to set or clear a message waiting indication for a particular Cisco IP Phone.

The following topics provide information on message waiting configuration:

- [Finding a Message Waiting Number, page 40-1](#)
- [Configuring Message Waiting, page 40-4](#)
- [Message Waiting Configuration Settings, page 40-5](#)
- [Voice Mail Connectivity to Cisco CallManager, *Cisco CallManager System Guide*](#)
- [Cisco Unity Configuration Checklist, *Cisco CallManager System Guide*](#)

Finding a Message Waiting Number

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

**Note**

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

Procedure

Step 1 Choose **Feature > Voice Mail > Message Waiting**.

The Find and List Message Waiting Numbers window displays. Use the three drop-down list boxes to search for a message-waiting number.

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

- Directory Number
- Partition
- Calling Search Space
- Description

**Note**

The criterion that you choose in this drop-down list box specifies how the list of message-waiting numbers that your search generates will be sorted. For example, if you choose Partition, the Partition column will display as the left column of the results list.

From the second Find numbers where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly
- is empty
- is not empty

From the Message Waiting Indicator is drop-down list box, choose one of the following criteria:

- Both
- On
- Off

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 message-waiting numbers that are registered in the database, click **Find** without entering any search text.

A list of discovered message-waiting numbers displays by

- Message Waiting Indicator icon (green if on, red if off)
- Directory Number
- Partition
- Calling Search Space
- Description



Note You can delete multiple message-waiting numbers from the Find and List Message Waiting Numbers window by checking the check boxes next to the appropriate message-waiting numbers and clicking **Delete Selected**. You can delete all message-waiting numbers 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 MWI icon, directory number, associated partition, or calling search space that matches your search criteria.

The window displays the message-waiting number that you choose.

Related Topics

- [Configuring Message Waiting, page 40-4](#)
- [Message Waiting Configuration Settings, page 40-5](#)

Configuring Message Waiting

To configure message waiting for use with voice-messaging systems, use the following procedure.

Procedure

- Step 1** Choose **Feature > Voice Mail > Message Waiting**.
- Step 2** In the upper, right corner of the window, click the **Add a New Message Waiting Number** link.

The Message Waiting Number Configuration window displays.

- Step 3** Enter the appropriate settings as described in [Table 40-1](#).



Note The voice-messaging system only uses the message-waiting on/off directory number to turn on the message-waiting indicator. Because Cisco CallManager does not use the Message Waiting on/off number for receiving calls, the Display, Forward All, Forward Busy, and Forward No Answer fields do not get used.

- Step 4** To add this device to the system, click **Insert**.
-

Related Topics

- [Finding a Message Waiting Number, page 40-1](#)
- [Message Waiting Configuration Settings, page 40-5](#)
- [Voice Mail Connectivity to Cisco CallManager, Cisco CallManager System Guide](#)
- [Cisco Unity Configuration Checklist, Cisco CallManager System Guide](#)

Message Waiting Configuration Settings

Table 40-1 describes the Message Waiting configuration settings.

Table 40-1 Message Waiting Configuration Settings

Field Name	Description
Message Waiting Number	Enter the Cisco Message Waiting directory number. Make sure that this number is not used within the Cisco CallManager auto-registration range.
Description	Enter up to 30 alphanumeric characters for a description of the message-waiting directory number.
Message Waiting Indicator	Click On or Off .
Partition	<p>If partitions are being used, choose the appropriate partition from the drop-down list box. If you do not want to restrict access to the message-waiting device directory number, choose <None> for the partition.</p> <p>If more than 250 partitions exist, the ellipsis (...) button displays next to the drop-down list box. Click the ... button to display the Select Partition window. Enter a partial partition name in the List items where Name contains field. Click the desired partition name in the list of partitions that displays in the Select item to use box and click OK.</p> <p>Note Make sure that the combination of message-waiting device directory number and partition is unique within the Cisco CallManager cluster.</p>
Calling Search Space	If partitions and calling search spaces are used, choose a calling search space that includes the partitions of the DNs on all phones whose lamps you want to turn on (the partition that is defined for a phone DN must be in a calling search space that the MWI device uses).

Related Topics

- [Finding a Message Waiting Number, page 40-1](#)
- [Configuring Message Waiting, page 40-4](#)
- [Voice-Mail Profile Configuration, page 42-1](#)
- [Directory Number Configuration Settings, page 49-45](#)
- [Cisco Unity Configuration Checklist, *Cisco CallManager System Guide*](#)



Cisco Voice-Mail Pilot Configuration

The voice-mail pilot number designates the directory number that you dial to access your voice messages. Cisco CallManager automatically dials the voice-messaging number when you press the Messages button on your phone. Each pilot number can belong to a different voice-mail messaging system.

The following topics provide information on voice-mail pilot configuration:

- [Finding a Cisco Voice-Mail Pilot, page 41-1](#)
- [Configuring the Voice-Mail Pilot Number, page 41-4](#)
- [Voice-Mail Pilot Configuration Settings, page 41-6](#)
- [Voice Mail Connectivity to Cisco CallManager, *Cisco CallManager System Guide*](#)
- [Cisco Unity Configuration Checklist, *Cisco CallManager System Guide*](#)

Finding a Cisco Voice-Mail Pilot

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

**Note**

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

Procedure

Step 1 Choose **Feature > Voice Mail > Voice Mail Pilot**.

The Find and List Voice Mail Pilots window displays. Use the two drop-down list boxes to search for a Cisco voice-mail pilot.

Step 2 From the first Find voice mail pilots where drop-down list box, choose one of the following criteria:

- Description
- Voice Mail Pilot Number
- Calling Search Space

**Note**

The criterion that you choose in this drop-down list box specifies how the list of Cisco voice-mail pilots that your search generates will be sorted. For example, if you choose Calling Search Space, the Calling Search Space column will display as the left column of the results list.

From the second Find voice mail pilots where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly
- is empty
- is not empty

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 Cisco voice-mail pilots that are registered in the database, click **Find** without entering any search text.

A list of discovered Cisco voice-mail pilots displays by

- Voice Mail Pilot icon
- Description
- Pilot Number
- Calling Search Space



Note You can delete multiple Cisco voice-mail pilots from the Find and List Voice Mail Pilots window by checking the check boxes next to the appropriate Cisco voice-mail pilots and clicking **Delete Selected**. You can delete all Cisco voice-mail pilots 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 Voice Mail Pilot icon, Device Name, Description, or associated Device Pool that matches your search criteria.

The window displays the Cisco voice-mail pilot that you choose.

Related Topics

- [Configuring the Voice-Mail Pilot Number, page 41-4](#)
- [Voice-Mail Pilot Configuration Settings, page 41-6](#)
- [Voice Mail Connectivity to Cisco CallManager, *Cisco CallManager System Guide*](#)
- [Cisco Unity Configuration Checklist, *Cisco CallManager System Guide*](#)

Configuring the Voice-Mail Pilot Number

To configure the voice-mail pilot number, perform these procedures.

Procedure

- Step 1** Choose **Feature > Voice Mail > Voice Mail Pilot**.
- Step 2** In the upper, right corner of the window, click the **Add a New Voice Mail Pilot** link.
- Step 3** Configure the appropriate settings as described in [Table 41-1](#).
- Step 4** To add the new voice-mail pilot number, click **Insert** or to update the settings for an existing voice-mail pilot number, click **Update**.
-

Related Topics

- [Finding a Cisco Voice-Mail Pilot, page 41-1](#)
- [Voice-Mail Pilot Configuration Settings, page 41-6](#)
- [Message Waiting Configuration, page 40-1](#)
- [Voice-Mail Profile Configuration, page 42-1](#)
- [Voice Mail Connectivity to Cisco CallManager, Cisco CallManager System Guide](#)
- [Cisco Unity Configuration Checklist, Cisco CallManager System Guide](#)

Deleting a Voice-Mail Pilot Number

To delete the voice-mail pilot number, perform these procedures. You cannot delete the default or the *No Voice Mail* profile numbers.

Before You Begin

You cannot delete voice-mail pilot numbers that a voice-mail profile uses. To find out which voice-mail profiles are using the voice-mail pilot, click the **Dependency Records** link from the Voice Mail Pilot 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 voice-mail pilot that is in use, Cisco CallManager displays an error message. Before deleting a voice-mail pilot that is currently in use, you must perform either or both of the following tasks:

- Assign a different voice-mail pilot to any voice-mail profiles that are using the voice-mail pilot that you want to delete. See the [“Configuring a Voice-Mail Profile”](#) section on page 42-4.
- Delete the voice-mail profiles that are using the voice-mail pilot that you want to delete. See the [“Deleting a Voice-Mail Profile”](#) section on page 42-3.

Procedure

- Step 1** Choose **Feature > Voice Mail > Voice Mail Pilot**.
- Step 2** Click the Cisco voice-mail pilot that you want to delete.
- Step 3** Click **Delete**.

A confirmation window appears.



Note If you choose the default or the *No Voice Mail* pilot numbers, the Delete button does not appear.

- Step 4** To delete the voice-mail pilot, click **OK** or to cancel the deletion process, click **Cancel**.

If a voice-mail profile uses this voice-mail pilot number, a message displays and indicates the number of voice-mail profiles that use this voice-mail pilot number.

Related Topics

- [Finding a Cisco Voice-Mail Pilot](#), page 41-1
- [Configuring the Voice-Mail Pilot Number](#), page 41-4
- [Message Waiting Configuration](#), page 40-1
- [Voice-Mail Profile Configuration](#), page 42-1

- [Voice Mail Connectivity to Cisco CallManager](#), *Cisco CallManager System Guide*
- [Cisco Unity Configuration Checklist](#), *Cisco CallManager System Guide*

Voice-Mail Pilot Configuration Settings

Table 41-1 describes the voice-mail pilot configuration settings.

Table 41-1 Voice-Mail Pilot Configuration Settings

Field	Description
Voice Mail Pilot Number	Enter a number to identify the voice mail pilot number.
Description	Enter the description of the pilot number.
Calling Search Space	Choose the appropriate calling search space. A calling search space comprises a collection of partitions that are searched for numbers that are called from this pilot number.
Make this the default Voice Mail Pilot for the system	<p>Check the check box to make this pilot number the default Voice Mail Pilot for the system.</p> <p>Note If you check the Default box, this voice mail pilot number replaces your current default pilot number.</p>

Related Topics

- [Finding a Cisco Voice-Mail Pilot](#), page 41-1
- [Configuring the Voice-Mail Pilot Number](#), page 41-4
- [Message Waiting Configuration](#), page 40-1
- [Voice-Mail Profile Configuration](#), page 42-1
- [Voice Mail Connectivity to Cisco CallManager](#), *Cisco CallManager System Guide*
- [Cisco Unity Configuration Checklist](#), *Cisco CallManager System Guide*



Voice-Mail Profile Configuration

The Voice Mail Profile Configuration window of Cisco CallManager Administration allows you to define any line-related voice-messaging information.



Note

A voice mail-profile gets assigned to a directory number, not a device.

The following topics provide information on voice-mail profiles:

- [Finding Voice-Mail Profiles, page 42-1](#)
- [Copying a Voice-Mail Profile, page 42-2](#)
- [Deleting a Voice-Mail Profile, page 42-3](#)
- [Configuring a Voice-Mail Profile, page 42-4](#)
- [Voice-Mail Profile Configuration Settings, page 42-5](#)
- [Voice Mail Connectivity to Cisco CallManager, *Cisco CallManager System Guide*](#)
- [Cisco Unity Configuration Checklist, *Cisco CallManager System Guide*](#)

Finding Voice-Mail Profiles

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

**Note**

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

Procedure

-
- Step 1** Choose **Feature > Voice Mail > Voice Mail Profile**.
- The Find and List Voice Mail Profiles window displays.
- Step 2** Choose the voice-mail profile criteria and click **Find**. To list all available voice-mail profiles, leave the criteria blank and click **Find**.
-

Related Topics

- [Copying a Voice-Mail Profile, page 42-2](#)
- [Deleting a Voice-Mail Profile, page 42-3](#)
- [Configuring a Voice-Mail Profile, page 42-4](#)
- [Voice-Mail Profile Configuration Settings, page 42-5](#)
- [Voice Mail Connectivity to Cisco CallManager, *Cisco CallManager System Guide*](#)
- [Cisco Unity Configuration Checklist, *Cisco CallManager System Guide*](#)

Copying a Voice-Mail Profile

To copy an existing voice-mail profile, use the following procedure.

Procedure

-
- Step 1** To locate the voice-mail profile that you want to copy, follow the procedure on [“Finding Voice-Mail Profiles” section on page 42-1](#).

- Step 2** Click the copy icon next to the profile that you want to copy.
- Step 3** To update the voice-mail profile configuration settings, see [Table 42-1](#).
- Step 4** Click **Insert**.
-

Related Topics

- [Finding Voice-Mail Profiles](#), page 42-1
- [Deleting a Voice-Mail Profile](#), page 42-3
- [Configuring a Voice-Mail Profile](#), page 42-4
- [Voice-Mail Profile Configuration Settings](#), page 42-5
- [Voice Mail Connectivity to Cisco CallManager](#), *Cisco CallManager System Guide*
- [Cisco Unity Configuration Checklist](#), *Cisco CallManager System Guide*

Deleting a Voice-Mail Profile

To delete a voice-mail profile, use the following procedure. You cannot delete the default profile or the *No Voice Mail* profile.

Before You Begin

You cannot delete a voice-mail profile that a directory number uses. To find out which directory numbers are using the voice-mail profile, click the **Dependency Records** link from the Voice Mail Profile 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 voice-mail profile that is in use, Cisco CallManager displays an error message. Before deleting a voice-mail profile that is currently in use, you must perform either or both of the following tasks:

- Assign a different voice-mail profile to any devices that are using the voice-mail profile that you want to delete.
- Delete the devices that are using the voice-mail profile that you want to delete.

Procedure

- Step 1** To locate the voice-mail profile that you want to delete, follow the procedure on [“Finding Voice-Mail Profiles”](#) section on page 42-1.
- Step 2** Check the check box next to the voice-mail profiles that you want to delete. To select all the voice-mail profiles in the window, check the check box in the matching records title bar.
- Step 3** Click **Delete Selected**.
-

Related Topics

- [Finding Voice-Mail Profiles](#), page 42-1
- [Copying a Voice-Mail Profile](#), page 42-2
- [Configuring a Voice-Mail Profile](#), page 42-4
- [Voice-Mail Profile Configuration Settings](#), page 42-5
- [Voice Mail Connectivity to Cisco CallManager](#), *Cisco CallManager System Guide*
- [Cisco Unity Configuration Checklist](#), *Cisco CallManager System Guide*

Configuring a Voice-Mail Profile

To configure a voice-mail profile for a directory number, use the following procedure.

Procedure

- Step 1** Choose a voice-mail profile or click the **Add a New Voice Mail Profile** link.
- Step 2** Configure the appropriate settings as described in [Table 42-1](#).
- Step 3** To add the new voice-mail profile, click **Insert** or to update the settings for an existing voice-mail profile, click **Update**.
-

Related Topics

- [Finding Voice-Mail Profiles](#), page 42-1
- [Copying a Voice-Mail Profile](#), page 42-2
- [Deleting a Voice-Mail Profile](#), page 42-3
- [Voice-Mail Profile Configuration Settings](#), page 42-5
- [Voice Mail Connectivity to Cisco CallManager](#), *Cisco CallManager System Guide*
- [Cisco Unity Configuration Checklist](#), *Cisco CallManager System Guide*

Voice-Mail Profile Configuration Settings

[Table 42-1](#) describes the voice-mail profile configuration settings.

Table 42-1 Voice Mail Profile Configuration Settings

Field	Description
Voice Mail Profile Name	Enter a name to identify the voice-mail profile.
Description	Enter the description of the profile.
Voice Mail Pilot	Choose the appropriate voice-mail pilot number that is defined in the Voice Mail Pilot Configuration or Use Default Setting .

Table 42-1 Voice Mail Profile Configuration Settings (continued)

Field	Description
Voice Mail Box Mask	<p>Specify the mask used to format the voice-mail box number for auto-registered phones. When forwarding a call to voice mail from a directory line on an auto-registered phone, Cisco CallManager applies this mask to the number that is configured in the Voice Mail Box field for that directory line.</p> <p>For example, if you specify a mask of 972813XXXX, the voice-mail box number for directory number 7253 becomes 9728137253. If you do not enter a mask, the voice-mail box number is the same as the directory number (7253 in this example).</p> <p>By default, Cisco CallManager sets the voice-mail box number to the same value as the directory number. You can change the voice-mail box number when configuring the directory number. See the “Configuring Directory Numbers” section on page 49-39 for more information.</p>
Make This the Default Voice Mail Profile for the System	<p>Check the box to make this profile name the default.</p> <p>Note If you check the Default box, this voice-mail profile replaces your current default profile.</p>

Related Topics

- [Finding Voice-Mail Profiles, page 42-1](#)
- [Copying a Voice-Mail Profile, page 42-2](#)
- [Deleting a Voice-Mail Profile, page 42-3](#)
- [Configuring a Voice-Mail Profile, page 42-4](#)
- [Voice Mail Connectivity to Cisco CallManager, Cisco CallManager System Guide](#)
- [Cisco Unity Configuration Checklist, Cisco CallManager System Guide](#)



PART 6

Device Configuration





Device Configuration

Cisco CallManager allows you to configure the following devices in your telephony network:

- CTI ports
- CTI route points
- Device settings such as device profiles, phone button templates, and softkey templates
- Gatekeepers
- Gateways
- Phones
- Trunks

This section covers the following topics:

- [Adding Devices to Cisco CallManager, page 43-2](#)
- [Restarting or Resetting a Device, page 43-2](#)

Adding Devices to Cisco CallManager

Before you can use devices, such as gateways and Cisco IP Phones in your IP telephony network, you must add them to the Cisco CallManager configuration database. You can add several of these devices by using the Add a New Device window. Refer to these sections for assistance in adding those telephony devices:

- [Adding a CTI Route Point, page 44-2](#)
- [Adding a Gatekeeper, page 47-4](#)
- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [Adding a Phone, page 49-4](#)
- [Adding a Trunk, page 50-3](#)

Restarting or Resetting a Device

At any time, you can restart or reset a device by clicking the Reset button in the device window or by clicking the Reset icon in the Find and List window that is associated with the device, if available. You can restart a device without shutting it down by clicking the **Restart** button. You can shut down a device and bring it back up again by clicking the **Reset** button. If you want to return to the previous window without resetting or restarting the device, click **Close**.



Note

Restarting or resetting a gateway or trunk drops any calls in progress that are using that gateway or trunk. Other devices wait until calls complete before restarting or resetting.



CTI Route Point Configuration

A computer telephony integration (CTI) route point designates a virtual device that can receive multiple, simultaneous calls for application-controlled redirection.

For first-party call control, you can optionally add a CTI port for each active voice line (the CTI application determines this). Applications that use CTI route points and CTI ports include Cisco SoftPhone, Cisco IP Auto Attendant, and Cisco IP Interactive Voice Response System. After you add a CTI route point to Cisco CallManager Administration, information from the RIS Data Collector service displays in the CTI Route Point Configuration window. When available, the IP address of the device and the name of the Cisco CallManager with which the device registered display.

For detailed instructions on how to configure CTI route points and CTI ports that are associated with these applications, refer to the documentation and online help that is included with these applications.

This section describes the following basic procedures:

- [Adding a CTI Route Point, page 44-2](#)
- [Modifying a CTI Route Point, page 44-3](#)
- [Deleting a CTI Route Point, page 44-4](#)
- [Finding CTI Route Points, page 44-5](#)
- [Resetting a CTI Route Point, page 44-7](#)
- [CTI Route Point Configuration Settings, page 44-8](#)
- [Computer Telephony Integration, *Cisco CallManager System Guide*](#)

Adding a CTI Route Point

To add a CTI route point, perform the following procedure.

Procedure

-
- Step 1** Choose **Device > CTI Route Point**.
 - Step 2** Click the **Add a New CTI Route Point** link.
 - Step 3** Enter the appropriate settings, as defined in [Table 44-1](#).
 - Step 4** To add the new CTI route point, click **Insert**.

When prompted to add a directory number for line 1, click either **OK** to add the directory number or **Cancel** to continue without adding a directory number. For instructions on how to add and configure directory numbers, see the “[Adding a Directory Number](#)” section on page 49-39.

After you add a CTI route point to Cisco CallManager Administration, information from the RIS Data Collector service displays in the CTI Route Point Configuration window. When available, the IP address of the device and the name of the Cisco CallManager with which the device registered display as illustrated in [Figure 44-1](#).

Figure 44-1 CTI Route Point Configuration Window



Related Topics

- [CTI Route Point Configuration](#), page 44-1
- [Modifying a CTI Route Point](#), page 44-3
- [Deleting a CTI Route Point](#), page 44-4
- [Finding CTI Route Points](#), page 44-5
- [Resetting a CTI Route Point](#), page 44-7
- [CTI Route Point Configuration Settings](#), page 44-8
- [Computer Telephony Integration](#), *Cisco CallManager System Guide*

Modifying a CTI Route Point

To modify a CTI route point, perform the following steps.

Procedure

- Step 1** Choose **Device > CTI Route Point**.
- The Find/List CTI Route Points window displays.
- Step 2** Enter the search criteria that are needed to locate the CTI route point that you want to modify.
- Step 3** Click **Find**.
- The window updates to display a list of CTI route points that match the specified search criteria.
- Step 4** Choose the name of the CTI route point whose settings you want to modify.
- The window refreshes to show the current settings for the chosen CTI route point.
- Step 5** Update the appropriate settings as described in [Table 44-1](#).
- Step 6** To apply the changes, click **Update**.
- The window refreshes to display the new settings.
-

Related Topics

- [CTI Route Point Configuration](#), page 44-1
- [Adding a CTI Route Point](#), page 44-2
- [Deleting a CTI Route Point](#), page 44-4
- [Finding CTI Route Points](#), page 44-5
- [Resetting a CTI Route Point](#), page 44-7
- [CTI Route Point Configuration Settings](#), page 44-8
- [Computer Telephony Integration](#), *Cisco CallManager System Guide*

Deleting a CTI Route Point

To delete a CTI route point, perform the following procedure.

Before You Begin

Because you can delete a CTI route point that is assigned to one or more directory numbers, you should determine which directory numbers are using the CTI route point by clicking the **Dependency Records** link from the CTI Route Point 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 CTI route point that is in use, Cisco CallManager displays a message.

If you delete a CTI Route Point that has a directory number assigned to it, you can find the directory number by using the Route Plan Report. You can also delete the directory number by using the Route Plan Report.

Procedure

-
- Step 1** Choose **Device > CTI Route Point**.
The Find/List CTI Route Points window displays.
 - Step 2** Specify the search criteria that are needed to locate the CTI route point that you want to delete.

Step 3 Click **Find**.

The window refreshes to display a list of the CTI route points that match the specified search criteria.

Step 4 Perform one of the following actions:

- Check the check boxes next to the CTI route points that you want to delete and click **Delete Selected**.
- Delete all the CTI route points in the window by checking the check box in the matching records title bar and clicking **Delete Selected**.
- Choose the name of the CTI route point that you want to delete from the list to display its current settings and click **Delete**.

Step 5 To permanently delete the CTI route point, click **OK**.

Related Topics

- [CTI Route Point Configuration, page 44-1](#)
- [Adding a CTI Route Point, page 44-2](#)
- [Modifying a CTI Route Point, page 44-3](#)
- [Finding CTI Route Points, page 44-5](#)
- [Resetting a CTI Route Point, page 44-7](#)
- [CTI Route Point Configuration Settings, page 44-8](#)
- [Computer Telephony Integration, Cisco CallManager System Guide](#)

Finding CTI Route Points

To find and list CTI route points, perform the following procedure.

Procedure

Step 1 Choose **Device > CTI Route Point**.

The Find and List Route Points window displays.

- Step 2** Choose the search criteria to use. To list all items, do not enter any search text or use “Device Name is not empty” as the search criterion.
- Step 3** Click **Find**.
- The window refreshes to display a list of the CTI route points that match the specified search criteria.
- Step 4** To view the next set of CTI route points, click **Next**.



Note You can delete or reset multiple CTI route points from the Find and List Route Points window by checking the check boxes next to the appropriate CTI route points and clicking **Delete Selected** to delete the CTI route points or clicking **Reset Selected** to reset the CTI route points. You can choose all CTI route points in the window by checking the check box in the matching records title bar.

Related Topics

- [CTI Route Point Configuration, page 44-1](#)
- [Adding a CTI Route Point, page 44-2](#)
- [Modifying a CTI Route Point, page 44-3](#)
- [Deleting a CTI Route Point, page 44-4](#)
- [Resetting a CTI Route Point, page 44-7](#)
- [CTI Route Point Configuration Settings, page 44-8](#)
- [Computer Telephony Integration, *Cisco CallManager System Guide*](#)

Resetting a CTI Route Point

To reset a CTI route point, perform the following procedure.

Procedure

Step 1 Choose **Device > CTI Route Point**.

The Find and List CTI Route Points window displays.

Step 2 Choose the search criteria to use.

Step 3 Click **Find**.

The window displays a list of CTI route points that match the search criteria as illustrated in [Figure 44-2](#).

Figure 44-2 Find and List CTI Route Points Configuration Window

Matching record(s) 1 to 2 of 2
Real-time Information Service returned information for 2 of 2 devices listed below.

<input type="checkbox"/>	Device Name	Description	Device Pool	Status	IP Address	Copy
<input type="checkbox"/>	AutoAttendant	AutoAttendant Route Point	cm231	OL52-CM166-CM3	172.28.235.133	
<input type="checkbox"/>	TAPSRoutePoint	TAPSRoutePoint	Default	OL52-CM166-CM1	172.28.235.131	

Page 1 of 1

Step 4 Check the check boxes next to the CTI route points that you want to reset. To choose all CTI route points in the window, check the check box in the matching records title bar.

Step 5 Click **Reset Selected**.

The Reset Device dialog displays.

Step 6 Click one of the following buttons:

- **Restart**—Restarts a device without shutting it down.
- **Reset**—Shuts down a device and brings it back up.
- **Close**—Closes the Reset Device dialog without performing any action.

Related Topics

- [CTI Route Point Configuration](#), page 44-1
- [Adding a CTI Route Point](#), page 44-2
- [Modifying a CTI Route Point](#), page 44-3
- [Deleting a CTI Route Point](#), page 44-4
- [Finding CTI Route Points](#), page 44-5
- [CTI Route Point Configuration Settings](#), page 44-8
- [Computer Telephony Integration](#), *Cisco CallManager System Guide*

CTI Route Point Configuration Settings

Table 44-1 describes the CTI route point configuration settings.

Table 44-1 CTI Route Point Configuration Settings

Field	Description
Device Name	Enter unique identifier for this device, from 1 to 15 characters, including alphanumeric, dot, dash, or underscores.
Description	Enter a descriptive name for the CTI route point.
Device Pool	Choose the name of a Device Pool. The device pool specifies the collection of properties for this device including CallManager Group, Date/Time Group, Region, and Calling Search Space for auto-registration.
Calling Search Space	Choose a calling search space. The calling search space specifies the collection of partitions that are searched to determine how a collected (originating) number should be routed.
Location	Choose the appropriate location for this route point. The location specifies the total bandwidth that is available for calls to and from this location. A location setting of <i>None</i> means that the locations feature does not keep track of the bandwidth that this route point consumes.

Table 44-1 *CTI Route Point Configuration Settings (continued)*

Field	Description
Media Resource Group List	<p>Choose the appropriate Media Resource Group List. A Media Resource Group List comprises a prioritized grouping of media resource groups. An application chooses the required media resource, such as a Music On Hold server, from the available media resources according to the priority order that is defined in a Media Resource Group List.</p> <p>If you choose <none>, Cisco CallManager uses the Media Resource Group that is defined in the device pool.</p> <p>For more information, see the “Media Resource Management” section in the <i>Cisco CallManager System Guide</i>.</p>

Table 44-1 *CTI Route Point Configuration Settings (continued)*

Field	Description
User Hold Audio Source	<p>To specify the audio source that plays when an application initiates a hold action, click the drop-down arrow and choose an audio source from the list that displays.</p> <p>If you do not choose an audio source, Cisco CallManager uses the audio source that is defined in the device pool or the system default if the device pool does not specify an audio source ID.</p> <p>You define audio sources in the Music On Hold Audio Source Configuration window. For access, choose Service > Music On Hold.</p>
Network Hold Audio Source	<p>To specify the audio source that is played when the network initiates a hold action, click the drop-down arrow and choose an audio source from the list that displays.</p> <p>If you do not choose an audio source, Cisco CallManager uses the audio source that is defined in the device pool or the system default if the device pool does not specify an audio source ID.</p> <p>You define audio sources in the Music On Hold Audio Source Configuration window. For access, choose Service > Music On Hold.</p>

Related Topics

- [CTI Route Point Configuration, page 44-1](#)
- [Adding a CTI Route Point, page 44-2](#)
- [Modifying a CTI Route Point, page 44-3](#)
- [Deleting a CTI Route Point, page 44-4](#)
- [Finding CTI Route Points, page 44-5](#)
- [Resetting a CTI Route Point, page 44-7](#)
- [Computer Telephony Integration, *Cisco CallManager System Guide*](#)



Device Profile Configuration

A device profile comprises the set of attributes (services and/or features) that are associated with a particular device. Device profiles include name, description, phone template, add-on modules, softkey templates, multilevel precedence and preemption (MLPP) information, directory numbers, subscribed services, and speed-dial information. Two kinds of device profiles exist: autogenerated and user. You can assign the user device profile to a user, so, when the user logs in to a device, the user device profile that you have assigned to that user loads onto that device as a default login device profile. After a user device profile is loaded onto the phone, the phone picks up the attributes of that device profile.

You can also assign a user device profile to be the default logout device profile for a particular device. When a user logs out of a phone, for instance, the logout device profile loads onto the phone and gives that phone the attributes of the logout device profile. In the Cisco CallManager Administration windows, you can create, modify, or delete the user device profile. If a user device profile is used as the logout device profile, you cannot delete the user device profile.

The autogenerated device profile, which is a special device profile, gets generated when you configure a phone for Cisco CallManager Extension Mobility and choose “Use Current Device Settings” from the Phone Configuration window. The autogenerated device profile then associates with a specific phone to be the logout device profile.

Cisco CallManager also supports a device profile default. Use the device profile default for whenever a user logs on to a phone model for which no user device profile exists. To create a device profile default for each phone model that supports Cisco Extension Mobility, use the Device Profile Default Configuration window. The maximum number of device profile defaults cannot exceed the

number of phone models that support Cisco CallManager Extension Mobility. For more information about the device profile default, see [Device Profile Default Configuration](#).

Use the following topics to configure and locate device profiles:

- [Finding a Device Profile, page 45-2](#)
- [Adding a New User Device Profile, page 45-4](#)
- [Updating User Device Profiles, page 45-8](#)
- [Deleting a User Device Profile, page 45-9](#)
- [Updating Autogenerated Device Profiles, page 45-10](#)
- [Configuring New Directory Numbers for Autogenerated Device Profiles, page 45-12](#)
- [Configuring Directory Numbers, page 49-39](#)
- [Directory Number Configuration Settings, page 49-45](#)

Finding a Device Profile

This topic describes how to use the Find and List Device Profile window. The Find and List lookup function allows you to search for user and autogenerated device profiles or both types. The function searches every type of device profile against the following categories:

- Profile name
- Description
- Device type

Procedure

- Step 1** Choose **Device > Device Settings > Device Profile**.
The Find and List Device Profile window displays.
- Step 2** From the drop-down lists, choose your search text for the type of device profiles that you want listed and click **Find**.



Note To find all device profiles that are registered in the database, choose All Device Profiles from the drop-down list without entering any search text and click **Find**. You can also use “Profile Name is not empty” as your search criteria.

The window refreshes and then displays the device profiles that match your search criteria.

To Jump to an Autogenerated Device Profile or User Device Profile:

Step 3 Choose the device profile from the list of records that match your search criteria.

To Delete Device Profiles:

Step 4 Use the check box in the first column to delete multiple device profiles at once. Check the first check box in the list and click **Delete Selected**. You can also choose individual user device profiles to delete them separately.



Note You cannot delete autogenerated device profiles. You cannot delete user device profiles if phones are using them as a logot profile.

Related Topics

- [Device Profile Configuration, page 45-1](#)
- [Adding a New User Device Profile, page 45-4](#)
- [Updating User Device Profiles, page 45-8](#)
- [Deleting a User Device Profile, page 45-9](#)
- [Updating Autogenerated Device Profiles, page 45-10](#)
- [Configuring New Directory Numbers for Autogenerated Device Profiles, page 45-12](#)
- [Configuring Directory Numbers, page 49-39](#)
- [Directory Number Configuration Settings, page 49-45](#)

Adding a New User Device Profile

The user device profile contains attributes such as device profile name, description, phone template, user locale, expansion modules, softkey template, MLPP information, directory numbers, subscribed services, and speed-dial information. Perform the following procedure to add a user device profile.

Before You Begin

Make sure that phone button template(s) are already configured before proceeding with the steps. See the [“Adding Phone Button Templates”](#) section on page 51-4 for more information.

Procedure

-
- Step 1** Choose **Device > Device Settings > Device Profile**.
The Find and List Device Profile window displays.
 - Step 2** Click the **Add a New User Device Profile** link.
The User Device Profile Configuration window displays.
 - Step 3** Choose a device type from the Device Type drop-down list box.
 - Step 4** Enter a unique name in the User Device Profile Name field. This name can comprise up to 50 characters in length.
 - Step 5** Enter a description of the user device profile in the Description field. For text, use anything that describes this particular user device profile.
 - Step 6** To specify the audio source that plays when a user initiates a hold action, click the drop-down arrow to the right of the User Hold Audio Source field and choose an audio source from the list that displays.

If you do not choose an audio source, Cisco CallManager uses the audio source that is defined in the device pool or the system default if the device pool does not specify an audio source ID.



Note You define audio sources in the Music On Hold Audio Source Configuration window. For access, choose **Service > Media Resource > Music On Hold Audio Source**.

- Step 7** From the User Locale drop-down list, choose the language in which the device displays.
- Step 8** From the Phone Button Template drop-down list, choose a phone button template.
- Step 9** From the Softkey Template drop-down list, choose the softkey template from the list that displays.
- Step 10** You can configure one or two expansion modules for this device profile by choosing phone templates from the expansion module drop-down lists in the expansion module fields.



Note You can view a phone button list at any time by choosing the View button list link next to the phone button template fields. A separate dialog box pops up and displays the phone buttons for that particular expansion module.

- Step 11** If this user device profile will be used for MLPP precedence calls, enter a hexadecimal value between 0 and FFFFFFF for the MLPP domain associated with this device profile. If you leave this field blank, this device profile inherits its MLPP domain from the value set for the MLPP Domain Identifier enterprise parameter.
- Step 12** If this user device profile will be used for MLPP precedence calls, assign an MLPP Indication setting to the device profile. This setting specifies whether a device 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 profile from the following options:

- **Default**—This device profile inherits its MLPP indication setting from the associated device's device pool.
- **Off**—This device does not handle nor process indication of an MLPP precedence call.
- **On**—This device profile does handle and process indication of an MLPP precedence call.



Note Do not configure a device profile 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*.

Step 13 If this user device profile will be used for MLPP precedence calls, assign an MLPP Preemption setting to the device profile. This setting specifies whether a device 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 profile from the following options:

- **Default**—This device profile inherits its MLPP preemption setting from the associated device’s 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 profile 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*.

Step 14 Enter a valid login user ID in the Login User ID field.



Note If the user device profile is used as a logout profile, specify the login user ID that will be associated with the phone. After the user logs out from this user device profile, the phone will automatically log in to this login user ID.



Note You can obtain help in finding a valid login user ID by choosing the **Select Login User ID** link next to the Login User ID field. See the [“Searching for User ID”](#) section on page 49-28 for details.

Step 15 Click **Insert**.

Step 16 A dialog box appears that asks you to configure a directory number for line 1 of this user device profile. Click **OK**.

The Directory Number Configuration window displays. For information on configuring directory numbers, see the [“Configuring Directory Numbers”](#) section on page 49-39.

Step 17 Enter the appropriate settings as described in “[Directory Number Configuration Settings](#)” section on page 49-45.

Step 18 Click **Insert**.

A dialog box notifies you that you have updated the user device profile. The dialog box informs you that you need to log out and log in again to the device with this profile for changes to take effect. Click **OK**.

A second dialog box informs you that the directory number has been assigned to the current device. Click **OK** to return to the current user device profile.

Related Topics

- [Device Profile Configuration, page 45-1](#)
- [Finding a Device Profile, page 45-2](#)
- [Updating User Device Profiles, page 45-8](#)
- [Deleting a User Device Profile, page 45-9](#)
- [Updating Autogenerated Device Profiles, page 45-10](#)
- [Configuring New Directory Numbers for Autogenerated Device Profiles, page 45-12](#)
- [Configuring Directory Numbers, page 49-39](#)
- [Directory Number Configuration Settings, page 49-45](#)

Updating User Device Profiles

This section describes how to update a user device profile.

Before You Begin

Make sure that the user device profile that you want to update is configured in Cisco CallManager before proceeding with the steps. See the [“Adding a New User Device Profile” section on page 45-4](#) to configure a user device profile.

Procedure

-
- Step 1** Locate the user device profile that you want to update. See the [“Finding a Device Profile” section on page 45-2](#).
- Step 2** From the User Device Profile Configuration window, make the desired changes to the user device profile; then, click **Update**.

The changes that you made should now appear in this user device profile.



Note You must log in to a device for changes to a user device profile to take effect.

Related Topics

- [Device Profile Configuration, page 45-1](#)
- [Finding a Device Profile, page 45-2](#)
- [Adding a New User Device Profile, page 45-4](#)
- [Deleting a User Device Profile, page 45-9](#)
- [Updating Autogenerated Device Profiles, page 45-10](#)
- [Configuring New Directory Numbers for Autogenerated Device Profiles, page 45-12](#)
- [Configuring Directory Numbers, page 49-39](#)
- [Directory Number Configuration Settings, page 49-45](#)

Deleting a User Device Profile

This section describes how to delete a user device profile.

Before You Begin

You cannot delete a device profile if it is assigned to devices. To find out which devices are using the device profile, click the **Dependency Records** link from the Device Profile 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 device profile that is in use, Cisco CallManager displays an error message. Before deleting a device profile that is currently in use, you must perform either or both of the following tasks:

- Assign a different device profile to any devices that are using the device profile that you want to delete.
- Delete the devices that are using the device profile that you want to delete.

Procedure

-
- Step 1** Locate the user device profile that you want to delete. See the [“Finding a Device Profile” section on page 45-2](#).
- Step 2** From the User Device Profile Configuration window, click **Delete**.
A message displays that states that this action cannot be undone.
- Step 3** To delete the device profile, click **OK** or to cancel the deletion, click **Cancel**.



Note If a user device profile is configured as a default logout device profile, you cannot delete it. If you want to delete a logout device profile, you must change it from a logout device profile and configure another device profile as the logout device profile for that phone. After the user device profile is no longer a logout device profile, you can delete it.

Related Topics

- [Device Profile Configuration, page 45-1](#)
- [Finding a Device Profile, page 45-2](#)
- [Adding a New User Device Profile, page 45-4](#)
- [Updating User Device Profiles, page 45-8](#)
- [Updating Autogenerated Device Profiles, page 45-10](#)
- [Configuring New Directory Numbers for Autogenerated Device Profiles, page 45-12](#)
- [Configuring Directory Numbers, page 49-39](#)
- [Directory Number Configuration Settings, page 49-45](#)

Updating Autogenerated Device Profiles

This section describes how to update an autogenerated device profile. You can modify the autogenerated device profile but not delete it or change the profile name.

Before You Begin

Make sure that the autogenerated device profile(s) are configured before proceeding with the steps. See the [“Updating a Phone” section on page 49-10](#) and the [“Autogenerated Device Profile” section](#) in the *Cisco CallManager Features and Services Guide* for more information.

Procedure

- Step 1** Locate the autogenerated device profile that you want to update. See the “[Finding a Device Profile](#)” section on page 45-2.
- Step 2** From the Autogenerated Device Profile Configuration window, make the desired changes to the autogenerated device profile; then, click **Update**.

The changes that you made should now appear in this autogenerated device profile.



Note You must log out of a device for changes to an autogenerated device profile to take effect.

Related Topics

- [Device Profile Configuration](#), page 45-1
- [Autogenerated Device Profile](#), *Cisco CallManager Features and Services Guide*
- [Finding a Device Profile](#), page 45-2
- [Adding a New User Device Profile](#), page 45-4
- [Updating User Device Profiles](#), page 45-8
- [Deleting a User Device Profile](#), page 45-9
- [Configuring New Directory Numbers for Autogenerated Device Profiles](#), page 45-12
- [Configuring Directory Numbers](#), page 49-39
- [Directory Number Configuration Settings](#), page 49-45

Configuring New Directory Numbers for Autogenerated Device Profiles

This topic describes how to add new directory numbers, on assigned lines, for autogenerated device profiles.

Before You Begin

Make sure that the following prerequisites are met before proceeding with the steps:

- Make sure that the autogenerated device profile(s) are configured before proceeding with the steps. See the [“Updating a Phone” section on page 49-10](#) for more information.
- You must add new directory numbers for an autogenerated device profile from the Autogenerated Device Profile Configuration window. See the [“Finding a Device Profile” section on page 45-2](#) for more information.

Procedure

Step 1 From the Autogenerated Device Profile Configuration window, choose the line on which you want to add a new DN, from the directory number list on the left side of the window.

The Directory Number Configuration window displays. For information on configuring directory numbers, see [“Configuring Directory Numbers” section on page 49-39](#).

Step 2 Enter the appropriate settings as described in [“Directory Number Configuration Settings” section on page 49-45](#).

Step 3 Click **Insert**.

The window refreshes and displays the settings that you configured.



Note You can also update, delete, and restart devices from the Directory Number Configuration window by clicking the corresponding buttons for these functions. Deleting a directory number removes it from the line, and you cannot undo this action.

- Step 4** Return to the Autogenerated Device Profile window by clicking the Configure Device Profile link.

The new directory number should appear on the appropriate line in the list on the left side of the window.



Note When you update the configuration settings for a phone, if an autogenerated device profile has a different default setting than the phone, the setting of the device profile gets overwritten when you choose <User Current Device Setting> as the logout device profile from the Phone Configuration web window.



Note Set the value of the Synchronization Between Auto Device Profile and Phone Configuration enterprise parameter to True (default). This ensures that, when a phone gets updated, the autogenerated device profile also gets updated.

Related Topics

- [Device Profile Configuration, page 45-1](#)
- [Finding a Device Profile, page 45-2](#)
- [Adding a New User Device Profile, page 45-4](#)
- [Updating User Device Profiles, page 45-8](#)
- [Deleting a User Device Profile, page 45-9](#)
- [Updating Autogenerated Device Profiles, page 45-10](#)
- [Configuring Directory Numbers, page 49-39](#)
- [Directory Number Configuration Settings, page 49-45](#)



Device Profile Default Configuration

Use the device profile default for whenever a user logs on to a phone model for which no user device profile exists. To create a device profile default for each phone model that supports Cisco Extension Mobility, use the Device Profile Default Configuration window. The maximum number of device profile defaults cannot exceed the number of phone models that support Cisco CallManager Extension Mobility.

For example, a user logs on to a Cisco IP Phone model 7960, for which there is a user device profile. The user device profile for the user gets downloaded to the phone to which the user logged on. Later, the same user logs on to a Cisco IP Phone model 7940, for which he does not have a user device profile. In this case, the device profile default for the model 7940 gets downloaded to the phone.

A device profile default comprises the set of attributes (services and/or features) that are associated with a particular device. Device profiles include device type, user locale, phone button template, softkey template, multilevel precedence and preemption (MLPP) information, and Cisco IP Phone services.

Use the following topics to configure and update device profile defaults:

- [Adding a New Device Profile Default, page 46-2](#)
- [Updating Device Profile Defaults, page 46-3](#)
- [Deleting a Device Profile Default, page 46-3](#)
- [Subscribing Services to a Device Profile Default, page 46-4](#)
- [Device Profile Default Configuration Settings, page 46-5](#)

Adding a New Device Profile Default

The device profile default contains attributes such as device type, phone template, user locale, expansion modules, softkey template, MLPP information, and subscribed Cisco IP Phone services. Perform the following procedure to add a device profile default.

Procedure

- Step 1** Choose **Device > Device Settings > Device Profile Default**.
The Device Profile Default Configuration window displays.
- Step 2** Click the **Add a New User Device Profile** link.
- Step 3** Configure each field as described in [Table 46-1](#).
- Step 4** Click **Insert**.
The device profile displays in the Device Profile Default pane.
- Step 5** Click the **Subscribe/Unsubscribe Services** link to add Cisco IP Phone services to this profile.
The Subscribe Cisco IP Phone services window displays.
- Step 6** From the Select a Service drop-down list box, choose the service that you want to add to the profile.
- Step 7** Click **Continue**.
The window displays with the service that you chose. If you want to choose a different service, click **Back** and repeat Step 6.
- Step 8** Click **Subscribe**.
The service appears in the Subscribed Services list.
-

Related Topics

- [Updating Device Profile Defaults, page 46-3](#)
- [Deleting a Device Profile Default, page 46-3](#)
- [Subscribing Services to a Device Profile Default, page 46-4](#)
- [Device Profile Default Configuration Settings, page 46-5](#)

Updating Device Profile Defaults

This section describes how to update a device profile default.

Procedure

- Step 1** Choose **Device > Device Settings > Device Profile Default**.
- Step 2** From the Device Profile Default pane, click the device profile that you want to update.
- The Device Profile Default Configuration window displays the profile information of the profile that you chose.
- Step 3** Make the desired changes to the profile as described in [Table 46-1](#).
- Step 4** Click **Update**.
-

Related Topics

- [Adding a New Device Profile Default, page 46-2](#)
- [Deleting a Device Profile Default, page 46-3](#)
- [Subscribing Services to a Device Profile Default, page 46-4](#)
- [Device Profile Default Configuration Settings, page 46-5](#)

Deleting a Device Profile Default

This section describes how to delete a device profile default.

Procedure

- Step 1** Choose **Device > Device Settings > Device Profile Default**.
- Step 2** From the Device Profile Default pane, click the device profile that you want to delete.
- The Device Profile Default Configuration window displays the profile information of the profile that you chose.

Step 3 Click **Delete**.

A message displays that states that this action cannot be undone.

Step 4 To delete the device profile default, click **OK** or, to cancel the deletion, click **Cancel**.

Related Topics

- [Adding a New Device Profile Default, page 46-2](#)
- [Updating Device Profile Defaults, page 46-3](#)
- [Subscribing Services to a Device Profile Default, page 46-4](#)

Subscribing Services to a Device Profile Default

To subscribe a service such as Cisco CallManager Extension Mobility to the device profile default, see the [“Adding a Cisco IP Phone Service” section on page 36-4](#).

Related Topics

- [Adding a New Device Profile Default, page 46-2](#)
- [Updating Device Profile Defaults, page 46-3](#)
- [Deleting a Device Profile Default, page 46-3](#)
- [Device Profile Default Configuration Settings, page 46-5](#)

Device Profile Default Configuration Settings

Table 46-1 describes the fields that are available in the Device Profile Default Configuration window.

Table 46-1 Device Profile Default Configuration Settings

Field	Description
Device Profile Default Information	
Device Type	This field specifies the device (such as an IP phone) for which a profile gets created.
User Hold Audio Source	<p>To specify the audio source that plays when a user initiates a hold action, click the drop-down arrow and choose an audio source from the list that displays.</p> <p>If you do not choose an audio source, Cisco CallManager uses the audio source that is defined in the device pool or uses the system default if the device pool does not specify an audio source ID.</p> <p>Note You define audio sources in the Music On Hold Audio Source Configuration window. For access, choose Service > Music On Hold.</p>
User Locale	<p>From the drop-down list box, choose the locale that is associated with the phone user interface. The user locale identifies a set of detailed information, including language and font, to support users.</p> <p>Cisco CallManager makes this field available only for phone models that support localization.</p> <p>Note If no user locale is specified, Cisco CallManager uses the user locale that is associated with the device pool.</p> <p>Note If the users require information to display (on the phone) in any language other than English, verify that the locale installer is installed before configuring user locale. Refer to the Cisco IP Telephony Locale Installer documentation.</p>

Table 46-1 Device Profile Default Configuration Settings (continued)

Field	Description
Phone Button Template Information	
Phone Button Template	Choose the appropriate phone button template. The phone button template determines the configuration of buttons on a phone and identifies which feature (line, speed dial, and so on) is used for each button.
Softkey Template Information	
Softkey Template	Choose the appropriate softkey template. The softkey template determines the configuration of the softkeys on Cisco IP Phones. Leave this field blank if the device pool contains the assigned softkey template.
Expansion Module Information	
Module 1	Choose the 7914 14-button expansion module or none.
Module 2	Choose the 7914 14-button expansion module or none.
Multilevel Precedence and Preemption (MLPP) Information	
MLPP Domain (e.g., "0000FF")	Enter a hexadecimal value between 0 and FFFFFFFF for the MLPP domain associated with this device. If you leave this field blank, this device inherits its MLPP domain from the value set for the MLPP Domain Identifier enterprise parameter.

Table 46-1 Device Profile Default Configuration Settings (continued)

Field	Description
MLPP Indication	<p>If available, this setting specifies whether a device capable of playing precedence tones will use the capability when it places an MLPP precedence call.</p> <p>From the drop-down list box, choose a setting to assign to devices that use this device profile default from the following options:</p> <ul style="list-style-type: none"> • 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. <p>Note Do not configure a device profile default with the following combination of settings: MLPP Indication is set to <i>Off or Default</i> (when default is <i>Off</i>) while MLPP Preemption is set to <i>Forceful</i>.</p>

Table 46-1 Device Profile Default Configuration Settings (continued)

Field	Description
MLPP Preemption	<p>If available, this setting specifies whether a device capable of preempting calls in progress will use the capability when it places an MLPP precedence call.</p> <p>From the drop-down list box, choose a setting to assign to devices that use this device profile default from the following options:</p> <ul style="list-style-type: none"> • 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. <p>Note Do not configure a device profile default with the following combination of settings: MLPP Indication is set to <i>Off or Default</i> (when default is <i>Off</i>) while MLPP Preemption is set to <i>Forceful</i>.</p>

Related Topics

- [Adding a New Device Profile Default, page 46-2](#)
- [Updating Device Profile Defaults, page 46-3](#)
- [Deleting a Device Profile Default, page 46-3](#)
- [Subscribing Services to a Device Profile Default, page 46-4](#)



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 that is used for call admission control, bandwidth allocation, and dial pattern resolution (call routing). The gatekeeper provides these services for communications between Cisco CallManager clusters and H.323 networks. You can configure multiple gatekeeper devices per Cisco CallManager cluster. You can configure alternate gatekeepers for redundancy. Refer to MCM documentation for alternate gatekeeper configuration details.

Gatekeeper configuration comprises two components:

- Cisco CallManager configuration. Each Cisco CallManager cluster can register with one or more gatekeepers. This chapter describes how to configure the gatekeeper in Cisco CallManager. You also need to configure trunk devices on the Trunk Configuration window. See the [Trunk Configuration](#) chapter.
- 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. Alternate gatekeeper configuration occurs in the MCM only, so no configuration is necessary in Cisco CallManager.

The following topics cover gatekeeper configuration in Cisco CallManager Administration:

- [Finding a Gatekeeper, page 47-2](#)
- [Adding a Gatekeeper, page 47-4](#)

- [Deleting a Gatekeeper, page 47-5](#)
- [Modifying a Gatekeeper, page 47-6](#)
- [Resetting a Gatekeeper, page 47-7](#)
- [Gatekeeper Configuration Settings, page 47-8](#)

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

- [Gatekeepers and Trunks, Cisco CallManager System Guide](#)
- [Cisco IP Telephony Network Design Guide](#)
- [Cisco IOS Multimedia Conference Manager \(Command Reference\) documentation](#)

Finding a Gatekeeper

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



Note

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

Procedure

Step 1 Choose **Device > Gatekeeper**.

The Find and List Gatekeeper window displays. Use the two drop-down list boxes to search for a gatekeeper.

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

- Name
- Description



Note The criterion that you choose in this drop-down list box specifies how the list of gatekeepers that your search generates will be sorted. For example, if you choose Description, the Description column will display as the left column of the results list.

From the second Find gatekeepers where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly
- is not empty
- is empty

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 gatekeepers that are registered in the database, click **Find** without entering any search text.

A list of discovered gatekeepers displays by

- Gatekeeper icon
- Gatekeeper name
- Description



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

- Step 4** Click the Gatekeeper icon or name or the Description from the list of records that matches your search criteria.

The window displays the gatekeeper that you choose.

Related Topics

- [Adding a Gatekeeper, page 47-4](#)
- [Deleting a Gatekeeper, page 47-5](#)
- [Modifying a Gatekeeper, page 47-6](#)
- [Resetting a Gatekeeper, page 47-7](#)
- [Gatekeeper Configuration Settings, page 47-8](#)

Adding a Gatekeeper

Perform the following procedure to add a gatekeeper device.



Note

You can configure multiple gatekeeper devices per Cisco CallManager cluster.

Procedure

- Step 1** Choose **Device > Gatekeeper**.

The Find and List Gatekeeper Configuration window displays.

In the upper, right corner of the window, click the **Add a New Gatekeeper** link.

The Gatekeeper Configuration window displays.

- Step 2** Enter the appropriate settings as described in [Table 47-1](#).

- Step 3** To add the new gatekeeper, click **Insert**.

The gatekeeper is added to the database.

Related Topics

- [Finding a Gatekeeper, page 47-2](#)
- [Deleting a Gatekeeper, page 47-5](#)
- [Modifying a Gatekeeper, page 47-6](#)
- [Resetting a Gatekeeper, page 47-7](#)
- [Gatekeeper Configuration Settings, page 47-8](#)

Deleting a Gatekeeper

Perform the following steps to delete a gatekeeper.

Before You Begin

You cannot delete a gatekeeper that is assigned to one or more trunks. To find out which trunks are using the gatekeeper, click the **Dependency Records** link from the Gatekeeper 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 gatekeeper that is in use, Cisco CallManager displays an error message. Before deleting a gatekeeper that is currently in use, you must perform either or both of the following tasks:

- Assign a different gatekeeper to any trunks that are using the gatekeeper that you want to delete. See the [“Modifying a Trunk” section on page 50-6](#).
- Delete the trunks that are using the gatekeeper that you want to delete. See the [“Deleting a Trunk” section on page 50-4](#).

Procedure

-
- Step 1** Locate the gatekeeper by using the procedure in the [“Finding a Gatekeeper” section on page 47-2](#).
 - Step 2** From the list of matching records, choose the gatekeeper that you want to delete.

- Step 3** Click the **Delete** button.
A confirmation dialog box displays.
- Step 4** To delete the gatekeeper, click **OK**.
-

Related Topics

- [Finding a Gatekeeper, page 47-2](#)
- [Adding a Gatekeeper, page 47-4](#)
- [Modifying a Gatekeeper, page 47-6](#)
- [Resetting a Gatekeeper, page 47-7](#)
- [Gatekeeper Configuration Settings, page 47-8](#)

Modifying a Gatekeeper

Perform the following steps to modify gatekeeper settings:

Procedure

- Step 1** Locate the gatekeeper by using the procedure in the [“Finding a Gatekeeper” section on page 47-2](#).
- Step 2** From the list of matching records, choose the gatekeeper that you want to modify.
- Step 3** Update the appropriate settings as described in [Table 47-1](#).
- Step 4** To save the changes, click **Update**.
The page refreshes to display the new settings.
- Step 5** Reset the gatekeeper as needed to activate the changes. See the [“Resetting a Gatekeeper” section on page 47-7](#) for details.
-

Related Topics

- [Finding a Gatekeeper, page 47-2](#)
- [Adding a Gatekeeper, page 47-4](#)

- [Deleting a Gatekeeper, page 47-5](#)
- [Resetting a Gatekeeper, page 47-7](#)
- [Gatekeeper Configuration Settings, page 47-8](#)

Resetting a Gatekeeper

Resetting a gatekeeper does not mean that the physical device is reset; instead, resetting forces the Cisco CallManager to reset the logical connection to the gatekeeper and to reregister with the gatekeeper. During this time of reregistering and until successful registration, new calls that are made by using this trunk, which uses this gatekeeper, fail. Perform the following procedure to reset a gatekeeper.



Note

Resetting a gatekeeper does not cause all active calls that this gatekeeper controls to be dropped; however, new call attempts fail.

Procedure

- Step 1** Locate the gatekeeper by using the procedure in the [“Finding a Gatekeeper” section on page 47-2](#).
- Step 2** From the list of matching records, choose the gatekeeper that you want to reset.
- Step 3** If you changed any settings for the Gatekeeper Device, click **Reset Gatekeeper**. The Reset Device dialog displays.
- Step 4** Click one of the following choices:
- **Restart**—Restarts the internal gatekeeper device to update it with the new gatekeeper configuration without dropping calls.
 - **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.
-

Related Topics

- [Finding a Gatekeeper, page 47-2](#)
- [Adding a Gatekeeper, page 47-4](#)
- [Deleting a Gatekeeper, page 47-5](#)
- [Modifying a Gatekeeper, page 47-6](#)
- [Gatekeeper Configuration Settings, page 47-8](#)

Gatekeeper Configuration Settings

[Table 47-1](#) describes the gatekeeper configuration settings.

Table 47-1 Gatekeeper Configuration Settings

Field	Description
Gatekeeper Information	
Host Name/IP Address	Enter the IP address or host name of the gatekeeper in this required field. You can register multiple gatekeepers per Cisco CallManager cluster.
Description	Enter a descriptive name for the gatekeeper.
Registration Request Time to Live	Do not change this value unless a Cisco TAC engineer instructs you to do so. Enter the time in seconds. The default value specifies 60 seconds. The Registration Request Time to Live field indicates the 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. 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.

Table 47-1 Gatekeeper Configuration Settings (continued)

Field	Description
Registration Retry Timeout	<p>Do not change this value unless a Cisco TAC engineer instructs you to do so. Enter the time in seconds. The default value specifies 300 seconds.</p> <p>The Registration Retry Timeout field indicates the time that Cisco CallManager waits before retrying gatekeeper registration after a failed registration attempt.</p>
Enable Device	<p>This check box allows you to register this gatekeeper with Cisco CallManager. By default, this check box remains checked. To unregister the gatekeeper from Cisco CallManager gracefully, uncheck this check box. The gatekeeper unregisters within approximately 1 minute of updating this field.</p>

Related Topics

- [Finding a Gatekeeper, page 47-2](#)
- [Adding a Gatekeeper, page 47-4](#)
- [Deleting a Gatekeeper, page 47-5](#)
- [Resetting a Gatekeeper, page 47-7](#)
- [Modifying a Gatekeeper, page 47-6](#)



Gateway Configuration

Cisco IP telephony gateways enable Cisco CallManager to communicate with non-IP telecommunications devices. Cisco CallManager supports several gateway types as described in the *Cisco CallManager System Guide*.

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

- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [Gateway Configuration Settings, page 48-17](#)
- [Port Configuration Settings, page 48-65](#)
- [Finding Specific Gateways, page 48-75](#)
- [Modifying Gateways and Ports, page 48-86](#)
- [Understanding Cisco CallManager Voice Gateways, *Cisco CallManager System Guide*](#)

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 configuration database. The procedures, windows, and configuration settings for adding a gateway vary according to the gateway model that you are adding.

The following procedure describes how to add a new gateway in Cisco CallManager.

Procedure

-
- Step 1** Choose **Device > Gateway** to display the Find/List Gateways window.
- Step 2** Click the **Add a New Gateway** link. The Add a New Gateway window displays.
- Step 3** From the Gateway type drop-down list box, choose the gateway type that you want to add. The Device Protocol field may automatically get populated depending on which gateway type you choose.
- Step 4** Click **Next**.
- Step 5** In the following table, click the specific procedure for the gateway type that you are configuring. Once you are in the correct procedure, start with the step where you enter the appropriate settings for that particular gateway type.
-

Table 48-1 Gateways

Type of Gateway	Procedure to Add
Cisco Voice Gateway 200 (VG200)	Adding a Cisco IOS MGCP Gateway, page 48-3
Cisco IOS 269X, 26XX, 362X, 364X, 366X, 3725, 3745 gateways	
Cisco Catalyst 4000 Access Gateway Module	
Cisco Catalyst 4224 Voice Gateway Switch	
Communication Media Module	
Cisco IAD2400	
Cisco ICS77XX-ASI160,	
Cisco ICS77XX-ASI81,	
Cisco ICS77XX-MRP2xx,	
Cisco ICS77XX-MRP3-16FXS,	
Cisco ICS77XX-MRP3-8FXO-M1,	
Cisco ICS77XX-MRP3-8FXS,	
Cisco ICS77XX-MRP3xx gateways	

Table 48-1 Gateways (continued)

Type of Gateway	Procedure to Add
Cisco Catalyst 6000 E1 VoIP Gateway Cisco Catalyst 6000 T1 VoIP Gateway Cisco DT-24+ or DE-30+ Digital Access Trunk Gateway	Adding a Non-IOS MGCP Gateway, page 48-11
Other Cisco IOS gateway configured in H.323 mode	Adding a Cisco IOS H.323 Gateway, page 48-13
Cisco Catalyst 6000 24 Port FXS Gateway Analog Access AS-2, AS-4, AS-8, AT-2, AT-4, AT-8	Adding an Analog Access Gateway and Ports, page 48-14
Cisco VG248 Gateway	Adding a Cisco VG248 Analog Phone Gateway, page 48-15

Adding a Cisco IOS MGCP Gateway

Use the following procedure to add and configure a Cisco IOS MGCP gateway to Cisco CallManager. The following Cisco IOS gateways support MGCP:

- Cisco VG200 Cisco IP Telephony Voice Gateway
- Cisco IOS 362x, 364x, 366x gateways
- Cisco IOS 3725 and 3745 gateways
- Cisco IOS 26xx and 269x gateways
- Cisco Catalyst 4000 Access Gateway Module
- Cisco Catalyst 4224 Voice Gateway Switch
- Communication Media Module
- Cisco IAD2400 gateways
- Cisco ICS77XX-ASI160, Cisco ICS77XX-ASI81, Cisco ICS77XX-MRP2xx, ICS77XX-MRP3-16FXS, ICS77XX-MRP3-8FXO-M1, ICS77XX-MRP3-8FXS, ICS77XX-MRP3xx gateways

**Note**

Like other IOS MGCP gateways, MRP/ASI gateways may work with a Cisco CallManager group that contains three Cisco CallManagers. ASI/MRP gateways testing occurs, however, with only one backup Cisco CallManager.

Before You Begin

Before configuring a Cisco IOS MGCP gateway for use with Cisco CallManager, you must configure the gateway by using the Cisco IOS command-line interface (CLI). For procedures and commands that are required to perform this configuration, refer to the configuration documentation that is supplied with the gateway.

Procedure

-
- Step 1** Choose **Device > Add a New Device**.
- The Add a New Device window appears.
- Step 2** From the Device type drop-down list box, choose **Gateway** and click **Next**.
- The Add a New Gateway window appears.
- Step 3** From the Gateway Type drop-down list box, choose one of the following MGCP gateways:
- VG200
 - Cisco IOS 362x, 364x, 366x gateways
 - Cisco IOS 3725 and 3745 gateways
 - Cisco IOS 26xx gateways
 - Cisco Catalyst 4000 Access Gateway Module
 - Cisco Catalyst 4224 Voice Gateway Switch
 - Communication Media Module
 - Cisco IAD2400 gateway
 - Cisco ICS77XX-ASI160, Cisco ICS77XX-ASI81, Cisco ICS77XX-MRP2xx, ICS77XX-MRP3-16FXS, ICS77XX-MRP3-8FXO-M1, ICS77XX-MRP3-8FXS, ICS77XX-MRP3xx gateways



Note The Cisco Catalyst 6000 gateways also support MGCP but are configured differently. See the [“Adding a Non-IOS MGCP Gateway”](#) section on page 48-11.

When you choose one of the preceding gateways, the Device Protocol drop-down list displays “Not Required for MGCP.”

Cisco IOS MGCP gateways support different device protocols for interfacing to the PSTN or other non-IP devices, depending on the gateway model and the type of installed network modules and voice interface cards (VICs). A subsequent web window provides configuration for these interfaces.

Step 4 Click **Next**. The MGCP Configuration window displays.

Step 5 Enter the appropriate settings and choose the type of network modules that are installed in each slot, as described in the [“MGCP Gateway Configuration Settings”](#) section on page 48-18, including any product-specific configuration settings.

Step 6 Click **Insert**.

The MGCP Gateway Configuration window updates and displays drop-down list boxes with options for configuring the type of voice interface cards (VICs) in each subunit of each network module.

The available choices depend on the type of network modules that are configured in the MGCP Configuration window.

Step 7 From the drop-down list boxes, choose the type of VICs that are installed in each subunit and click **Update**.

The window updates to add links for configuring endpoint information and ports for the chosen type of VICs.

Step 8 Click an endpoint identifier (for example, 1/0/0) to configure device protocol information and add ports for the installed types of VICs.

For detailed instructions, see the following procedures:

- [Adding FXS Ports to an MGCP Gateway, page 48-6](#)
- [Adding FXO Ports to an MGCP Gateway, page 48-8](#)
- [Adding T1-CAS Ports to an MGCP Gateway, page 48-10](#)
- [Adding a T1 PRI or E1 PRI Device to an MGCP Gateway, page 48-11](#)



Note If you are configuring a Cisco ICS77XX-ASI160 or Cisco ICS77XX-MRP3-16FXS gateway, configure analog ports. E1 and T1 ports are not valid for these gateways.

- Step 9** Reset the gateway to apply the changes.
- Step 10** Continue configuring endpoint information and ports as needed.
- Step 11** After you finish configuring the endpoint and adding ports, you need to add the MGCP gateway device to a route group/route list or assign a route pattern to the gateway, so calls can be routed to the gateway.



Note You only need to add the MGCP gateway to a route pattern for outbound calling.

Adding Ports to an MGCP Gateway

The device protocols and port types that can be configured on MGCP gateways vary by the type of installed voice interface cards. This section contains the following procedures:

- [Adding FXS Ports to an MGCP Gateway, page 48-6](#)
- [Adding FXO Ports to an MGCP Gateway, page 48-8](#)
- [Adding T1-CAS Ports to an MGCP Gateway, page 48-10](#)
- [Adding a T1 PRI or E1 PRI Device to an MGCP Gateway, page 48-11](#)

Adding FXS Ports to an MGCP Gateway

You can use Foreign Exchange Station (FXS) ports to connect to any POTS device. Use this procedure to configure FXS ports on an MGCP gateway.

Before You Begin

You must add an MGCP gateway before configuring ports. See the [“Adding a Cisco IOS MGCP Gateway” section on page 48-3](#) for instructions.

Procedure

-
- Step 1** Choose **Device > Gateway** to display the Find/List Gateways window or skip to [Step 4](#) if you have already located the MGCP gateway to which you want to add FXS ports.
- Step 2** Enter the appropriate search criteria to locate the MGCP gateway to which you want to add FXS ports.
- Step 3** Click the name of the desired gateway to display its MGCP configuration settings and endpoint identifiers.
- Step 4** From the MGCP Configuration window, click the endpoint identifier for the FXS VIC that you want to configure.

The window refreshes and displays the Gateway Configuration window.

- Step 5** Enter the appropriate **Gateway Information** and **Port Information** settings. See the following sections for details about these fields:

- [FXS/FXO Gateway Configuration Settings, page 48-21](#)
- [POTS Port Configuration Settings, page 48-66](#)

- Step 6** Click **Insert**.



Note After you insert a POTS port, the window refreshes and displays the POTS port in the list on the left side of the window. An **Add DN** link displays to the right of the new port.

- Step 7** Click **Add DN** to add directory numbers to the POTS port or, if you configured another type of port, go to [Step 9](#).



Note See the [“Adding a Directory Number” section on page 49-39](#) and [“Directory Number Configuration Settings” section on page 49-45](#) for information about adding and configuring DNs.

- Step 8** To return to the main MGCP gateway configuration window for the gateway to which you just added the ports, click **Back to MGCP Configuration**.

- Step 9** Reset the gateway to apply the changes.
- Step 10** Repeat [Step 4](#) through [Step 8](#) to add additional FXS ports.
-

Related Topics

- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [Adding a Cisco IOS MGCP Gateway, page 48-3](#)
- [Port Configuration Settings, page 48-65](#)

Adding FXO Ports to an MGCP Gateway

You can use Foreign Exchange Office (FXO) ports for connecting to a central office or PBX. Use this procedure to add and configure FXO ports for loop start or ground start on an MGCP gateway.



Note


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

Before You Begin

You must add an MGCP gateway before configuring ports. See the [“Adding a Cisco IOS MGCP Gateway”](#) section on page 48-3 for instructions.

Procedure

- Step 1** Choose **Device > Gateway** to display the Find/List Gateways window or skip to [Step 4](#) if you have already located the MGCP gateway to which you want to add FXO ports.
- Step 2** Enter the appropriate search criteria to locate the MGCP gateway to which you want to add FXO ports and click **Find**. The search results window displays.
- Step 3** Click the name of the desired gateway to display its MGCP configuration settings and endpoint identifiers.

- Step 4** From the MGCP Configuration window, click the endpoint identifiers of the FXO port that you want to configure.
- Step 5** From the Port Type drop-down list box, choose either **Ground Start** or **Loop Start**.
-  **Note** You must choose the same port type for both endpoint identifiers of the VIC-2FXO port. If you choose different port types, an error message displays.
-
- Step 6** Enter the appropriate **Gateway Configuration** and **Port Information** settings as described in the following sections:
- [FXS/FXO Gateway Configuration Settings, page 48-21](#)
 - [Ground Start Port Configuration Settings, page 48-71](#).
 - [Loop-Start Port Configuration Settings, page 48-69](#)
- Step 7** Click **Insert**.
- Step 8** To return to the main MGCP gateway configuration window for the gateway to which you just added the ports, click **Back to Main Gateway Configuration**.
- Step 9** To add more FXO ports, repeat [Step 4](#) through [Step 7](#).
- Step 10** To apply the changes, reset the gateway.
-

Related Topics

- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [Port Configuration Settings, page 48-65](#)

Adding T1-CAS Ports to an MGCP Gateway

Use this procedure to add T1-CAS ports to an MGCP gateway.

-
- Step 1** To display the Find/List Gateways window, choose **Device > Gateway** or skip to [Step 4](#) if you have already located the MGCP gateway to which you want to add T1-CAS ports.
 - Step 2** To locate the MGCP gateway to which you want to add a T1-CAS port, enter the appropriate search criteria.
 - Step 3** To display its MGCP configuration settings and endpoint identifiers, click the name of the desired gateway.
 - Step 4** From the MGCP Configuration window, click the endpoint identifier of the T1-CAS port that you want to configure.
 - Step 5** From the drop-down list box, choose the **T1-CAS** protocol.
 - Step 6** Enter the appropriate Gateway Configuration settings. See the [“T1-CAS Gateway Configuration Settings”](#) section on page 48-44 for details.
 - Step 7** Click **Insert**.
 - Step 8** Click **Add New Port**. A port configuration dialog box opens.
 - Step 9** From the Port Type drop-down list box, choose a port type. See the [“Port Configuration Settings”](#) section on page 48-65 for the appropriate settings for the port type that you choose.
 - Step 10** Click **Insert** or **Insert and Close**.
 - Step 11** To apply the changes, reset the gateway.
-

Related Topics

- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [Port Configuration Settings, page 48-65](#)

Adding a T1 PRI or E1 PRI Device to an MGCP Gateway

-
- Step 1** To display the Find/List Gateways window, choose **Device > Gateway** or skip to [Step 4](#) if you have already located the MGCP gateway to which you want to add a port.
- Step 2** To locate the MGCP gateway to which you want to add a T1 PRI or E1 PRI port, enter the appropriate search criteria.
- Step 3** To display the configuration information for the selected gateway, click the name of the desired gateway in the list.
- Step 4** From the MGCP Configuration window, click the endpoint identifier of the T1 or E1 PRI port that you want to configure.
- Step 5** Configure the T1 PRI or E1 PRI device protocol settings. See the [“E1/T1 PRI Gateway Configuration Settings”](#) section on [page 48-26](#) for detailed field descriptions.
- Step 6** Click **Insert**.
- Step 7** To apply the changes, reset the gateway.
-

Related Topics

- [Adding a Cisco IOS MGCP Gateway, page 48-3](#)
- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [E1/T1 PRI Gateway Configuration Settings, page 48-26](#)

Adding a Non-IOS MGCP Gateway

Use the following procedure to add the following non-IOS Cisco MGCP gateways to Cisco CallManager:

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

Procedure

Step 1 Choose **Device > Add New Device**.

The Add a New Device window appears.

Step 2 From the Device type drop-down list box, choose **Gateway**.

From the Gateway Type drop-down list box, choose one of the following digital gateways:

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

Step 3 From the drop-down list box, choose the appropriate device protocol for the type of interfaces that you are configuring on the gateway. The available choices vary according to gateway model:

- DT-24+ or Cisco Catalyst 6000 T1 VoIP Gateway—Choose either Digital Access PRI (T1 PRI) or Digital Access T1 (T1-CAS).
- DE-30+ or Cisco Catalyst E1 VoIP Gateway—Choose Digital PRI (E1 PRI).

Step 4 Click **Next**.

The Gateway Configuration window displays.

Step 5 Enter the appropriate settings, depending on whether you are configuring a Digital T1 or E1 PRI interface or a Digital T1-CAS interface as described in following sections:

- [E1/T1 PRI Gateway Configuration Settings, page 48-26](#)
- [T1-CAS Gateway Configuration Settings, page 48-44](#)

Step 6 Click **Insert**.

Step 7 If you are configuring a T1-CAS interface on a DT-24+ or Catalyst 6000 T1 VoIP Gateway, click **Add a New Port** to configure ports.

See the [“Adding T1-CAS Ports to an MGCP Gateway”](#) section on page 48-10 and begin with [Step 9](#).

Step 8 To apply the changes, reset the gateway.

Related Topics

- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [E1/T1 PRI Gateway Configuration Settings, page 48-26](#)
- [T1-CAS Gateway Configuration Settings, page 48-44](#)

Adding a Cisco IOS H.323 Gateway

Follow these procedures to add a Cisco IOS H.323 gateway to Cisco CallManager.

Before You Begin

Before configuring a Cisco IOS H.323 gateway for use with Cisco CallManager, you must configure the gateway by using the Cisco IOS command-line interface (CLI). Compared to MGCP gateways, H.323 gateways require more configuration on the gateway because the gateway must maintain the dial plan and route pattern. For procedures and commands that are required to perform this configuration, refer to the configuration documentation that is supplied with the gateway.

Procedure

- Step 1** Choose **Device > Add a New Device**.
The Add a New Device window appears.
 - Step 2** From the Device type drop-down list box, choose **Gateway**.
 - Step 3** Click **Next**.
The Add a New Gateway window appears.
 - Step 4** From the Gateway Type drop-down list box, choose **H.323 Gateway**.
 - Step 5** In the Device Protocol drop-down list box, the H.225 device protocol displays.
 - Step 6** Click **Next**.
 - Step 7** Enter the appropriate settings as described in [“H.323 Gateway Configuration Settings”](#) section on page 48-49.
 - Step 8** Click **Insert**.
 - Step 9** To apply the changes, reset the gateway.
-

Related Topics

- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [H.323 Gateway Configuration Settings, page 48-49](#)

Adding an Analog Access Gateway and Ports

Use the procedure in this section to add and configure ports for the following non-IOS Cisco analog access 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

Procedure

Step 1 Choose **Device > Add a New Device**.

The Add a New Device window appears.

Step 2 From the Device type drop-down list box, choose **Gateway**.

Step 3 Click **Next**.

The Add a New Gateway window appears.

Step 4 From the Gateway type drop-down list box, choose a supported analog gateway:

- 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 choose an analog gateway, Cisco CallManager automatically chooses the appropriate device protocol for the gateway (in this case, Analog Access).

Step 5 Click **Next**.

The Gateway Configuration window appears.

Step 6 Enter the appropriate settings, as described in the [“Analog Access Gateway Configuration Settings”](#) section on page 48-60.

Step 7 Click **Insert**.

Step 8 Click **Add New Port**.

A port configuration dialog opens in a separate window.

Step 9 From the drop-down list box, choose **POTS** or **Loop Start** as the port type depending on the gateway model that you are configuring.**Step 10** Enter the appropriate port configuration settings as described in the following sections:

- [POTS Port Configuration Settings, page 48-66](#)
- [Loop-Start Port Configuration Settings, page 48-69](#)

Step 11 Click **Insert** or **Insert and Close**.

If you have inserted POTS ports, the window refreshes and displays the POTS port in the list on the left side of the window. An **Add DN** link displays to the right of the new port.

Step 12 To add a directory numbers to an FXS port, click **Add DN**.

For information about adding and configuring directory numbers, see the [“Adding a Directory Number” section on page 49-39](#) and [“Phone Configuration Settings” section on page 49-13](#).

Step 13 To apply the changes, click **Reset Gateway**.

Related Topics

- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [Analog Access Gateway Configuration Settings, page 48-60](#)
- [Adding a Cisco VG248 Analog Phone Gateway, page 48-15](#)

Adding a Cisco VG248 Analog Phone Gateway

The Cisco VG248 Analog Phone Gateway, a standalone, rack-mounted, 48-FXS port product, allows on-premise analog telephones, fax machines, modems, voice-mail systems, and speakerphones to register with one Cisco CallManager cluster.

The Cisco VG248 connects to a Cisco CallManager by using the Skinny Client Control Protocol to allow for enhanced features.

Cisco CallManager recognizes the Cisco VG248 as a gateway device, called a “Cisco VG248 Gateway.” Additionally, Cisco CallManager treats each of the 48 ports as an individual device, similar to a Cisco IP Phone, called a “Cisco VGC Phone.”

Use the following procedure to add a Cisco VG248 Gateway and to add and configure ports to the gateway.

Procedure

- Step 1** Choose **Device > Add a New Device**.
The Add a New Device window displays.
- Step 2** From the Device type drop-down list box, choose **Gateway**.
- Step 3** Click **Next**.
The Add a New Gateway window displays.
- Step 4** From the Gateway type drop-down list box, choose **Cisco VG248 Gateway**.
- Step 5** Click **Next**.
The Gateway Configuration window displays.
- Step 6** Enter the appropriate settings, as described in the [“Cisco VG248 Gateway Configuration Settings” section on page 48-64](#).
- Step 7** Click **Insert**.
The ports 00 through 48 display in the Endpoint Identifiers list.
- Step 8** Click on a port.
The Phone Configuration window displays, and lists the phone model as VGCPHONE. From the Gateway Configuration window, the MAC address automatically displays.
- Step 9** Enter the appropriate settings, as described in the [“Phone Configuration Settings” section on page 49-13](#).
- Step 10** Click **Insert**.

- Step 11** To configure a directory number for the port, click the VGC line that displays in the list on the left side of the window.
- The Directory Number Configuration window displays. For information about adding and configuring directory numbers, see the [“Adding a Directory Number” section on page 49-39](#).
- Step 12** To configure more ports for the gateway, click the **Gateway Configuration** link.
- The Gateway Configuration window displays. To configure the phone settings and directory numbers for additional ports, repeat steps 8 through 11.
- When you configure port 01, the **Configure all Ports like Port 1** button displays on the Gateway Configuration window. This button allows you to configure ports 02 - 48 with the same parameters and settings as port 01, regardless of whether the ports are already configured.
- Step 13** To apply the changes, click **Reset Phone**.
-

Related Topics

- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [Cisco VG248 Gateway Configuration Settings, page 48-64](#)
- [Phone Configuration Settings, page 49-13](#)
- *Cisco VG248 Analog Phone Gateway Software Configuration Guide*

Gateway Configuration Settings

See the following sections for tables that list detailed descriptions for all gateway configuration fields:

- [MGCP Gateway Configuration Settings, page 48-18](#)
- [FXS/FXO Gateway Configuration Settings, page 48-21](#)
- [E1/T1 PRI Gateway Configuration Settings, page 48-26](#)
- [T1-CAS Gateway Configuration Settings, page 48-44](#)
- [H.323 Gateway Configuration Settings, page 48-49](#)

- [Analog Access Gateway Configuration Settings, page 48-60](#)
- [Cisco VG248 Gateway Configuration Settings, page 48-64](#)

For detailed information about port configuration settings, see the “[Port Configuration Settings](#)” section on page 48-65.

MGCP Gateway Configuration Settings

[Table 48-2](#) provides detailed descriptions for MGCP gateway configuration settings.

Table 48-2 *MGCP Gateway Configuration Settings*

Field	Description
MGCP Domain Name	<p>Enter a name of up to 64 characters that 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>If you are using the host name as it is configured on the IOS gateway, the name that you enter here must match exactly.</p> <p>For example, if the hostname is configured on the gateway to resolve to vg200-1 and the IP domain name is not configured, 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, enter vg200-1.cisco.com in this field.</p>
Description	Enter a description that clarifies the purpose of the device.

Table 48-2 MGCP Gateway Configuration Settings (continued)

Field	Description
Cisco CallManager Group	<p>From the drop-down list box, choose a Cisco CallManager redundancy group.</p> <p>A Cisco CallManager redundancy group includes a prioritized list of up to three Cisco CallManagers. The first Cisco CallManager in the list serves as the primary Cisco CallManager. If the primary Cisco CallManager is not available or fails, the gateway attempts to connect with the next Cisco CallManager in the list and so on.</p>

Installed Voice Interface Cards

- Note** You must specify the beginning port number for some VICs. For example, if the VIC in Subunit 0 begins at 0 and has two ports (0 and 1), then the VIC in Subunit 1 must begin at a port number greater than 1 and have two ports (2 and 3 or 4 and 5).
- Note** The correct number of slots displays for each model of MGCP gateway. (The VG200 gateway has only one slot.)

Table 48-2 MGCP Gateway Configuration Settings (continued)

Field	Description
Module in Slot 0 Module in Slot 1 Module in Slot 2 Module in Slot 3 (and so on)	For each available slot on the chosen MGCP gateway, choose the type of module installed; for example: <ul style="list-style-type: none"> • NM-1V—Has one voice interface card (VIC) in Subunit 0 for FXS or FXO. • NM-2V—Has two VICs, one in Subunit 0 and one in Subunit 1 for either FXS or FXO. • NM-HDV—Has one VIC in Subunit 0 for either T1-CAS or T1-PRI, or E1-PRI. • NM-HDA—Has three VICs, one in Subunit 0, one in Subunit 1, and one in Subunit 2. • VWIC-SLOT—Has a slot for any of the following: VIC (FXS or FXO), T1-CAS, T1-PRI, or E1-PRI. • AIM-VOICE-30—Has two VICs, one in Subunit 0 and one in Subunit 1 for T1-CAS, T1-PRI, or E1-PRI. • WS-X6600-24FXS—Has 24 FXS ports. • WS-X6600-6T1—Has 6 ports for T1 PRI or CAS. • WS-X6600-6E1—Has 6 ports for E1 PRI. • WS-SVC-CMM-MS—Has 2 port adapters, one for a T1 interface and one for an E1 interface for Europe and other countries. • None—Has no network modules installed.

Table 48-2 MGCP Gateway Configuration Settings (continued)

Field	Description
Product-Specific Configuration	
Model-specific configuration fields defined by the gateway manufacturer	<p>The gateway manufacturer specifies the model-specific fields under product-specific configuration. Because they are dynamically configured, they can change without notice.</p> <p>To view field descriptions and help for product-specific configuration items, click the “i” information icon to the right of the Product Specific Configuration heading to display help in a popup dialog box.</p> <p>If you need more information, refer to the documentation for the specific gateway that you are configuring or contact the manufacturer.</p>

Related Topics

- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [Adding a Cisco IOS MGCP Gateway, page 48-3](#)
- [Adding a Non-IOS MGCP Gateway, page 48-11](#)
- [Updating Gateways and Ports, page 48-89](#)

FXS/FXO Gateway Configuration Settings

Table 48-3 provides detailed descriptions for FXS/FXO gateway configuration settings.

**Note**

For the VG200 gateway, not all switch emulation types support the network side. Depending on how you configure the gateway switch type, you may or may not be able to set network side.

Table 48-3 FXS/FXO Gateway Configuration Settings

Field	Description
Gateway Information	
Description	<p>This display-only field contains a string that is generated by Cisco CallManager that uniquely identifies the analog MGCP description.</p> <p>For example:</p> <p>AALN/S0/SU1/1@domain.com</p> <p>You can edit this field.</p>
Device Pool	<p>From the drop-down list box, choose the appropriate device pool.</p> <p>The device pool specifies a collection of properties for this device including CallManager Group, Date/Time Group, Region, and Calling Search Space for auto registration of devices.</p>
Calling Search Space	<p>Choose the appropriate calling search space. A calling search space comprises a collection of route partitions that are searched to determine how a collected (originating) number should be routed.</p>
AAR Calling Search Space	<p>Choose the appropriate calling search space for the device to use when it performs 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.</p>
Media Resource Group List	<p>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 is defined in a Media Resource List.</p>

Table 48-3 FXS/FXO Gateway Configuration Settings (continued)

Field	Description
Network Audio Hold Source	This audio source plays when the network initiates a hold action.
Location	Choose the appropriate location for this device. The location specifies the total bandwidth that is available for calls to and from this location. A location setting of None means that the locations feature does not keep track of the bandwidth that is consumed by this device.
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.
Network Locale	<p>From the drop-down list box, choose the locale that is associated with the gateway. The network locale identifies a set of detailed information to support the hardware in a specific location. The network locale contains a definition of the tones and cadences that are used by the device in a specific geographic area.</p> <p>Note Choose only a network locale that is already installed and supported by the associated devices. The list contains all available network locales for this setting, but not all are necessarily installed. If the device is associated with a network locale that it does not support in the firmware, the device will fail to come up.</p>

Table 48-3 FXS/FXO Gateway Configuration Settings (continued)

Field	Description
Port Information	
Prefix DN (for FXS ports)	Enter the prefix digits that are appended to the digits that this trunk receives on incoming calls. The Cisco CallManager adds prefix digits after first truncating the number in accordance with the Num Digits setting.
Num Digits (for FXS ports)	Enter the number of significant digits to collect, from 0 to 32. Cisco CallManager counts significant digits from the right (last digit) of the number called. Use this field for the processing of incoming calls and to indicate the number of digits starting from the last digit of the called number that is used to route calls coming into the PRI span. See Prefix DN.
Expected Digits (for FXS ports)	Enter the number of digits that are expected on the inbound side of the trunk. For this rarely used field, leave zero as the default value if you are unsure.
Port Direction (for FXO ports)	Choose the direction of calls that are passing through this port: <ul style="list-style-type: none"> • Inbound—Use for incoming calls only. • Outbound—Use for outgoing calls. • Bothways—Use for inbound and outbound calls (default).
Attendant DN (for FXO ports)	Enter the directory number to which you want incoming calls routed; for example, zero or a directory number for an attendant.

Table 48-3 FXS/FXO Gateway Configuration Settings (continued)

Field	Description
Product-Specific Configuration	
Model-specific configuration fields defined by the gateway manufacturer	<p>The gateway manufacturer specifies the model-specific fields under product-specific configuration. Because they are dynamically configured, they can change without notice.</p> <p>To view field descriptions and help for product-specific configuration items, click the “i” information icon to the right of the Product Specific Configuration heading to display help in a popup dialog box.</p> <p>If you need more information, refer to the documentation for the specific gateway that you are configuring or contact the manufacturer.</p>

Related Topics

- [Adding FXS Ports to an MGCP Gateway, page 48-6](#)
- [Adding FXO Ports to an MGCP Gateway, page 48-8](#)
- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [Adding a Cisco IOS MGCP Gateway, page 48-3](#)
- [Adding a Non-IOS MGCP Gateway, page 48-11](#)
- [Updating Gateways and Ports, page 48-89](#)

E1/T1 PRI Gateway Configuration Settings

Table 48-4 provides detailed descriptions for E1/T1 PRI configuration settings.



Note Cisco CallManager supports these aspects of the QSIG protocol: QSIG basic call, direct dialing inward, name identification and restriction, call diversion, message waiting indication, and transfer services. To determine whether your gateway supports the QSIG protocol, refer to the gateway product documentation.

Table 48-4 E1/T1 PRI Configuration Settings

Field	Description
Device Information	
Domain Name (MGCP gateways)	For MGCP gateways, this display-only field contains a string that is generated by Cisco CallManager that uniquely identifies the MGCP endpoint. For example: S1/DS1-0@VG200-2 S1 indicates slot 1, DS1-0 designates the digital interface, and @VG200-2 designates the MGCP domain name.
Description	Enter a description that clarifies the purpose of the device.
Device Pool	From the drop-down list box, choose the appropriate device pool. The device pool specifies a collection of properties for this device including CallManager Group, Date/Time Group, Region, and Calling Search Space for auto-registration of devices.

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
Network Locale	<p>From the drop-down list box, choose the locale that is associated with the gateway. The network locale identifies a set of detailed information to support the hardware in a specific location. The network locale contains a definition of the tones and cadences that are used by the device in a specific geographic area.</p> <p>Note Choose only a network locale that is already installed and supported by the associated devices. The list contains all available network locales for this setting, but not all are necessarily installed. If the device is associated with a network locale that it does not support in the firmware, the device will fail to come up.</p>
Media Resource Group List	<p>This list provides a prioritized grouping of media resource groups. An application chooses the required media resource, such as a Music On Hold server, among the available media resources according to the priority order that is defined in a Media Resource List.</p>
Location	<p>Choose the appropriate location for this device. The location specifies the total bandwidth that is available for calls to and from this location. A location setting of None means that the locations feature does not keep track of the bandwidth that is consumed by this device.</p>
AAR Group	<p>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.</p>
Load Information	<p>Enter the appropriate firmware load information for the gateway.</p> <p>The value that you enter here overrides the default firmware load for this gateway type.</p>

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
Multilevel Precedence and Preemption (MLPP) Information	
MLPP Domain (e.g., "0000FF")	Enter a hexadecimal value between 0 and FFFFFFFF for the MLPP domain associated with this device. If you leave this field blank, this device inherits its MLPP domain from the value 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 set for the MLPP Domain Identifier enterprise parameter.
MLPP Indication	<p>If available, this setting specifies whether a device capable of playing precedence tones will use the capability when it places an MLPP precedence call.</p> <p>From the drop-down list box, choose a setting to assign to this device from the following options:</p> <ul style="list-style-type: none"> • 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. <p>Note Do not configure a device with the following combination of settings: MLPP Indication is set to <i>Off or Default</i> (when default is <i>Off</i>) while MLPP Preemption is set to <i>Forceful</i>.</p>

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
MLPP Preemption	<p>If available, this setting specifies whether a device capable of preempting calls in progress will use the capability when it places an MLPP precedence call.</p> <p>From the drop-down list box, choose a setting to assign to this device from the following options:</p> <ul style="list-style-type: none"> • 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. <p>Note Do not configure a device with the following combination of settings: MLPP Indication is set to <i>Off or Default</i> (when default is <i>Off</i>) while MLPP Preemption is set to <i>Forceful</i>.</p>

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
Interface Information	
PRI Protocol Type	<p>Choose the communications protocol for the span. If you include this gateway in a route group, you cannot switch between QSIG and non-QSIG protocol types until you remove the gateway from the route group.</p> <p>T1 PRI spans have several options, depending on the carrier or switch; for example:</p> <ul style="list-style-type: none"> • PRI 4ESS—AT&T Interexchange carrier • PRI 5E8 Custom—Cisco IP Phone • PRI 5E9—AT&T family local exchange switch or carrier • PRI DMS—MCI family local exchange switch or carrier; Canadian local exchange carrier • PRI ETSI SC—European local exchange carrier on T1; also, Japanese, Taiwan, Korean, and Hong Kong local exchange. • PRI NI2—AT&T family local exchange switch or carrier • PRI NTT—Japanese NTT exchange switch • PRI ISO QSIG T1—PBX T1 tie trunk using ISO QSIG • PRI ISO QSIG E1—PBX E1 tie trunk using ISO QSIG <p>Determine the switch to which you are connecting and the preferred protocol; for example:</p> <ul style="list-style-type: none"> • Nortel Meridian—DMS, 5E8 Custom • Lucent Definity—4ESS or 5E8 • Madge (Teleos) box—5E8 Teleos • Intecom PBX—5E8 Intecom

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
Protocol Side	<p>Choose the appropriate protocol side. This setting specifies whether the gateway connects to a Central Office/Network device or to a User device.</p> <p>Make sure that the two ends of the PRI connection use opposite settings. For example, if you connect to a PBX and the PBX uses User as its protocol side, choose Network for this device. Typically, use User for this option for central office connections.</p>
Channel Selection Order	<p>Choose the order in which channels or ports are enabled from first (lowest number port) to last (highest number port), or from last to first.</p> <p>Valid entries include TOP_DOWN (first to last) or BOTTOM_UP (last to first). If you are not sure which port order to use, choose TOP_DOWN.</p>
Channel IE Type	<p>Choose one of the following values to specify whether channel selection is presented as a channel map or a slot map:</p> <ul style="list-style-type: none"> • Timeslot Number—B-channel usage always indicates actual timeslot map format (such as 1-15 and 17-31 for E1). • Slotmap—B-channel usage always indicates a slot map format. • Use Number When 1B—Channel usage indicates a channel map for one B-channel but indicates a slot map if more than one B-channel exists. • Continuous Number—Configures a continuous range of slot numbers (1-30) as the E1 logical channel number instead of the noncontinuous actual timeslot number (1-15 and 17-31).

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
PCM Type	Specify the digital encoding format. Choose one of the following formats: <ul style="list-style-type: none"> • a-law: Use for Europe and the rest of the world. • mu-law: Use for North America, Hong Kong, Taiwan, and Japan.
Delay for first restart (1/8 sec ticks)	Enter the rate at which the spans are brought in service. The delay occurs when many PRI spans are enabled on a system and the Inhibit Restarts at PRI Initialization check box is unchecked. For example, set the first five cards to 0 and set the next five cards to 16. (Wait 2 seconds before bringing them in service.)
Delay between restarts (1/8 sec ticks)	Enter the time between restarts. The delay occurs when a PRI RESTART gets sent if the Inhibit Restarts check box is unchecked.
Inhibit restarts at PRI initialization	A RESTART or SERVICE message confirms the status of the ports on a PRI span. If RESTART or SERVICE messages are not sent, Cisco CallManager assumes the ports are in service. When the D-Channel successfully connects with another PRI D-Channel, it sends a RESTART or SERVICE message when this check box is unchecked.
Enable status poll	Check the check box to enable the Cisco CallManager advanced service parameter, Change B-Channel Maintenance Status. This service parameter allows you to take individual B-channels out of service for an MGCP T1/E1 PRI gateway in real time. Uncheck this check box to disable the service parameter "Change B-Channel Maintenance Status." Note Default leaves this field unchecked.

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
Call Routing Information	
Inbound Calls	
Significant Digits	<p>Choose the number of significant digits to collect, from 0 to 32 or All. Cisco CallManager counts significant digits from the right (last digit) of the number called. If you choose <i>All</i>, the Cisco CallManager does not truncate the inbound number.</p> <p>EXAMPLE Digits received are 123456. Significant digits setting is 4. Digits translated are 3456.</p> <p>Use for the processing of incoming calls and to indicate the number of digits, starting from the last digit of the called number, that are used to route calls that are coming into the PRI span. See Prefix DN.</p>
Calling Search Space	Choose the appropriate calling search space. A calling search space designates a collection of route partitions that are searched to determine how a collected (originating) number should be routed.
AAR Calling Search Space	Choose the appropriate calling search space for the device to use when automated alternate routing (AAR) is performed. 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	<p>Enter the prefix digits that are appended to the digits that this trunk receives on incoming calls.</p> <p>The Cisco CallManager adds prefix digits after first truncating the number in accordance with the Num Digits setting.</p>

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
Outbound Calls	
Calling Line ID Presentation	<p>Choose whether you want the Cisco CallManager to allow or restrict the display of the calling party phone number.</p> <p>Choose <i>Default</i> if you do not want to change calling line ID presentation. Choose <i>Allowed</i> if you want Cisco CallManager to send “Calling Line ID Allowed” on outbound calls. Choose <i>Restricted</i> if you want Cisco CallManager to send “Calling Line ID Restricted” on outbound calls.</p> <p>For more information about this field, see Table 14-6 in the “Calling Party Number Transformations Settings” section in the <i>Cisco CallManager System Guide</i>.</p>
Calling Party Selection	<p>Any outbound call on a gateway can send directory number information. Choose 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. • First Redirecting Party (External)—Send the directory number of the first redirecting device with the external phone mask applied. • Last Redirecting Party (External)—Send the directory number of the last redirecting device with the external phone mask applied.

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
Called party IE number type unknown	<p>Choose the format for the number type 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 you are connecting to a PBX that expects the called directory number to be encoded to a non-national type numbering plan.</p> <p>Choose one of the following options:</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 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
Calling party IE number type unknown	<p>Choose the format for the number type in calling party directory numbers.</p> <p>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 type numbering plan.</p> <p>Choose one of the following options:</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 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
Called Numbering Plan	<p>Choose the format for the numbering plan in called party directory numbers.</p> <p>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 PBXs by using routing as a non-national type number.</p> <p>Choose one of the following options:</p> <ul style="list-style-type: none"> • CallManager—The 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.

Table 48-4 E1/T1 PRI 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 you are connecting to PBXs by using routing as a non-national type number.</p> <p>Choose one of the following options:</p> <ul style="list-style-type: none"> • CallManager—The 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.
Number of digits to strip	<p>Choose the number of digits to strip on outbound calls, from 0 to 32.</p> <p>For example, when 8889725551234 is dialed, and the number of digits to strip is 3, Cisco CallManager strips 888 from the outbound number.</p>

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
Caller ID DN	<p>Enter the pattern that you want to use for calling line ID, from 0 to 24 digits.</p> <p>For example, in North America:</p> <ul style="list-style-type: none"> • 555XXXX = Variable calling line ID, where X equals an extension number. The CO appends the number with the area code if you do not specify it. • 5555000 = Fixed calling line ID, where 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.
SMDI Base Port	Enter the first SMDI port number of the T1 span.
Type Specific Information	
Display IE Delivery	<p>Check the check box to enable delivery of the display information element (IE) in SETUP, and NOTIFY messages (for DMS protocol) for the calling and connected party name delivery service.</p> <p>Note Default leaves the check box unchecked.</p>
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>

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
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>
Send Extra Leading Character in DisplayIE	<p>Check this check box to include a special leading character byte (non ASCII, nondisplayable) in the DisplayIE field.</p> <p>Uncheck this check box to exclude this character byte from the DisplayIE field.</p> <p>This check box only applies to the DMS-100 protocol and the DMS-250 protocol.</p> <p>Default leaves this setting disabled (unchecked).</p>
Setup non-ISDN Progress Indicator IE Enable	<p>Default leaves this setting disabled (unchecked).</p> <p>Enable this setting only if users are not receiving ringback tones on outbound calls.</p> <p>When this setting is enabled, the Cisco CallManager sends Q.931 Setup messages out digital (that is, non-H.323) gateways with the Progress Indicator field set to non-ISDN.</p> <p>This message notifies the destination device that the Cisco CallManager gateway is non-ISDN and that the destination device should play in-band ringback.</p> <p>This problem usually associates with Cisco CallManagers that connect to PBXs through digital gateways.</p>

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
MCDN Channel Number Extension Bit Set to Zero	<p>To set the channel number extension bit to zero, check the check box. To set the extension bit to 1, uncheck the check box.</p> <p>This setting only applies to the DMS-100 protocol</p>
Send Calling Name in Facility IE	<p>Check the check box to send the calling name in the Facility IE field. By default, the Cisco CallManager leaves the check box unchecked.</p> <p>Set this feature for a private network that has a PRI interface enabled for ISDN calling name delivery. When this check box is checked, the calling party's name gets sent in the Facility IE of the SETUP or FACILITY message, so the name can display on the called party's device.</p> <p>Set this feature for PRI trunks in a private network only. Do not set this feature for PRI trunks connected to the PSTN.</p> <p>Note This field applies to the NI2 protocol only.</p>
Interface Identifier Present	<p>Check the check box to indicate that an interface identifier is present. By default, the Cisco CallManager leaves the check box unchecked.</p> <p>This setting only applies to the DMS-100 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	<p>Enter the value that was obtained from the PBX provider.</p> <p>This field applies to only the DMS-100 protocol. Valid values range from 0 to 255.</p>

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
Connected Line ID Presentation	<p>Choose whether you want the Cisco CallManager to allow or block the connected party's phone number from displaying on an inbound caller's phone.</p> <p>This field applies only to gateways that are using QSIG protocol. The gateway applies this setting for incoming calls only.</p> <p>Choose <i>Default</i> if you do not want to change the connected line ID presentation. Choose <i>Allowed</i> if you want Cisco CallManager to send "Connected Line ID Allowed" to enable the connected party's number to display for the calling party. Choose <i>Restricted</i> if you want Cisco CallManager to send "Connected Line ID Restricted" to block the connected party's number from displaying for the calling party.</p> <p>For more information about this field, see Table 14-9 in the “Connected Party Presentation and Restriction Settings” section in the <i>Cisco CallManager System Guide</i>.</p>
Connected PBX Model	<p>Choose the type and model of the private branch exchange (PBX) or VoIP switch with which this gateway communicates.</p> <p>This field applies only to gateways that are using QSIG protocol.</p> <p>Options include</p> <ul style="list-style-type: none"> • Siemens Hicom • Ericsson MD-110 • Alcatel PBX • Meridian Option 11C • Lucent Definity G3 • IPC MX • Cisco CallManager (CCM)

Table 48-4 E1/T1 PRI Configuration Settings (continued)

Field	Description
Product-Specific Configuration	
Model-specific configuration fields that are defined by the gateway manufacturer	<p>The gateway manufacturer specifies the model-specific fields under product-specific configuration. Because they are dynamically configured, they can change without notice.</p> <p>To view field descriptions and help for product-specific configuration items, click the “i” information icon to the right of the Product Specific Configuration heading to display help in a popup dialog box.</p> <p>If you need more information, refer to the documentation for the specific gateway that you are configuring or contact the manufacturer.</p>

Related Topics

- [Adding a Non-IOS MGCP Gateway, page 48-11](#)
- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [Updating Gateways and Ports, page 48-89](#)
- [Gateway Configuration, page 48-1](#)

T1-CAS Gateway Configuration Settings

Table 48-5 provides detailed descriptions for T1-CAS configuration settings.

Table 48-5 T1-CAS Configuration Settings

Field	Description
MAC Address (non-IOS gateway)	Enter MAC address of the gateway. The MAC address uniquely identifies the hardware device. You must enter a 12-hexadecimal character value.
Domain Name	For MGCP gateways, this display-only field contains a string that is generated by Cisco CallManager that uniquely identifies the MGCP digital interface. For example: S1/DS1-0@VG200-2 S1 indicates slot 1, DS1-0 designates the digital interface, and @VG200-2 designates the MGCP domain name.
Note Enter either a MAC address or a domain name, whichever applies.	
Description	Enter a description that clarifies the purpose of the device.
Device Pool	From the drop-down list box, choose the appropriate device pool. The device pool specifies a collection of properties for this device including CallManager Group, Date/Time Group, Region, and Calling Search Space for auto-registration of devices.
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 is defined in a Media Resource List.

Table 48-5 T1-CAS Configuration Settings (continued)

Field	Description
Calling Search Space	Choose the appropriate calling search space. A calling search space designates a collection of route partitions that are searched to determine how a collected (originating) number should be routed.
AAR Calling Search Space	Choose the appropriate calling search space for the device to use when automated alternate routing (AAR) is performed. 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.
Location	Choose the appropriate location for this device. The location specifies the total bandwidth that is available for calls to and from this location. A location setting of None means that the locations feature does not keep track of the bandwidth that is consumed by this device.
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.
MLPP Domain (e.g., "0000FF")	Enter a hexadecimal value between 0 and FFFFFFFF for the MLPP domain associated with this device. If you leave this field blank, this device inherits its MLPP domain from the value 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 set for the MLPP Domain Identifier enterprise parameter.

Table 48-5 T1-CAS Configuration Settings (continued)

Field	Description
MLPP Indication	<p>If available, this setting specifies whether a device capable of playing precedence tones will use the capability when it places an MLPP precedence call.</p> <p>From the drop-down list box, choose a setting to assign to this device from the following options:</p> <ul style="list-style-type: none"> • 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. <p>Note Do not configure a device with the following combination of settings: MLPP Indication is set to <i>Off</i> or <i>Default</i> (when default is <i>Off</i>) while MLPP Preemption is set to <i>Forceful</i>.</p>

Table 48-5 T1-CAS Configuration Settings (continued)

Field	Description
MLPP Preemption	<p>If available, this setting specifies whether a device capable of preempting calls in progress will use the capability when it places an MLPP precedence call.</p> <p>From the drop-down list box, choose a setting to assign to this device from the following options:</p> <ul style="list-style-type: none"> • 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. <p>Note Do not configure a device with the following combination of settings: MLPP Indication is set to <i>Off or Default</i> (when default is <i>Off</i>) while MLPP Preemption is set to <i>Forceful</i>.</p>
Handle DTMF Precedence Signals	Check this box to enable this gateway to interpret special DTMF signals as MLPP precedence levels.
Load Information	<p>Enter the appropriate firmware load information for the gateway.</p> <p>The values that you enter here override the default values for this gateway.</p>
Port Selection Order	<p>Choose the order in which channels or ports are allocated for outbound calls from first (lowest number port) to last (highest number port) or from last to first.</p> <p>Valid entries are TOP_DOWN (first to last) or BOTTOM_UP (last to first). If you are not sure which port order to use, choose TOP_DOWN.</p>

Table 48-5 T1-CAS Configuration Settings (continued)

Field	Description
Digit Sending	<p>Choose one of the following digit sending types for out-dialing:</p> <ul style="list-style-type: none"> • DTMF—Dual-tone multifrequency. Normal touchtone dialing • MF—Multifrequency • PULSE—Pulse (rotary) dialing
Network Locale	<p>From the drop-down list box, choose the locale that is associated with the gateway. The network locale identifies a set of detailed information to support the hardware in a specific location. The network locale contains a definition of the tones and cadences that are used by the device in a specific geographic area.</p> <p>Note Choose only a network locale that is already installed and supported by the associated devices. The list contains all available network locales for this setting, but not all are necessarily installed. If the device is associated with a network locale that it does not support in the firmware, the device will fail to come up.</p>
SMDI Base Port	Enter the first SMDI port number of the T1 span.

Table 48-5 T1-CAS Configuration Settings (continued)

Field	Description
Product-Specific Configuration	
Model-specific configuration fields defined by the gateway manufacturer	<p>The gateway manufacturer specifies the model-specific fields under product-specific configuration. Because they are dynamically configured, they can change without notice.</p> <p>To view field descriptions and help for product-specific configuration items, click the “i” information icon to the right of the Product Specific Configuration heading to display help in a popup dialog box.</p> <p>If you need more information, refer to the documentation for the specific gateway that you are configuring or contact the manufacturer.</p>

Related Topics

- [Adding a Non-IOS MGCP Gateway, page 48-11](#)
- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [Updating Gateways and Ports, page 48-89](#)
- [Gateway Configuration, page 48-1](#)

H.323 Gateway Configuration Settings

[Table 48-6](#) lists configuration settings for H.323 gateways.

Table 48-6 H.323 Gateway Configuration Settings

Field	Description
Device Information	
Device Name	Enter a unique name that Cisco CallManager uses to identify the device. Use either the IP address or the host name as the device name.

Table 48-6 H.323 Gateway Configuration Settings (continued)

Field	Description
Description	Enter a description that clarifies the purpose of the device.
Device Pool	From the drop-down list box, choose the appropriate device pool. The device pool specifies a collection of properties for this device including CallManager Group, Date/Time Group, Region, and Calling Search Space for auto-registration of devices.
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, among the available media resources according to the priority order that is defined in a Media Resource Group List.
Location	Choose the appropriate location for this device. The location specifies the total bandwidth that is available for calls to and from this location. A location setting of None means that the locations feature does not keep track of the bandwidth that is consumed by this device.
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.
Signaling Port	This field applies only to H.323 devices. The value designates the H.225 signaling port that this device uses. Default value is 1720. Valid values are 1 to 65535.

Table 48-6 H.323 Gateway Configuration Settings (continued)

Field	Description
Description	Enter a description that clarifies the purpose of the device.
Device Pool	From the drop-down list box, choose the appropriate device pool. The device pool specifies a collection of properties for this device including CallManager Group, Date/Time Group, Region, and Calling Search Space for auto-registration of devices.
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, among the available media resources according to the priority order that is defined in a Media Resource Group List.
Location	Choose the appropriate location for this device. The location specifies the total bandwidth that is available for calls to and from this location. A location setting of None means that the locations feature does not keep track of the bandwidth that is consumed by this device.
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.
Signaling Port	This field applies only to H.323 devices. The value designates the H.225 signaling port that this device uses. Default value is 1720. Valid values are 1 to 65535.

Table 48-6 H.323 Gateway Configuration Settings (continued)

Field	Description
Media Termination Point Required	<p>If you want a Media Termination Point to implement features that H.323 does not support (such as hold and transfer), check the check box.</p> <p>Use this check box only for H.323 clients and H.323 devices that do not support the H.245 Empty Capabilities Set message.</p> <p>If you check this box to require an MTP and this device becomes the endpoint of a video call, the call will be audio only.</p>
Retry Video Call as Audio	<p>This check box applies only to video endpoints that receive a call.</p> <p>By default, this box is checked to specify that this device should immediately retry a video call that does not connect as an audio call prior to sending the call to call control for rerouting.</p> <p>If you uncheck this box, a video call that fails to connect as video fails to call control. At this point, call control reroutes the call within the route/hunt list. If Automatic Alternate Routing (AAR) is configured and enabled, call control also reroutes the call between route/hunt lists.</p>
Wait for Far End H.245 Terminal Capability Set	<p>This field applies only to H.323 devices.</p> <p>By default, this box is checked to specify that Cisco CallManager should initiate capabilities exchange. This check box specifies that the Cisco CallManager needs to receive the far-end H.245 Terminal Capability Set before it sends its H.245 Terminal Capability Set.</p>

Table 48-6 H.323 Gateway Configuration Settings (continued)

Field	Description
Multilevel Precedence and Preemption (MLPP) Information	
MLPP Domain (e.g., "0000FF")	Enter a hexadecimal value between 0 and FFFFFFFF for the MLPP domain associated with this device. If you leave this field blank, this device inherits its MLPP domain from the value 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 set for the MLPP Domain Identifier enterprise parameter.
MLPP Indication	This setting is not available on this device type.
MLPP Preemption	This setting is not available on this device type.
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 coming into 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 called.
Calling Search Space	Choose the appropriate calling search space. A calling search space specifies the collection of Route Partitions that are searched to determine how a collected (originating) number should be routed.
AAR Calling Search Space	Choose the appropriate calling search space for the device to use when it performs 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.

Table 48-6 H.323 Gateway Configuration Settings (continued)

Field	Description
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 Significant Digits setting.</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>By default, the check box remains unchecked for the H.323 gateway.</p>
Outbound Calls	
Calling Party Selection	<p>Any outbound call on a gateway can send directory number information. This field determines which directory number is sent.</p> <p>Choose one of the following options to 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 48-6 H.323 Gateway Configuration Settings (continued)

Field	Description
Calling Party Presentation	<p>Choose whether the Cisco CallManager transmits or blocks the calling line ID.</p> <p>Choose Allowed if you want the Cisco CallManager to send calling line ID.</p> <p>Choose Restricted if you do not want the Cisco CallManager to send calling line ID.</p>
Called party IE number type unknown	<p>Choose the format for the number type 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 you are connecting to a PBX that expects the called directory number to be encoded to a non-national type numbering plan type.</p> <p>Choose one of the following options:</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 48-6 H.323 Gateway Configuration Settings (continued)

Field	Description
Calling party IE number type unknown	<p>Choose the format for the number type in calling party directory numbers.</p> <p>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 type numbering plan type.</p> <p>Choose one of the following options:</p> <ul style="list-style-type: none"> <li>• CallManager—Cisco CallManager sets the directory number type. <li>• International—Use when you are dialing outside the dialing plan for your country. <li>• National—Use when you are dialing within the dialing plan for your country. <li>• Unknown—The dialing plan is unknown.

Table 48-6 H.323 Gateway Configuration Settings (continued)

Field	Description
Called Numbering Plan	<p>Choose the format for the numbering plan in called party directory numbers.</p> <p>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 type numbering plan.</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.

Table 48-6 H.323 Gateway 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 you are connecting to a PBX that expects the calling numbering plan to be encoded to a non-national type numbering plan.</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.

Table 48-6 H.323 Gateway Configuration Settings (continued)

Field	Description
Caller ID DN	<p>Enter the pattern that you want to use for calling line ID, from 0 to 24 digits.</p> <p>For example, in North America</p> <ul style="list-style-type: none"> • 55XXXX = Variable calling line ID, where X equals an extension number. The CO appends the number with the area code if you do not specify it. • 555000 = Fixed calling line 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.
Display IE Delivery	<p>Check the check box to enable delivery of the display IE in SETUP, CONNECT, and NOTIFY messages for the calling and called party name delivery service.</p> <p>Default leaves Display IE Delivery check box unchecked.</p>
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>By default, the check box remains unchecked for the H.323 gateway.</p>

Related Topics

- [Adding a Cisco IOS H.323 Gateway, page 48-13](#)
- [Updating Gateways and Ports, page 48-89](#)
- [Gateway Configuration, page 48-1](#)

Analog Access Gateway Configuration Settings

[Table 48-7](#) lists configuration settings for Analog Access gateways (Cisco AS-2, AS-4, and AS-8 gateways; Cisco AT-2, AT-4, and AT-8 gateways).

Table 48-7 Analog Access Gateway Configuration Settings

Field	Description
MAC Address	Enter MAC address of the gateway. The MAC address uniquely identifies the hardware device. You must enter a 12-hexadecimal character value.
Description	Enter the purpose of the device.
Device Pool	From the drop-down list box, choose the appropriate device pool. The device pool specifies a collection of properties for this device including CallManager Group, Date/Time Group, Region, and Calling Search Space for auto-registration of devices.
Load Information	Enter the appropriate load information for the custom software for gateway. The values that you enter here override the default values for this gateway.

Table 48-7 Analog Access Gateway Configuration Settings (continued)

Field	Description
Network Locale	<p>From the drop-down list box, choose the locale that is associated with the gateway. The network locale identifies a set of detailed information to support the hardware in a specific location. The network locale contains a definition of the tones and cadences that are used by the device in a specific geographic area.</p> <p>Note Choose only a network locale that is already installed and supported by the associated devices. The list contains all available network locales for this setting, but not all are necessarily installed. If the device is associated with a network locale that it does not support in the firmware, the device will fail to come up.</p>
Location	Choose the appropriate location for this device. The location specifies the total bandwidth that is available for calls to and from this location. A location setting of None means that the locations feature does not keep track of the bandwidth that is consumed by this device.
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.
Calling Search Space	Choose the appropriate calling search space. The calling search space specifies a collection of partitions that are searched to determine how a collected (originating) number should be routed.
AAR Calling Search Space	Choose the appropriate calling search space for the device to use when it performs 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.

Table 48-7 Analog Access Gateway Configuration Settings (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 is defined in a Media Resource Group List.
Network Hold Audio Source	This audio source plays when the network initiates a hold action.
User Hold Audio Source	This audio source plays when a user initiates a hold action.
Port Selection Order	Choose the order in which ports are chosen. If you are not sure which port order to use, choose TOP_DOWN: <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.
MLPP Domain (e.g., “0000FF”)	Enter a hexadecimal value between 0 and FFFFFFFF for the MLPP domain associated with this device. If you leave this field blank, this device inherits its MLPP domain from the value 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 set for the MLPP Domain Identifier enterprise parameter.
MLPP Indication	This setting is not available on this device type.
MLPP Preemption	This setting is not available on this device type.

Table 48-7 Analog Access Gateway Configuration Settings (continued)

Field	Description
Product-Specific Configuration	
Model-specific configuration fields defined by the gateway manufacturer	<p>The gateway manufacturer specifies the model-specific fields under product-specific configuration. Because they are dynamically configured, they can change without notice.</p> <p>To view field descriptions and help for product-specific configuration items, click the “i” information icon to the right of the Product Specific Configuration heading to display help in a popup dialog box.</p> <p>If you need more information, refer to the documentation for the specific gateway that you are configuring or contact the manufacturer.</p>

Related Topics

- [Adding an Analog Access Gateway and Ports, page 48-14](#)
- [Adding a Cisco VG248 Analog Phone Gateway, page 48-15](#)
- [Updating Gateways and Ports, page 48-89](#)
- [Gateway Configuration, page 48-1](#)

Cisco VG248 Gateway Configuration Settings

Table 48-8 lists configuration settings for the Cisco VG248 Gateways.

Table 48-8 Cisco VG248 Gateway Configuration Settings

Field	Description
MAC Address	<p>Enter the last 10 digits of the Media Access Control (MAC) address for the Cisco VG248.</p> <p>Only one MAC address exists for the Cisco VG248 Analog Phone Gateway, but Cisco CallManager requires unique MAC addresses for all devices. When only 10 digits of the MAC address are entered, Cisco CallManager can use the MAC address for the gateway and append additional information to it to create the MAC addresses for the VGC phones.</p> <p>The conversion of the MAC address for each device occurs by adding the two-digit port number to the end of the MAC address (to the right of the number) and adding VGC at the beginning of the MAC address.</p> <p>EXAMPLE</p> <pre>MAC Address for the Cisco VG248 is 0039A44218 the MAC address for registered port 12 in Cisco CallManager is VGC0039A4421812</pre>
Description	Cisco CallManager automatically provides this information by adding VGCGW immediately in front of the MAC address.
Load Information	Enter the firmware version for the Cisco VG248 that is being configured; otherwise, leave blank to use the default.
Installed Ports	
48 PORTS	From the list of endpoint identifiers, choose one of the ports to configure the VGC_Phone ports.

Table 48-8 Cisco VG248 Gateway Configuration Settings (continued)

Field	Description
Product Specific Configuration	
For information about product specific configuration, press the i button for help. Refer to the <i>Cisco VG248 Analog Phone Gateway Software Configuration Guide</i> for more information about the VG248 gateway.	

Related Topics

- [Adding an Analog Access Gateway and Ports, page 48-14](#)
- [Updating Gateways and Ports, page 48-89](#)
- *Cisco VG248 Analog Phone Gateway Software Configuration Guide*

Port Configuration Settings

See the following sections for tables that list detailed descriptions for all port type configuration fields:

- [POTS Port Configuration Settings, page 48-66](#)
- [Loop-Start Port Configuration Settings, page 48-69](#)
- [Ground Start Port Configuration Settings, page 48-71](#)
- [E & M Port Configuration Settings, page 48-72](#)

For detailed information about gateway configuration settings, see the “[Gateway Configuration Settings](#)” section on page 48-17.

POTS Port Configuration Settings

Table 48-9 describes the POTS port configuration settings.

Table 48-9 POTS Port Configuration Settings

Field	Description
Port Type	From the Port Type drop-down list box, choose POTS .
Port Number End Port Number	Choose 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: <ul style="list-style-type: none"> To specify a range of ports, choose appropriate values for Port Number and End Port Number. To create a single port, choose the same number in the Port Number and End Port Number fields. To add all available ports, choose All Ports for both the Port Number and End Port Number fields.
Port Direction	Choose the direction of calls that pass through this port: <ul style="list-style-type: none"> Inbound—Use for incoming calls only. Outbound—Use for outgoing calls. Bothways—Use for inbound and outbound calls (default).
Audio Signal Adjustment into IP Network	This field specifies the gain or loss that is applied to the received audio signal relative to the port application type. <p>Note Improper gain setting may cause audio echo. Use caution when adjusting this setting.</p>
Audio Signal Adjustment from IP Network	This field specifies the gain or loss that is applied to the transmitted audio signal relative to the port application type. <p>Note Improper gain setting may cause audio echo. Use caution when adjusting this setting.</p>

Table 48-9 POTS Port Configuration Settings (continued)

Field	Description
Prefix DN	<p>Enter the prefix digits that are appended to the digits that this trunk receives on incoming calls.</p> <p>The Cisco CallManager adds prefix digits after it truncates the number in accordance with the Num Digits setting.</p>
Num Digits	<p>Enter the number of significant digits to collect, from 0 to 32.</p> <p>Cisco CallManager counts significant digits from the right (last digit) of the number called.</p> <p>Use this field for the processing of incoming calls and to indicate the number of digits starting from the last digit of the called number that is used to route calls coming into the PRI span. See Prefix DN.</p>
Expected Digits	<p>Enter the number of digits that are expected on the inbound side of the trunk. For this rarely used field, leave zero as the default value if you are unsure.</p>
Call Restart Timer (1000-5000 ms)	<p>Call Restart Timer (1000-5000 ms); ms indicates time in milliseconds.</p>
Offhook Validation Timer (100-1000 ms)	<p>Offhook Validation Timer (100-1000 ms); ms indicates time in milliseconds.</p>
Onhook Validation Timer (100-1000 ms)	<p>Onhook Validation Timer (100-1000 ms); ms indicates time in milliseconds.</p>
Hookflash Timer (100-1500 ms)	<p>Hookflash Timer (100-1500 ms); ms indicates time in milliseconds.</p>
SMDI Port Number (0-4096)	<p>Use this field for analog access ports that connect to a voice-mail system.</p> <p>Set the SMDI Port Number equal to the actual port number on the voice-mail system to which the analog access port connects.</p> <p>Note Voice-mail logical ports typically must match physical ports for the voice-mail system to operate correctly.</p>

Table 48-9 POTS Port Configuration Settings (continued)

Field	Description
Product-Specific Configuration	
Model-specific configuration fields defined by the gateway manufacturer	<p>The gateway manufacturer specifies the model-specific fields under product-specific configuration. Because they are dynamically configured, they can change without notice.</p> <p>To view field descriptions and help for product-specific configuration items, click the “i” information icon to the right of the Product Specific Configuration heading to display help in a popup dialog box.</p> <p>If you need more information, refer to the documentation for the specific gateway that you are configuring or contact the manufacturer.</p>

Related Topics

- [Adding T1-CAS Ports to an MGCP Gateway, page 48-10](#)
- [Adding an Analog Access Gateway and Ports, page 48-14](#)
- [Gateway Configuration, page 48-1](#)
- [Adding Gateways to Cisco CallManager, page 48-1](#)

Loop-Start Port Configuration Settings

Table 48-10 describes the loop-start port configuration settings.

Table 48-10 Loop Start Port Configuration Settings

Field	Description
Port Type	From the Port Type drop-down list box, choose Loop Start .
Beginning Port Number Ending Port Number	Choose 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: <ul style="list-style-type: none"> To specify a range of ports, choose appropriate values for Port Number and End Port Number. To create a single port, choose the same number in the Port Number and End Port Number fields. To add all available ports, choose All Ports for both the Port Number and End Port Number fields.
Port Direction	Choose the direction of calls that pass through this port: <ul style="list-style-type: none"> Inbound—Use for incoming calls only. Outbound—Use for outgoing calls. Both Ways—Use for inbound and outbound calls.
Attendant DN	Enter the directory number to which you want incoming calls routed; for example, zero or a directory number for an attendant.

Table 48-10 Loop Start Port Configuration Settings (continued)

Field	Description
Product-Specific Configurations	
Model-specific configuration fields defined by the gateway manufacturer	<p>The gateway manufacturer specifies the model-specific fields under product-specific configuration. Because they are dynamically configured, they can change without notice.</p> <p>To view field descriptions and help for product-specific configuration items, click the “i” information icon to the right of the Product Specific Configuration heading to display help in a popup dialog box.</p> <p>If you need more information, refer to the documentation for the specific gateway that you are configuring or contact the manufacturer.</p>

Related Topics

- [Adding T1-CAS Ports to an MGCP Gateway, page 48-10](#)
- [Gateway Configuration, page 48-1](#)
- [Adding Gateways to Cisco CallManager, page 48-1](#)

Ground Start Port Configuration Settings

Table 48-11 describes the ground start port configuration settings.

Table 48-11 Ground Start Port Configuration Settings

Field	Description
Port Type	From the Port Type drop-down list box, choose Ground Start .
Port Number End Port Number	Choose 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: <ul style="list-style-type: none"> To specify a range of ports, choose appropriate values for Port Number and End Port Number. To create a single port, choose the same number in the Port Number and End Port Number fields. To add all available ports, choose All Ports for both the Port Number and End Port Number fields.
Port Direction	Choose the direction of calls that pass through this port: <ul style="list-style-type: none"> Inbound—Use for incoming calls only. Outbound—Use for outgoing calls. Both Ways—Use for inbound and outbound calls.
Attendant DN	Enter the number to which you want incoming calls routed; for example, zero or a directory number for an attendant.

Table 48-11 Ground Start Port Configuration Settings (continued)

Field	Description
Product-Specific Configuration	
Model-specific configuration fields defined by the gateway manufacturer	<p>The gateway manufacturer specifies the model-specific fields under product-specific configuration. Because they are dynamically configured, they can change without notice.</p> <p>To view field descriptions and help for product-specific configuration items, click the “i” information icon to the right of the Product Specific Configuration heading to display help in a popup dialog box.</p> <p>If you need more information, refer to the documentation for the specific gateway that you are configuring or contact the manufacturer.</p>

Related Topics

- [Adding T1-CAS Ports to an MGCP Gateway, page 48-10](#)
- [Gateway Configuration, page 48-1](#)
- [Adding Gateways to Cisco CallManager, page 48-1](#)

E & M Port Configuration Settings

E & M (Ear and Mouth or receive and transmit) ports allow connection for PBX trunk lines (tie lines). E & M designates a signaling technique for two-wire, four-wire, and six-wire telephone and trunk interfaces.

Table 48-12 describes the E & M port configuration settings.

Table 48-12 E & M Port Configuration Settings

Field	Description
Port Type	From the Port Type drop-down list box, choose EANDM .
Port Number End Port Number	Choose 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: <ul style="list-style-type: none"> To specify a range of ports, choose appropriate values for Port Number and End Port Number. To create a single port, choose the same number in the Port Number and End Port Number fields. To add all available ports, choose All Ports for both the Port Number and End Port Number fields.
Port Direction	Choose the direction of calls that pass through this port: <ul style="list-style-type: none"> Inbound—Use for incoming calls only. Outbound—Use for outgoing calls. Both Ways—Use for inbound and outbound calls.
Digit Sending	Choose one of the following digit sending types for out-dialing: <ul style="list-style-type: none"> DTMF—Dual-tone multifrequency. Normal touchtone dialing MF—Multifrequency PULSE—Pulse (rotary) dialing
Prefix DN	Enter 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.

Table 48-12 E & M Port Configuration Settings (continued)

Field	Description
Num Digits	<p>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 called.</p> <p>Use this field if you check the Sig Digits check box. Use this field for the processing of incoming calls and to indicate the number of digits starting from the last digit of the called number that is used to route calls coming into the PRI span. See Prefix DN and Sig Digits.</p>
Expected Digits	<p>Enter the number of digits that are expected on the inbound side of the trunk. If you are unsure, leave zero as the default value for this rarely used field.</p>
Product-Specific Configuration	
Model-specific configuration fields defined by the gateway manufacturer	<p>The gateway manufacturer specifies the model-specific fields under product-specific configuration. Because they are dynamically configured, they can change without notice.</p> <p>To view field descriptions and help for product-specific configuration items, click the “i” information icon to the right of the Product Specific Configuration heading to display help in a popup dialog box.</p> <p>If you need more information, refer to the documentation for the specific gateway that you are configuring or contact the manufacturer.</p>

Related Topics

- [Adding T1-CAS Ports to an MGCP Gateway, page 48-10](#)
- [Gateway Configuration, page 48-1](#)
- [Adding Gateways to Cisco CallManager, page 48-1](#)

Finding Specific Gateways

Because you might have hundreds of gateways in your network, Cisco CallManager lets you use specific criteria to locate specific gateways. Use these sections to find specific gateways:

- [Searching by Device Name, page 48-75](#)
- [Searching by Description, page 48-77](#)
- [Searching by Directory Number/Route Pattern, page 48-78](#)
- [Searching by Calling Search Space, page 48-80](#)
- [Searching by Device Pool, page 48-81](#)
- [Searching by Route Group, page 48-83](#)
- [Searching by Device Type, page 48-84](#)



Note

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

Searching by Device Name

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

Procedure

Step 1 Choose **Device > Gateway**.

The Find and List Gateways window appears.

Step 2 From the drop-down list box, choose **Device Name**; then, choose one of the following criteria:

- begins with
- contains
- ends with

- is exactly
- is not empty
- is empty

Step 3 Specify the appropriate search text, if applicable. You can also specify how many items per page to display and whether to hide or show endpoints.

Step 4 Click **Find**.

A list of discovered gateways displays by

- Device icon
- Device Name
- Description (if applicable)
- Device Pool (if applicable)
- Status
- IP Address



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

Related Topics

- [Searching by Description, page 48-77](#)
- [Searching by Directory Number/Route Pattern, page 48-78](#)
- [Searching by Calling Search Space, page 48-80](#)
- [Searching by Device Pool, page 48-81](#)
- [Searching by Route Group, page 48-83](#)
- [Searching by Device Type, page 48-84](#)

Searching by Description

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

Procedure

- Step 1** Choose **Device > Gateway**.
- The Find and List Gateways window appears.
- Step 2** From the drop-down list box, choose **Description**; then, choose one of the following criteria:
- begins with
 - contains
 - ends with
 - is exactly
 - is not empty
 - is empty
- Step 3** Specify the appropriate search text, if applicable. You can also specify how many items per page to display and whether to hide or show endpoints.
- Step 4** Click **Find**.
- A list of discovered gateways displays by
- Device icon
 - Description (if applicable)
 - Device Name
 - Device Pool

- Status
- IP Address



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

Related Topics

- [Searching by Device Name, page 48-75](#)
- [Searching by Directory Number/Route Pattern, page 48-78](#)
- [Searching by Calling Search Space, page 48-80](#)
- [Searching by Device Pool, page 48-81](#)
- [Searching by Route Group, page 48-83](#)
- [Searching by Device Type, page 48-84](#)

Searching by Directory Number/Route Pattern

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

Procedure

- Step 1** Choose **Device > Gateway**.
- The Find and List Gateways window appears.
- Step 2** From the drop-down list box, choose **DN/Route Pattern**; then, choose one of the following criteria:
- begins with
 - contains

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

Step 3 Specify the appropriate search text, if applicable. You can also specify how many items per page to display and whether to hide or show endpoints.

Step 4 Click **Find**.

A list of discovered gateways displays by

- Extension
- Partition
- Device icon
- Device Name
- Description (if applicable)
- Status
- IP Address



Note

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

Related Topics

- [Searching by Device Name, page 48-75](#)
- [Searching by Description, page 48-77](#)
- [Searching by Calling Search Space, page 48-80](#)
- [Searching by Device Pool, page 48-81](#)
- [Searching by Route Group, page 48-83](#)
- [Searching by Device Type, page 48-84](#)

Searching by Calling Search Space

Use this procedure to locate gateways that are assigned to a calling search space and that are registered with Cisco CallManager.

Procedure

Step 1 Choose **Device > Gateway**.

The Find and List Gateways window appears.

Step 2 From the drop-down list box, choose **Calling Search Space**; then, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly
- is not empty
- is empty

Step 3 Specify the appropriate search text, if applicable. You can also specify how many items per page to display and whether to hide or show endpoints.



Tip You can locate an existing calling search space by choosing one from the drop-down list box under the **Find** button. This action automatically inserts the name of the calling search space that you choose into the **Find** field.

Step 4 Click **Find**.

A list of discovered gateways displays by

- Calling Search Space
- Device icon
- Device Name
- Description (if applicable)

- Status
- IP Address



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

Related Topics

- [Searching by Device Name, page 48-75](#)
- [Searching by Description, page 48-77](#)
- [Searching by Directory Number/Route Pattern, page 48-78](#)
- [Searching by Device Pool, page 48-81](#)
- [Searching by Route Group, page 48-83](#)
- [Searching by Device Type, page 48-84](#)

Searching by Device Pool

Use this procedure to locate gateways that are assigned to a specific device pool and that are registered with Cisco CallManager.

Procedure

- Step 1** Choose **Device > Gateway**.
- The Find and List Gateways window appears.
- Step 2** From the drop-down list box, choose **Device Pool**; then, choose one of the following criteria:
- begins with
 - contains

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

Step 3 Specify the appropriate search text, if applicable. You can also specify how many items per page to display, and whether to hide or show endpoints.

**Tip**

You can locate an existing device pool by choosing one from the drop-down list box under the **Find** button. This action automatically inserts the name of the device pool that you choose into the **Find** field.

Step 4 Click **Find**.

A list of discovered gateways displays by

- Device Pool
- Device icon
- Device Name
- Description (if applicable)
- Status
- IP Address

**Note**

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

Related Topics

- [Searching by Device Name, page 48-75](#)
- [Searching by Description, page 48-77](#)
- [Searching by Directory Number/Route Pattern, page 48-78](#)

- [Searching by Calling Search Space, page 48-80](#)
- [Searching by Route Group, page 48-83](#)
- [Searching by Device Type, page 48-84](#)

Searching by Route Group

Use this procedure to locate gateways that are assigned to a specific route group and that are registered with Cisco CallManager.

Procedure

Step 1 Choose **Device > Gateway**.

The Find and List Gateways window appears.

Step 2 From the drop-down list box, choose **Route Group**; then, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly
- is not empty
- is empty

Step 3 Specify the appropriate search text, if applicable. You can also specify how many items per page to display and whether to hide or show endpoints.



Tip

You can locate an existing route group by choosing one from the drop-down list box under the **Find** button. This action automatically inserts the name of the route group that you choose into the **Find** field.

Step 4 Click **Find**.

A list of discovered gateways displays by

- Route Group (Priority)
- Device icon
- Device Name (Port)
- Description (if applicable)
- Status
- IP Address



Note You can delete or reset multiple gateways from the Find and List Gateways window by checking the check boxes next to the appropriate gateways. Click **Delete Selected** to delete the gateways or click **Reset Selected** to reset the gateways. You can choose all the gateways in the window by checking the check box in the matching records title bar.

Related Topics

- [Searching by Device Name, page 48-75](#)
- [Searching by Description, page 48-77](#)
- [Searching by Directory Number/Route Pattern, page 48-78](#)
- [Searching by Calling Search Space, page 48-80](#)
- [Searching by Device Pool, page 48-81](#)
- [Searching by Device Type, page 48-84](#)

Searching by Device Type

Use this procedure if you know the device type of a specific gateway or if you want to get a listing of all gateways of a particular device type.

Procedure

Step 1 Choose **Device > Gateway**.

The Find and List Gateways window appears.

Step 2 From the drop-down list box, choose **Device Type**; then, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly
- is not empty
- is empty

Step 3 Specify the appropriate search text, if applicable. You can also specify how many items per page to display and whether to hide or show endpoints.



Tip You can locate an existing device type by choosing one from the drop-down list box under the **Find** button. This action automatically inserts the name of the device type that you choose into the **Find** field.

Step 4 Click **Find**.

A list of discovered gateways displays by

- Device Type
- Device icon
- Device Name
- Description (if applicable)
- Status
- IP Address

**Note**

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

Related Topics

- [Searching by Device Name, page 48-75](#)
- [Searching by Description, page 48-77](#)
- [Searching by Directory Number/Route Pattern, page 48-78](#)
- [Searching by Calling Search Space, page 48-80](#)
- [Searching by Device Pool, page 48-81](#)
- [Searching by Route Group, page 48-83](#)

Modifying Gateways and Ports

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

- [Using Dependency Records, page 48-87](#)
- [Deleting Gateways, page 48-87](#)
- [Resetting and Restarting Gateways, page 48-88](#)
- [Updating Gateways and Ports, page 48-89](#)

Using Dependency Records

Gateways and ports use a variety of configuration information such as partitions, device pools, and directory numbers. Before updating or deleting gateways or ports, you can find configuration information about that gateway and port by using the Dependency Records link. For more information about this link, see the [“Dependency Records”](#) appendix.

Deleting Gateways

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

Before You Begin

If you try to delete a gateway that a route group is using, Cisco CallManager displays an error message. To find out which route groups are using the gateway, click the **Dependency Records** link from the Gateway 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. Before deleting a gateway that is currently in use, you must perform either or both of the following tasks:

- Assign a different gateway to any route groups that are using the gateway that you want to delete. See the [“Adding Devices to a Route Group”](#) section on page 19-4.
- Delete the route groups that are using the gateway that you want to delete. See the [“Deleting a Route Group”](#) section on page 19-7.

Procedure

-
- Step 1** Choose **Device > Gateway**.
The Find and List Gateways window appears.
- Step 2** To locate a specific gateway, enter search criteria.
- Step 3** Click **Find**.
A list of discovered gateways that matches your search criteria displays.
- Step 4** Check the check box next to the gateway that you want to delete.

Step 5 Click **Delete Selected**.

A message displays that states that you cannot undo this action.

Step 6 To delete the gateway, click **OK** or to cancel the operation, click **Cancel**.



Tip You can delete all the gateways in the window by checking the check box in the matching records title bar and clicking **Delete Selected**.

Related Topics

- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [Finding Specific Gateways, page 48-75](#)

Resetting and Restarting Gateways

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

Procedure

Step 1 Choose **Device > Gateway**.

The Find and List Gateway window appears.

Step 2 To locate a specific gateway, enter search criteria.

Step 3 Click **Find**.

A list of discovered gateways that matches your search criteria displays.

Step 4 Check the check box next to the gateway that you want to reset.

Step 5 Click **Reset Gateway**.

The Reset Gateway(s) window appears.

Step 6 Click one of the following choices:

- **Restart**—Restarts a device without shutting it down.
- **Reset**—Shuts down a device and brings it back up.
- **Close**—Returns to the previous window without performing any action.



Note Restarting or resetting an H323 gateway does not physically restart/reset the gateway; it only reinitializes the configuration that was loaded by Cisco CallManager. When you reset any other gateway type, Cisco CallManager automatically drops the calls that are using the gateway. When you restart any other gateway type, Cisco CallManager attempts to preserve the calls that are using the gateway.

Related Topics

- [Finding Specific Gateways, page 48-75](#)
- [Updating Gateways and Ports, page 48-89](#)

Updating Gateways and Ports

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

Procedure

Step 1 Choose **Device > Gateway**.

The Find and List Gateways window appears.

Step 2 To locate a specific gateway, enter search criteria.

Step 3 Click **Find**.

A list of discovered devices displays.

Step 4 Click the **Device Name** of the gateway that you want to update.

The Gateway Configuration window appears.

Step 5 Update the appropriate gateway or port settings as described in the following sections.

To access gateway ports, click the icon of the gateway port or the MGCP endpoint link on the left side of the configuration window for the chosen gateway.

- [MGCP Gateway Configuration Settings, page 48-18](#)
- [FXS/FXO Gateway Configuration Settings, page 48-21](#)
- [E1/T1 PRI Gateway Configuration Settings, page 48-26,](#)
- [T1-CAS Gateway Configuration Settings, page 48-44.](#)
- [Analog Access Gateway Configuration Settings, page 48-60](#)
- [Port Configuration Settings, page 48-65](#)

Step 6 Click **Update**.

Step 7 To apply the changes, reset the gateway.

Related Topics

- [Adding Gateways to Cisco CallManager, page 48-1](#)
- [Finding Specific Gateways, page 48-75](#)
- [Resetting and Restarting Gateways, page 48-88](#)
- [Deleting Gateways, page 48-87](#)



Cisco IP Phone Configuration

Cisco IP Phones as full-featured telephones can plug directly into your IP network. You use the Cisco CallManager Administration Phone Configuration window to configure the following Cisco IP Phones and devices:

- Cisco IP Phone 7900 family (models 7970, 7960, 7940, 7936, 7935, 7920, 7912, 7910, 7905, and 7902)
- Cisco IP Phone model 30 VIP
- Cisco IP Phone model 12 SP+
- H.323 clients
- Computer Telephony Integration (CTI) ports
- Cisco ATA 186 and Cisco ATA 188 telephone adapter
- Cisco VG248 ports (analog phones)



Note

You configure the Cisco VG248 gateway from the Gateway Configuration window of Cisco CallManager Administration. From this window, you configure the gateway analog phone ports (doing this takes you to the Phone Configuration window). When you want to update the VG248 ports, use the Phone Configuration window. The following procedures apply to update or delete this phone type. See the [“Gateway Configuration” section on page 48-1](#) for Cisco VG248 Gateway configuration information.

After you add a Cisco IP Phone to Cisco CallManager Administration, information from the RIS Data Collector service displays in the Phone Configuration window. When available, the IP address of the device and the name of the Cisco CallManager with which the device registered display.

The following topics provide information about working with and configuring Cisco IP Phones in Cisco CallManager Administration:

- [Configuring Cisco IP Phones, page 49-2](#)
- [Gateway Configuration, page 48-1](#)
- [Finding a Phone, page 49-37](#)
- [Configuring Directory Numbers, page 49-39](#)
- [Phone Button Template Configuration, page 51-1](#)
- [Phone Configuration Settings, page 49-13](#)
- [Phone Configuration Checklist, *Cisco CallManager System Guide*](#)

Configuring Cisco IP Phones

You can automatically add phones to the Cisco CallManager database by using auto-registration, manually add phones by using the phone configuration windows, or add phones in groups with the Cisco Bulk Administration Tool (BAT).

By enabling auto-registration, you can automatically add a Cisco IP Phone to the Cisco CallManager database when you connect the phone to your IP telephony network. During auto-registration, Cisco CallManager assigns the next available sequential directory number to the phone. In many cases, you might not want to use auto-registration; for example, if you want to assign a specific directory number to a phone.



Note

Cisco recommends using auto-registration in small configurations or testing labs only.

If you configure the clusterwide security mode to secure mode, Cisco CallManager disables auto-registration.

If you do not use auto-registration, you must manually add phones to the Cisco CallManager database or use BAT. BAT, a plug-in application, makes it possible for system administrators to perform batch add, modify, and delete operations on large numbers of Cisco IP Phones. Refer to the *Bulk Administration Tool Guide for Cisco CallManager* for detailed instructions on using BAT.

After you add a Cisco IP Phone to Cisco CallManager Administration, the RIS Data Collector service displays the device name, registration status, and the IP address of the Cisco CallManager to which the phone is registered in the Phone Configuration window.

For information on how to configure phones as well as H.323 clients, CTI ports, and other devices from Cisco CallManager Administration, see the following topics:

- [Cisco IP Phone Configuration, page 49-1](#)
- [Gateway Configuration, page 48-1](#)
- [Displaying the MAC Address of a Phone, page 49-3](#)
- [Adding a Phone, page 49-4](#)
- [Deleting a Phone, page 49-11](#)
- [Resetting a Phone, page 49-8](#)
- [Updating a Phone, page 49-10](#)
- [Copying an Existing Phone, page 49-7](#)
- [Phone Configuration Settings, page 49-13](#)
- [Configuring Speed-Dial Buttons, page 49-29](#)
- [Speed-Dial Configuration Settings, page 49-30](#)
- [Configuring Service URL Buttons, page 49-34](#)
- [Cisco IP Phones, Cisco CallManager System Guide](#)
- [Phone Configuration Checklist, Cisco CallManager System Guide](#)

Displaying the MAC Address of a Phone

The Media Access Control (MAC) address comprises a unique, 12-character, hexadecimal number that identifies a Cisco IP Phone or other hardware device. Locate the number on a label on the bottom of the phone (for example,

000B6A409C405 for Cisco IP Phone 7900 family models or SS-00-0B-64-09-C4-05 for Cisco IP Phone models SP 12+ and 30 VIP). Cisco CallManager makes the MAC address a required field for Cisco IP Phone device configuration. When entering the MAC address in Cisco CallManager fields, do not use spaces or dashes and do not include the “SS” that may precede the MAC address on the label.

For more information on displaying the MAC Address or additional configuration settings on Cisco IP Phones, refer to the *Cisco IP Phone Administration Guide for Cisco CallManager* that supports the phone model. To display the MAC address for the Cisco IP Phone model 12 Series and Cisco IP Phone model 30 Series phones or the Cisco VG248 Gateway, perform the following tasks:

- Cisco IP Phone Models 12 (SP +) Series and 30 Series (VIP)—Press ** to display the MAC address on the second line of the LCD display.
- Cisco VG248 phone ports—The MAC address specifies the endpoint from the Gateway Configuration window of Cisco CallManager Administration. See the “[Gateway Configuration](#)” section on [page 48-1](#) for configuration information.

Related Topics

- [Cisco IP Phone Configuration, page 49-1](#)
- [Gateway Configuration, page 48-1](#)
- [Adding a Phone, page 49-4](#)
- [Updating a Phone, page 49-10](#)
- [Cisco IP Phones, Cisco CallManager System Guide](#)
- [Phone Configuration Checklist, Cisco CallManager System Guide](#)

Adding a Phone

Before a Cisco IP Phone can be used, you must use this procedure to add the phone to Cisco CallManager. You can also use this procedure to configure H.323 clients, CTI ports, or the Cisco ATA 186 and Cisco ATA 188 telephone adapters. H.323 clients can be Symbol NetVision phones or Microsoft NetMeeting clients. CTI ports designate virtual devices that Cisco CallManager applications such as Cisco SoftPhone and Cisco AutoAttendant use.

**Note**

Add the Cisco VG248 Phone Ports from the Gateway Configuration window of Cisco CallManager Administration. See the [“Gateway Configuration” section on page 48-1](#) for configuration information.

**Timesaver**

If you plan on using nonstandard phone button and softkey templates, configure the templates before you add the phones. See the [“Adding Phone Button Templates” section on page 51-4](#) and the [“Adding Nonstandard Softkey Templates” section on page 52-4](#) for configuration information.

Procedure

-
- Step 1** Choose **Device > Add a Device**.
- The Add a New Device window displays.
- Step 2** From the Device Type drop-down list box, choose **Phone** and click **Next**.
- The Add a New Phone window displays.
- Step 3** From the Phone type drop-down list, choose the appropriate phone type or device and click **Next**. After you choose a phone type, you cannot modify it.
- The Phone Configuration window displays.
- Step 4** Enter the appropriate settings as described in [Table 49-1](#).
- Only the settings that are appropriate to the chosen phone type appear in the window.
- Step 5** If an Owner User ID is required, enter the user ID in the field. For information, see the [“Searching for User ID” section on page 49-28](#).
- Step 6** Click **Insert**.
- A message displays stating that the phone has been added to the database.
- Step 7** To add a directory number to this phone, click **OK** and enter the appropriate settings in the Directory Number Configuration window as described in the [“Directory Number Configuration Settings” section on page 49-45](#). To return to the Phone Configuration window, click **Cancel**.

After you add a Cisco IP Phone to Cisco CallManager Administration, information from the RIS Data Collector service displays in the Phone Configuration window. When available, the IP address of the device and the name of the Cisco CallManager with which the device registered display as illustrated in [Figure 49-1](#).

Figure 49-1 Phone Configuration Window



- Step 8** The phone gets automatically added. For more information about the Reset Phone button, see the [“Resetting a Phone”](#) section on page 49-8.

Next Steps

To configure speed-dial buttons on this phone, see the [“Configuring Speed-Dial Buttons”](#) section on page 49-29. To configure services for this phone, see the [“Configuring Cisco IP Phone Services”](#) section on page 49-31. To configure service URL buttons for this phone, see the [“Adding a Cisco IP Phone Service to a Phone Button”](#) section on page 36-13.

Related Topics

- [Cisco IP Phone Configuration](#), page 49-1
- [Gateway Configuration](#), page 48-1
- [Resetting a Phone](#), page 49-8
- [Adding a Directory Number](#), page 49-39
- [Deleting a Phone](#), page 49-11
- [Updating a Phone](#), page 49-10
- [Phone Configuration Settings](#), page 49-13

- [Searching for User ID](#), page 49-28
- [Configuring Speed-Dial Buttons](#), page 49-29
- [Cisco IP Phones](#), *Cisco CallManager System Guide*
- [Phone Configuration Checklist](#), *Cisco CallManager System Guide*

Copying an Existing Phone

If you want to manually add several similar phones to the Cisco CallManager database, you can add one and then copy its basic settings to apply to another phone. You must change at least the Media Access Control (MAC) address before inserting the new phone into the database.

To copy phone settings, perform the following procedure.

Procedure

- Step 1** Choose **Device > Phone**.
- The Find and List Phones window displays.
- Step 2** To locate a specific phone, enter search criteria and click **Find**.
- A list of phones that match the search criteria appears.
- Step 3** Click the Copy icon for the phone whose settings you want to copy.
- The Phone Configuration window displays.
- Step 4** Enter the MAC address of the new phone.



Note For information on obtaining the MAC address, see the [“Displaying the MAC Address of a Phone”](#) section on page 49-3.

- Step 5** Update the appropriate settings as described in [Table 49-1](#).

Step 6 Click **Insert**.

A message displays that states that the phone has been added to the database.

Step 7 To add a directory number to this phone, click **OK** and enter the appropriate settings in the Directory Number Configuration window as described in the “[Directory Number Configuration Settings](#)” section on page 49-45. To return to the Phone Configuration window, click **Cancel**.

Related Topics

- [Cisco IP Phone Configuration](#), page 49-1
- [Finding a Phone](#), page 49-37
- [Adding a Phone](#), page 49-4
- [Resetting a Phone](#), page 49-8
- [Updating a Phone](#), page 49-10
- [Deleting a Phone](#), page 49-11
- [Phone Configuration Settings](#), page 49-13
- [Configuring Speed-Dial Buttons](#), page 49-29
- [Adding a Directory Number](#), page 49-39
- [Cisco IP Phones](#), *Cisco CallManager System Guide*
- [Phone Configuration Checklist](#), *Cisco CallManager System Guide*

Resetting a Phone

You do not have to reset a Cisco IP Phone after you add a directory number or update its settings for your changes to take effect. Cisco CallManager automatically performs the reset; however, you can reset a Cisco IP Phone at any time by using the following procedure.



Note If a call is in progress, the phone does not reset until the call completes.

Procedure

Step 1 Choose **Device > Phone**.

The Find and List Phones window displays.

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

A list of phones that match the search criteria displays as illustrated in [Figure 49-2](#).

Figure 49-2 Find and List Phones Window

Device Name	Description	Device Pool	Status	IP Address	Copy
SEP0001968FF752	Auto 1594	Default	Not Registered	10.35.5.151	
SEP0001968FF75C	Auto 2010	Default	Not Registered	10.35.5.164	
SEP0001968FF75D	Auto 2225	Default	Not Registered	10.35.7.109	
SEP0001968FF75E	Auto 1691	Default	Not Registered	10.35.6.138	
SEP0001968FF75F	Auto 1073	Default	Not Registered	10.35.6.84	
SEP0001968FF760	Auto 1705	Default	Not Registered	10.35.5.86	
SEP0001968FF761	Auto 2042	Default	Not Registered	10.35.4.215	

Step 3 Check the check boxes next to the phones that you want to reset. To choose all the phones in the window, check the check box in the matching records title bar.

Step 4 Click **Reset Selected**.

The Reset Device window displays.

Step 5 Click one of the following buttons:

- **Restart**—Restarts the chosen devices without shutting them down (reregisters the phones with Cisco CallManager).
- **Reset**—Shuts down the chosen devices and brings them back up (performs a complete shutdown and reinitialization of the phones).
- **Close**—Returns you to the previous window without restarting or resetting the chosen devices.

Related Topics

- [Cisco IP Phone Configuration, page 49-1](#)
- [Adding a Phone, page 49-4](#)
- [Updating a Phone, page 49-10](#)
- [Cisco IP Phones, *Cisco CallManager System Guide*](#)
- [Phone Configuration Checklist, *Cisco CallManager System Guide*](#)

Updating a Phone

To update a Cisco IP Phone by using Cisco CallManager Administration, perform the following procedure.

Procedure

-
- Step 1** Choose **Device > Phone**.
- The Find and List Phones window displays.
- Step 2** To locate a specific phone, enter search criteria and click **Find**.
- A list of phones that match the search criteria appears.
- Step 3** From the list, click the name of the phone that you want to update.
- The Phone Configuration window displays.
- Step 4** Update the appropriate settings as described in [Table 49-1](#).
- Step 5** Click **Update**.

Updates get automatically added to the phone unless the phone is connected (on a call); then, the reset takes effect only when the call gets disconnected. For more information, see the [“Resetting a Phone” section on page 49-8](#).

Related Topics

- [Cisco IP Phone Configuration, page 49-1](#)
- [Gateway Configuration, page 48-1](#)
- [Adding a Phone, page 49-4](#)

- [Resetting a Phone](#), page 49-8
- [Phone Configuration Settings](#), page 49-13
- [Configuring Speed-Dial Buttons](#), page 49-29
- [Speed-Dial Configuration Settings](#), page 49-30
- [Finding a Phone](#), page 49-37
- [Cisco IP Phones](#), *Cisco CallManager System Guide*
- [Phone Configuration Checklist](#), *Cisco CallManager System Guide*

Deleting a Phone

To delete a Cisco IP Phone by using Cisco CallManager Administration, perform the following procedure.

Before You Begin

Determine whether the directory number that is associated with the phone needs to be removed or deleted before deleting the phone. To remove the directory number before deleting the phone, see the [“Removing a Directory Number From a Phone”](#) section on page 49-43; otherwise, the directory number remains in the Cisco CallManager database when the phone gets deleted. To delete a directory number from the database, see the [“Deleting Unassigned Directory Numbers”](#) section on page 24-4.

You can view the directory numbers that are assigned to the phone from the Directory Numbers area of the Phone Configuration window. You can also click the **Dependency Records** link from the Phone 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.

Procedure

-
- Step 1** Choose **Device > Phone**.
- The Find and List Phones window displays.
- Step 2** To locate a specific phone, enter search criteria and click **Find**.

A list of phones that match the search criteria displays as illustrated in [Figure 49-3](#).

Figure 49-3 Find and List Phones Window

Matching record(s) 1 to 20 of 1703
Real-time Information Service returned information for 20 of 20 devices listed below.

<input type="checkbox"/>	Device Name	Description	Device Pool	Status	IP Address	Copy
<input type="checkbox"/>	SEP000196BFF752	Auto 1594	Default	Not Registered	10.35.5.161	
<input type="checkbox"/>	SEP000196BFF75C	Auto 2050	Default	Not Registered	10.35.5.164	
<input type="checkbox"/>	SEP000196BFF75D	Auto 2025	Default	Not Registered	10.35.7.109	
<input type="checkbox"/>	SEP000196BFF75E	Auto 1691	Default	Not Registered	10.35.6.158	
<input type="checkbox"/>	SEP000196BFF75F	Auto 1073	Default	Not Registered	10.35.6.84	
<input type="checkbox"/>	SEP000196BFF760	Auto 1709	Default	Not Registered	10.35.5.86	
<input type="checkbox"/>	SEP000196BFF761	Auto 2042	Default	Not Registered	10.35.4.215	

Step 3 Perform one of the following actions:

- Check the check boxes next to the phones that you want to delete and click **Delete Selected**.
- Delete all the phones in the window by checking the check box in the matching records title bar and clicking **Delete Selected**.
- Choose the name of the phone that you want to delete from the list to display its current settings and click **Delete**.

A confirmation dialog displays.

Step 4 Click **OK**.

Related Topics

- [Cisco IP Phone Configuration, page 49-1](#)
- [Gateway Configuration, page 48-1](#)
- [Finding a Phone, page 49-37](#)
- [Adding a Phone, page 49-4](#)
- [Cisco IP Phones, Cisco CallManager System Guide](#)
- [Phone Configuration Checklist, Cisco CallManager System Guide](#)

Phone Configuration Settings

[Table 49-1](#) describes the available settings in the Phone Configuration window.



Note

The Product-Specific Configuration section contains model-specific fields that the phone manufacturer defines. Cisco CallManager dynamically populates the fields with default values.

To view field descriptions and help for product-specific configuration items, click the “i” information icon to the right of the Product Specific Configuration heading to display help in a popup window.

If you need more information, refer to the documentation for the specific phone that you are configuring or contact the manufacturer.

Table 49-1 Phone Configuration Settings

Field	Description
Device Information	
MAC Address	<p>Enter the Media Access Control (MAC) address that identifies Cisco IP Phones (hardware phones only). Make sure that the value comprises 12 hexadecimal characters.</p> <p>For information on how to access the MAC address for your phone, refer to the <i>Cisco IP Phone Administration Guide for Cisco CallManager</i> that supports your phone model.</p> <p>Cisco VG248 Analog Phone Gateway</p> <p>The MAC address for the Cisco VG248 gateway specifies the endpoint from the Gateway Configuration window of Cisco CallManager Administration. See the “Gateway Configuration” section on page 48-1 for configuration information.</p> <p>Only one MAC address exists for the Cisco VG248 Analog Phone Gateway. All 48 ports share the same MAC address. Cisco CallManager requires unique MAC addresses for all devices.</p> <p>Cisco CallManager converts the MAC Address for each device by</p> <ul style="list-style-type: none"> • Dropping the first two digits of the MAC Address • Shifting the MAC address two places to the left • Adding the two-digit port number to the end of the MAC address (to the right of the number) <p>EXAMPLE</p> <pre>MAC Address for the Cisco VG248 is 000039A44218 the MAC address for registered port 12 in the Cisco CallManager is 0039A4421812</pre>

Table 49-1 Phone Configuration Settings (continued)

Field	Description
Device Name	Enter a name to identify software-based telephones, H.323 clients, and CTI ports. The value can include 1 to 15 characters, including alphanumeric, dot, dash, and underscores.
Description	Identify the purpose of the device. You can enter the user name (such as John Smith) or the phone location (such as Lobby) in this field. For Cisco VG248 gateways, begin the description with VGC<mac address>.
Owner User ID	Enter the user ID of the person who is assigned to this phone. For a list of user IDs, click the Select User ID link. The user ID gets recorded in the call detail record (CDR) for calls that are made from this device. Note Do not configure this field if you are using extension mobility because it does not support device owners.
Device Pool	Choose the device pool to which you want this phone assigned. The device pool defines sets of common characteristics for devices, such as region, date/time group, softkey template, and MLPP information. To see the settings of the device pool, click the View Details link.
Calling Search Space	Choose the appropriate calling search space (CSS). A calling search space comprises a collection of partitions that are searched to determine how a dialed number should be routed. The calling search space for the device and the calling search space for the directory number get used together. The directory number CSS takes precedence over the device CSS. For more information, refer to Partitions and Calling Search Spaces in the <i>Cisco CallManager System Guide</i> .

Table 49-1 Phone Configuration Settings (continued)

Field	Description
AAR Calling Search Space	Choose the appropriate calling search space for the device to use when it performs 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.
Media Resource Group List	<p>Choose the appropriate Media Resource Group List. A Media Resource Group List comprises a prioritized grouping of media resource groups. An application chooses the required media resource, such as a Music On Hold server, from the available media resources according to the priority order that is defined in a Media Resource Group List.</p> <p>If you choose <none>, Cisco CallManager uses the Media Resource Group that is defined in the device pool.</p> <p>For more information, see the “Media Resource Management” section in the <i>Cisco CallManager System Guide</i>.</p>
User Hold Audio Source	<p>To specify the audio source that plays when a user initiates a hold action, click the drop-down arrow and choose an audio source from the list that displays.</p> <p>If you do not choose an audio source, Cisco CallManager uses the audio source that is defined in the device pool or the system default if the device pool does not specify an audio source ID.</p> <p>Note You define audio sources in the Music On Hold Audio Source Configuration window. For access, choose Service > Music On Hold.</p>

Table 49-1 Phone Configuration Settings (continued)

Field	Description
Network Hold Audio Source	<p>To specify the audio source that is played when the network initiates a hold action, click the drop-down arrow and choose an audio source from the list that displays.</p> <p>If you do not choose an audio source, Cisco CallManager uses the audio source that is defined in the device pool or the system default if the device pool does not specify an audio source ID.</p> <p>Note You define audio sources in the Music On Hold Audio Source Configuration window. For access, choose Service > Music On Hold.</p>
Location	<p>Choose the appropriate location for this Cisco IP Phone. The location specifies the total bandwidth that is available for calls to and from this location. A location setting of <i>None</i> means that the locations feature does not keep track of the bandwidth that this Cisco IP Phone consumes.</p>
User Locale	<p>From the drop-down list box, choose the locale that is associated with the phone user interface. The user locale identifies a set of detailed information to support users, including language and font.</p> <p>Cisco CallManager makes this field available only for phone models that support localization.</p> <p>Note If no user locale is specified, Cisco CallManager uses the user locale that is associated with the device pool.</p> <p>Note If the users require information to be displayed (on the phone) in any language other than English, verify that the locale installer is installed before configuring user locale. Refer to the Cisco IP Telephony Locale Installer documentation.</p>

Table 49-1 Phone Configuration Settings (continued)

Field	Description
Network Locale	<p>From the drop-down list box, choose the locale that is associated with the phone. The network locale contains a definition of the tones and cadences that the phone in a specific geographic area uses.</p> <p>Cisco CallManager makes this field available only for phone models that support localization.</p> <p>Note If no network locale is specified, Cisco CallManager uses the network locale that is associated with the device pool.</p> <p>Note If users require country-specific tones to be played (on the phone), verify that the locale is installed before configuring the network locale. Refer to the Cisco IP Telephony Locale Installer documentation.</p>
Device Security Mode	<p>This field displays only if the phone model supports authentication or encryption. From the drop-down list box, choose the mode that you want to set for the device:</p> <ul style="list-style-type: none"> • Use System Default—The phone uses the value that you specified for the enterprise parameter, Device Security Mode. • Non-secure—No security features exist for the phone. A TCP connection opens to Cisco CallManager. • Authenticated—Cisco CallManager provides integrity and authentication for the phone. A TLS connection using NULL/SHA opens. • Encrypted—Cisco CallManager provides integrity, authentication, and encryption for the phone. A TLS connection using AES128/SHA opens. <p>Tip The options in the drop-down box display only if the phone model supports the device security mode. If the phone model does not support encryption, then the option does not display.</p>

Table 49-1 Phone Configuration Settings (continued)

Field	Description
Built In Bridge	Enable or disable the built-in conference bridge for the barge feature by using the Built In Bridge drop-down list box (choose <i>On</i> , <i>Off</i> , or <i>Default</i>). For more configuration information, refer to Barge and Privacy in the <i>Cisco CallManager Features and Services Guide</i> .
Privacy	For each phone that wants Privacy, choose <i>On</i> in the Privacy drop-down list box. For more configuration information, refer to Barge and Privacy in the <i>Cisco CallManager Features and Services Guide</i> .
Signaling Port	This field applies only to H.323 devices. The value designates the H.225 signaling port that this device uses. Default value is 1720. Valid values are 1 to 65535.
Retry Video Call as Audio	<p>This check box applies only to video endpoints that receive a call. If this phone receives a call that does not connect as video, the call tries to connect as an audio call.</p> <p>By default, the system checks this box to specify that this device should immediately retry a video call that does not connect as an audio call prior to sending the call to call control for rerouting.</p> <p>If you uncheck this box, a video call that fails to connect as video fails to call control, where the call can be rerouted via Automatic Alternate Routing (AAR) and/or route/hunt list.</p>
Wait for Far End H.245 Terminal Capability Set	<p>This field applies only to H.323 devices.</p> <p>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 box. To specify that Cisco CallManager should initiate capabilities exchange, uncheck this box.</p>

Table 49-1 Phone Configuration Settings (continued)

Field	Description
Phone Button Template Information	
Phone Button Template	Choose the appropriate phone button template. The phone button template determines the configuration of buttons on a phone and identifies which feature (line, speed dial, and so on) is used for each button. Cisco CallManager does not make this field available for H.323 clients or CTI ports.
Softkey Template Information	
Softkey Template	Choose the appropriate softkey template. The softkey template determines the configuration of the softkeys on Cisco IP Phones. Leave this field blank if the device pool contains the assigned softkey template.
Expansion Module Information	
Module 1	Choose the appropriate expansion module or none.
Module 2	Choose the appropriate expansion module or none.
Firmware Load Information (leave blank to use default)	
Phone Load Name	Enter the custom software for the Cisco IP Phone. The value that you enter overrides the default value for the current model. For more information, see the “Device Defaults Configuration” section on page 6-1 . For more information about Cisco IP Phone software and configuration, refer to the <i>Cisco IP Phone Administration Guide for Cisco CallManager 4.0(1)</i> , which is specific to the phone model.
Module 1 Load Name	Enter the custom software for the appropriate expansion module, if applicable. The value that you enter overrides the default value for the current model. Ensure the firmware load matches the module load.

Table 49-1 Phone Configuration Settings (continued)

Field	Description
Module 2 Load Name	<p>Enter the custom software for the second expansion module, if applicable.</p> <p>The value that you enter overrides the default value for the current model. Ensure the firmware load matches the module load.</p>
Cisco IP Phone—External Data Locations (leave blank to use default)	
Information	Enter the location (URL) of the help text for the information (<i>i</i>) button. Leave this field blank to accept the default setting.
Directory	Enter the server from which the phone obtains directory information. Leave this field blank to accept the default setting.
Messages	Leave this field blank (not used by Cisco CallManager).
Services	Enter the location (URL) for Cisco IP Phone Services.
Authentication Server	<p>Enter the URL that the phone uses to validate requests that are made to the phone web server. If you do not provide an authentication URL, the advanced features on the Cisco IP Phone that require authentication will not function.</p> <p>By default, this URL accesses a Cisco IP Phone User Options window that was configured during installation.</p> <p>Leave this field blank to accept the default setting.</p>

Table 49-1 Phone Configuration Settings (continued)

Field	Description
Proxy Server	<p>Enter the host and port (for example, proxy.cisco.com:80) that are used to proxy HTTP requests for access to non-local host addresses from the phone HTTP client.</p> <p>If the phone receives a URL such as www.cisco.com in a service and the phone is not configured in the cisco.com domain, the phone uses the proxy server to access the URL. If the phone is configured in cisco.com domain, the phone accesses the URL without using the proxy because the phone is in the same domain as the URL.</p> <p>If you do not configure this URL, the phone attempts to connect directly to the URL.</p> <p>Leave this field blank to accept the default setting.</p>
Idle	<p>Enter the URL that displays on the Cisco IP Phone display when the phone has not been used for the time that is specified in Idle Timer field. For example, you can display a logo on the LCD when the phone has not been used for 5 minutes.</p> <p>Leave this field blank to accept the default setting.</p>
Idle Timer (seconds)	<p>Enter the time (in seconds) that you want to elapse before the URL that is specified in the Idle field displays.</p> <p>Leave this field blank to accept the value of the Idle URL Timer enterprise parameter.</p>
Extension Mobility (Device Profile) Information	
Enable Extension Mobility Feature	Check this check box if this phone supports extension mobility.

Table 49-1 Phone Configuration Settings (continued)

Field	Description
Log Out Profile	This field specifies the device profile that the device uses when no one is logged into the device by using Cisco CallManager Extension Mobility. Choose an option from the drop-down selection box. Options include Use Current Device Settings and Select a User Device Profile. When you choose Select a User Device Profile, a configuration window displays for you to choose the user device profile that was already configured.
Log In User ID	This field remains blank until a user logs in. When a user logs in to the device by using Cisco CallManager Extension Mobility, the userid displays in this field.
Log In Time	This field remains blank until a user logs in. When a user logs into the device using Extension Mobility, the time that the user logged in displays in this field.
Log Out Time	This field remains blank until a user logs in and logs out. When a user logs into the device by using Cisco CallManager Extension Mobility, the time that the system will log out the user displays in this field.
Logout	This button displays when a user logs into the device by using Cisco CallManager Extension Mobility. Click the button to manually log out the user.
H.323 Information	
Outgoing Caller ID Pattern	For incoming calls to the phone, enter the pattern, from 0 to 24 digits, that you want to use for caller ID.

Table 49-1 Phone Configuration Settings (continued)

Field	Description
Calling Party Selection	<p>Choose the directory number that is 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. • 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 Party Presentation	<p>Choose whether the Cisco CallManager transmits or blocks caller ID.</p> <p>Choose Allowed if you want the Cisco CallManager to send caller ID.</p> <p>Choose Restricted if you do not want the Cisco CallManager to send caller ID.</p>
Display IE Delivery	<p>This check box enables 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 checks this check box.</p>

Table 49-1 Phone 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-messaging integration only. If your configured voice-messaging system supports Redirecting Number IE, you should check the check box.</p> <p>Note The default setting leaves this 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-messaging integration only. If your configured voice-messaging system supports Redirecting Number IE, you should check the check box.</p> <p>Note Default leaves the check box unchecked.</p>

Table 49-1 Phone Configuration Settings (continued)

Field	Description
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).</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 or if you want media streaming to terminate through a single source.</p> <p>If you check this box to require an MTP and this device becomes the endpoint of a video call, the call will be audio only.</p>
Multilevel Precedence and Preemption (MLPP) Information	
MLPP Domain (e.g., “0000FF”)	<p>Enter a hexadecimal value between 0 and FFFFFFFF 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 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 set for the MLPP Domain Identifier enterprise parameter.</p>

Table 49-1 Phone Configuration Settings (continued)

Field	Description
MLPP Indication	<p>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.</p> <p>From the drop-down list box, choose a setting to assign to this device from the following options:</p> <ul style="list-style-type: none"> • 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. <p>Note Do not configure a device with the following combination of settings: MLPP Indication is set to <i>Off or Default</i> (when default is <i>Off</i>) while MLPP Preemption is set to <i>Forceful</i>.</p>
MLPP Preemption	<p>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.</p> <p>From the drop-down list box, choose a setting to assign to this device from the following options:</p> <ul style="list-style-type: none"> • 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. <p>Note Do not configure a device with the following combination of settings: MLPP Indication is set to <i>Off or Default</i> (when default is <i>Off</i>) while MLPP Preemption is set to <i>Forceful</i>.</p>

Table 49-1 Phone Configuration Settings (continued)

Field	Description
Product Specific Configuration — Information provided using 'i' button help.	
Model-specific configuration fields that are defined by the device manufacturer	To view field descriptions and help for product-specific configuration items, click the “i” information icon to the right of the Product Specific Configuration heading to display help in a popup dialog box. If you need more information, refer to the documentation for the specific device that you are configuring or contact the manufacturer.

Searching for User ID

To search for a user ID, choose the Select Login User ID link.

Procedure

-
- Step 1** From the configuration window, click the **Select User ID** link.
The User ID Lookup window displays.
- Step 2** In the User IDs begin with field, enter the first few characters of the user ID that you want to use and click **Find**.
All user IDs that match the pattern that you entered display in the User IDs found field.
- Step 3** Choose the desired user ID and click the **Select and Close** or **Select** button.



Tip To avoid affecting call-processing speed, Cisco recommends that you enter as many characters of the user ID as possible.

The configuration window displays and the user ID you chose displays in the field.

Configuring Speed-Dial Buttons

You use Cisco CallManager Administration to configure speed-dial buttons for phones if you want to provide speed-dial buttons for users or if you are configuring phones that do not have a specific user who is assigned to them. Users use the Cisco IP Phone User Options Menu to change the speed-dial buttons on their phones.

Procedure

Step 1 From the Phone Configuration window, click the **Add/Update Speed Dials** link at the top of the window.



Note To display the Phone Configuration window, choose **Device > Phone**. Enter your search criteria and click **Find**. Choose the phone for which you want to configure speed-dial buttons.

Step 2 Enter the appropriate settings as described in [Table 49-2](#).

Step 3 To apply the changes, click **Update** or click **Update and Close** to apply the changes and close the dialog box.

Related Topics

- [Cisco IP Phone Configuration, page 49-1](#)
- [Resetting a Phone, page 49-8](#)
- [Adding a Directory Number, page 49-39](#)
- [Updating a Directory Number, page 49-41](#)
- [Cisco IP Phones, Cisco CallManager System Guide](#)
- [Phone Features, Cisco CallManager System Guide](#)
- [Phone Configuration Checklist, Cisco CallManager System Guide](#)

Speed-Dial Configuration Settings

Table 49-2 describes the speed-dial button configuration settings. The Configure Speed-Dial Setting dialog box has two sections: speed-dial settings on the phone and speed-dial settings that are not associated with a button. The descriptions in Table 49-2 apply to both sections.

Speed Dial Settings on the Phone

Configure these settings for the physical buttons on the phone.

Speed Dial Settings not Associated with a Button

Configure these settings for the speed-dial numbers that you access with abbreviated dialing. The system provides a total of 99 speed-dial buttons.



Note

Not all Cisco IP Phones support abbreviated dialing. Refer to the phone user guide for information.

Table 49-2 *Speed-Dial Configuration Settings*

Field	Description
Speed Dial	This field identifies the speed-dial button on the phone or on the Cisco IP Phone 7914 Expansion Module (for example, 1, 2, 3, or 4), or the speed-dial index for abbreviated dial.
Number	Enter the number that you want the system to dial when the user presses the speed-dial button.
Label	Enter the text that you want to appear for the speed-dial button. Cisco CallManager does not make this field available for the Cisco IP Phone 7910.

Character Set

Choose the character set (alphabet and characters) that the language uses to display on the speed-dial button.

Related Topics

- [Cisco IP Phone Configuration](#), page 49-1
- [Adding a Directory Number](#), page 49-39
- [Updating a Directory Number](#), page 49-41
- [Configuring Speed-Dial Buttons](#), page 49-29
- [Cisco IP Phones](#), *Cisco CallManager System Guide*
- [Phone Features](#), *Cisco CallManager System Guide*
- [Phone Configuration Checklist](#), *Cisco CallManager System Guide*

Configuring Cisco IP Phone Services

From a Cisco IP Phone 7970, 7960, and 7940, users can access information services, such as weather, stock quotes, or other services that are available to their company. Using Cisco CallManager Administration, you can set up the available services for phones. Users use the Cisco IP Phone User Options Menu to modify the services. For information about the Cisco IP Phone User Options Menu, refer to the *Cisco IP Phone User Guide* that is specific to your phone model. For more information on maintaining services in Cisco CallManager Administration, see the [“Cisco IP Phone Services Configuration”](#) section on page 36-1.

Subscribing to a Service

To subscribe to new services for a phone, perform the following steps.

Before You Begin

Add the services to Cisco CallManager. For more information, see the [“Adding a Cisco IP Phone Service”](#) section on page 36-4.

Procedure

-
- Step 1** Choose **Device > Phone**.
- The Find and List Phones window displays.
- Step 2** To locate a specific phone, enter search criteria and click **Find**.
- A list of phones that match the search criteria appears.

- Step 3** Choose the phone to which you want to add a service.
The Phone Configuration window displays.
- Step 4** On the upper, right side of the window, click the **Subscribe/Unsubscribe Services** link.
- Step 5** From the Select a Service drop-down list box, choose the service that you want to add to the phone.
- Step 6** Click **Continue**.
The window displays with the service that you chose. If you want to choose a different service, click **Back** and repeat [Step 5](#).
- Step 7** If the service has required parameters, enter that information into the field that is provided.
- Step 8** Click **Subscribe**.
The service appears in the Subscribed Services list.
-

Related Topics

- [Resetting a Phone, page 49-8](#)
- [Updating Services, page 49-32](#)
- [Unsubscribing from a Service, page 49-33](#)
- [Adding a Cisco IP Phone Service, page 36-4](#)
- [Phone Configuration Checklist, Cisco CallManager System Guide](#)

Updating Services

Perform the following steps to update a service. You can update the service name and service parameter values, if necessary.

Procedure

- Step 1** Choose **Device > Phone**.
The Find and List Phones window displays.

- Step 2** To locate a specific phone, enter search criteria and click **Find**.
A list of phones that match the search criteria appears.
- Step 3** Choose the phone for which you want to update a service.
The Phone Configuration window displays.
- Step 4** On the upper, right side of the window, click the **Subscribe/Unsubscribe Services** link.
- Step 5** From the Subscribed Services list, choose a service.
- Step 6** Update the appropriate parameter and click **Update**.
-

Related Topics

- [Cisco IP Phone Configuration, page 49-1](#)
- [Resetting a Phone, page 49-8](#)
- [Unsubscribing from a Service, page 49-33](#)
- [Adding a Cisco IP Phone Service, page 36-4](#)
- [Phone Configuration Checklist, Cisco CallManager System Guide](#)

Unsubscribing from a Service

To unsubscribe from a service, perform the following steps.

Procedure

- Step 1** Choose **Device > Phone**.
The Find and List Phones window displays.
- Step 2** Enter search criteria to locate a specific phone and click **Find**.
A list of phones that match the search criteria appears.
- Step 3** Choose the phone from which you want to delete a service.
The Phone Configuration window displays.
- Step 4** On the upper, right side of the window, click the **Subscribe/Unsubscribe Services** link.

- Step 5** From the Subscribed Services list, choose a service.
- Step 6** Click **Unsubscribe**.
- A warning message verifies that you want to unsubscribe from the service.
- Step 7** Click **OK** to unsubscribe or click **Cancel** to restore your previous settings.
-

Related Topics

- [Cisco IP Phone Configuration, page 49-1](#)
- [Resetting a Phone, page 49-8](#)
- [Subscribing to a Service, page 49-31](#)
- [Adding a Cisco IP Phone Service, page 36-4](#)
- [Phone Configuration Checklist, *Cisco CallManager System Guide*](#)

Configuring Service URL Buttons

From a Cisco IP Phone 7970, 7960, and 7940, users can access information services, such as weather, stock quotes, or other services that are available to them. Using Cisco CallManager Administration, you can configure services to be available on a phone button and then configure that button for the phone. Users use the Cisco IP Phone User Options Menu to modify the services. For information about the Cisco IP Phone User Options Menu, refer to the *Cisco IP Phone User Guide* that is specific for your phone model. For more information on maintaining services in Cisco CallManager Administration, see the “[Cisco IP Phone Services Configuration](#)” section on page 36-1.

Adding a Service URL Button

To configure the service URL buttons for a phone, perform the following steps.

Before You Begin

Perform the following configurations before you begin:

- Add the services to Cisco CallManager. For more information, see the [“Adding a Cisco IP Phone Service” section on page 36-4](#).
- Configure the service URL button on the phone button template. For more information, see the [“Adding Phone Button Templates” section on page 51-4](#).
- Subscribe to the service. See the [“Configuring Cisco IP Phone Services” section on page 49-31](#).

Procedure

- Step 1** Choose **Device > Phone**.
- The Find and List Phones window displays.
- Step 2** To locate a specific phone, enter search criteria and click **Find**.
- A list of phones that match the search criteria appears.
- Step 3** Choose the phone to which you want to add a service URL button.
- The Phone Configuration window displays.
- Step 4** On the upper, right side of the window, click the **Add/Update Service URL Buttons** link.
- Step 5** From the Service drop-down list box, choose the service that you want to add to the phone.
- Step 6** To add the service to the phone button, click **Update** or click **Update and Close** to add the service to the phone button and return to the Phone Configuration window.
-

Related Topics

- [Resetting a Phone, page 49-8](#)
- [Updating Services, page 49-32](#)
- [Unsubscribing from a Service, page 49-33](#)
- [Adding a Cisco IP Phone Service, page 36-4](#)
- [Phone Configuration Checklist, Cisco CallManager System Guide](#)

Updating the Service URL Buttons

Perform the following steps to update a service URL button.

Procedure

- Step 1** Choose **Device > Phone**.
The Find and List Phones window displays.
- Step 2** To locate a specific phone, enter search criteria and click **Find**.
A list of phones that match the search criteria appears.
- Step 3** Choose the phone for which you want to update a service URL button.
The Phone Configuration window displays.
- Step 4** On the upper, right side of the window, click the **Add/Update Service URL Buttons** link.
- Step 5** From the Service drop-down list, choose a service.
- Step 6** To update the service on the phone button, click **Update** or click **Update and Close** to update the service on the phone button and return to the Phone Configuration window.
-

Related Topics

- [Cisco IP Phone Configuration, page 49-1](#)
- [Resetting a Phone, page 49-8](#)
- [Unsubscribing from a Service, page 49-33](#)
- [Adding a Cisco IP Phone Service, page 36-4](#)
- [Phone Configuration Checklist, Cisco CallManager System Guide](#)

Finding a Phone

Because you might have thousands of Cisco IP Phones in your network, Cisco CallManager lets you search for phones on the basis of specified criteria. Follow these steps to search for a specific Cisco IP Phone in the Cisco CallManager database.

**Note**

The Cisco VG248 Gateway will not display when you search for phones. You can search for the Cisco VG248 Analog Phone ports from the Find and List Phones window of Cisco CallManager Administration. See the [“Gateway Configuration” section on page 48-1](#) for configuration information on the Cisco VG248 Gateway.

**Tip**

For methods to limit your search, refer to the [“Phone Search”](#) section in the *Cisco CallManager System Guide*.

**Note**

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

Procedure

Step 1 Choose **Device > Phone**.

The Find and List Phones window displays.

Step 2 Choose the field for which you want to use to locate a phone.

**Note**

To find all phones 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.

Step 4 In the Find field, enter your search text, if any.

- Step 5** To choose a wildcard search on the search string, leave the Allow wildcards check box checked; otherwise, if you do not want a wildcard search, uncheck the check box. For more information about wildcard search, refer to the “[Phone Search](#)” section in the *Cisco CallManager System Guide*.



Note Searching for directory numbers or patterns that contain special characters, with the Allow wildcards check box checked, may not return expected results.

- Step 6** Click **Find**.
- A list of devices that match the criteria appears. 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 in this window.

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



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

Related Topics

- [Configuring Cisco IP Phones, page 49-2](#)
- [Gateway Configuration, page 48-1](#)
- [Cisco IP Phones, Cisco CallManager System Guide](#)
- [Phone Configuration Checklist, Cisco CallManager System Guide](#)

Configuring Directory Numbers

Using Cisco CallManager Administration, configure and modify directory numbers that are assigned to specific phones. These sections provide instructions for working with directory numbers.

Use this area of Cisco CallManager Administration to perform tasks such as adding or removing directory numbers, configuring call forward, call pickup, call waiting, and multilevel precedence and preemption (MLPP) options, setting the display text that appears on the called party phone when a call is placed from a line, and configuring ring settings.

Related Topics

- [Adding a Directory Number, page 49-39](#)
- [Removing a Directory Number From a Phone, page 49-43](#)
- [Updating a Directory Number, page 49-41](#)
- [Directory Number Configuration Settings, page 49-45](#)
- [Deleting Unassigned Directory Numbers, page 24-4](#)

Adding a Directory Number

Follow these instructions to add a directory number to a specific phone. You can configure the call forward, call pickup, and MLPP phone features while you are adding the directory number.

Before You Begin

You must add a Cisco IP Phone to Cisco CallManager before adding a directory number. See the [“Adding a Phone” section on page 49-4](#) for details.



Tip

You can assign patterns to directory numbers; for example, 352XX. To avoid user confusion when you assign a pattern to a directory number, add text or digits to the DN configuration fields, Line Text Label, Display (Internal Caller ID), and External Phone Number Mask. For example, add the user’s name to the line text

label and internal caller ID, but add the outside line number to the external number mask, so that when the calling information gets displayed, it says John Chan, not 352XX.

Procedure

- Step 1** Choose **Device > Phone**.
- The Find and List Phones window displays.
- Step 2** Enter search criteria to locate a specific phone and click **Find**.
- A list of phones that match the search criteria displays.
- Step 3** Click the device name to which you want to add a directory number.
- The Phone Configuration window displays.
- Step 4** In the Directory Numbers list, click an unassigned line, such as Line 1 or Line 2.
- The Directory Number Configuration window displays.



Tip If you need more than two lines, you can increase the lines by modifying the phone button template for the phone type (such as Cisco IP Phone model 7960). Some phone types, however, only support one or two lines (such as Cisco IP Phone model 7902).

- Step 5** Enter the appropriate settings as described in [Table 49-3](#).
- Step 6** Click **Add**.
- A message displays that states that the directory number has been added to the database and assigned to the device.
- Step 7** To display the Phone Configuration window, click **OK**. To return to the Directory Number Configuration window, click **Cancel**.

- Step 8** The change gets automatically applied to the phone after you click **OK**; however, you can click **Reset Phone**. For more information, see the “[Resetting a Phone](#)” section on page 49-8.



Note Devices restart as soon as possible. During this process, the system may drop calls on gateways.

Related Topics

- [Cisco IP Phone Configuration](#), page 49-1
- [Finding a Phone](#), page 49-37
- [Adding a Phone](#), page 49-4
- [Removing a Directory Number From a Phone](#), page 49-43
- [Updating a Directory Number](#), page 49-41
- [Directory Number Configuration Settings](#), page 49-45
- [Deleting Unassigned Directory Numbers](#), page 24-4
- [Cisco IP Phones](#), *Cisco CallManager System Guide*
- [Phone Features](#), *Cisco CallManager System Guide*
- [Phone Configuration Checklist](#), *Cisco CallManager System Guide*

Updating a Directory Number

Follow these instructions to update a directory number that is assigned to a specific phone.

Procedure

- Step 1** Choose **Device > Phone**.
- The Find and List Phones window displays.
- Step 2** Enter search criteria to locate a specific phone.
- A list of phones that match the search criteria displays.

- Step 3** Click the name of the phone to update.
The Phone Configuration window displays.
- Step 4** From the Directory Numbers list, click the line that you want to update.
The Directory Number Configuration window displays.
- Step 5** Update the appropriate settings as described in [Table 49-3](#).
- Step 6** Click **Update**.
- Step 7** The change gets automatically applied to the phone after you click **OK**; however you can click **Reset Devices**. For more information, see the [“Resetting a Phone” section on page 49-8](#).



Note Devices restart as soon as possible. During this process, Cisco CallManager may drop calls on gateways.

Related Topics

- [Cisco IP Phone Configuration, page 49-1](#)
- [Gateway Configuration, page 48-1](#)
- [Finding a Phone, page 49-37](#)
- [Adding a Phone, page 49-4](#)
- [Adding a Directory Number, page 49-39](#)
- [Removing a Directory Number From a Phone, page 49-43](#)
- [Directory Number Configuration Settings, page 49-45](#)
- [Deleting Unassigned Directory Numbers, page 24-4](#)
- [Cisco IP Phones, *Cisco CallManager System Guide*](#)
- [Phone Features, *Cisco CallManager System Guide*](#)
- [Phone Configuration Checklist, *Cisco CallManager System Guide*](#)

Removing a Directory Number From a Phone

Perform the following procedure to remove a directory number from a specific phone.

Before You Begin

If you try to remove a directory number that is in use, Cisco CallManager displays a warning message. To find out which line groups are using the directory number, click the **Dependency Records** link from the Directory Number 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](#).

When you remove a directory number from a phone, the number still exists within Cisco CallManager. To see a list of directory numbers that are not associated with phones, use the Route Plan Report menu option. For more information, see the [“Deleting Unassigned Directory Numbers” section on page 24-4](#).

Procedure

-
- Step 1** Choose **Device > Phone**.
- The Find and List Phones window displays.
- Step 2** Enter the search criteria to locate a specific phone and click **Find**.
- A list of phones that match the search criteria displays.
- Step 3** Choose the device name that contains the directory number that you want to remove.
- The Phone Configuration window displays.
- Step 4** From the Directory Numbers list, choose the line that you want to remove.
- The Directory Number Configuration window displays.
- Step 5** Click **Remove from Device**.
- A message displays to verify that you want to remove the directory number from the phone.

Step 6 Click **OK**.

The Phone Configuration window displays with the directory number removed. The change gets automatically applied to the phone; however, you can click **Reset Phone**. For more information, see the “[Resetting a Phone](#)” section on page 49-8.

Related Topics

- [Cisco IP Phone Configuration, page 49-1](#)
- [Finding a Phone, page 49-37](#)
- [Adding a Directory Number, page 49-39](#)
- [Updating a Directory Number, page 49-41](#)
- [Resetting a Phone, page 49-8](#)
- [Deleting Unassigned Directory Numbers, page 24-4](#)
- [Cisco IP Phones, *Cisco CallManager System Guide*](#)
- [Phone Configuration Checklist, *Cisco CallManager System Guide*](#)

Directory Number Configuration Settings

Table 49-3 describes the fields that are available in the Directory Number Configuration window. Table 49-4 describes the directory number status area on the Directory Number Configuration window (see Figure 49-3).

Table 49-3 *Directory Number Configuration Settings*

Field	Description
Directory Number	
Directory Number	<p>Enter a dialable phone number. Values can include numeric characters and route pattern wildcards and special characters except for (.) and (@).</p> <p>Note When a pattern is used as a directory number, the display on the phone and the caller ID displaying on the dialed phone will both contain characters other than digits. To avoid this, Cisco recommends that you provide a value for Display (Internal Caller ID), Line text label, and External phone number mask. These fields are described in Table 49-3.</p> <p>The directory number that you enter can appear in more than one partition.</p> <p>Note If a JTAPI or TAPI application controls or monitors a device, you should not configure multiple instances of the same DN (with different partitions) on that device.</p> <p>Shared Line next to the directory number means that the directory number appears on more than one device in the same partition. Refer to “Directory Numbers” in the <i>Cisco CallManager System Guide</i> for more information.</p>

Table 49-3 Directory Number Configuration Settings (continued)

Field	Description
Partition	<p>Choose the partition to which the directory number belongs. Make sure that the directory number that you enter in the Directory Number field is unique within the partition that you choose. If you do not want to restrict access to the directory number, choose <None> for the partition.</p> <p>If more than 250 partitions exist, the ellipsis (...) button displays next to the drop-down list box. Click the ... button to display the Select Partition window. Enter a partial partition name in the List items where Name contains field. Click the desired partition name in the list of partitions that displays in the Select item to use box, and click OK.</p>
Active	To view this check box on the Directory Number Configuration window, access an unassigned directory number from the Route Plan Report window. Checking this check box allows calls to this DN to be forwarded (if forwarding is configured). If check box is not checked, Cisco CallManager ignores the DN.
Update Directory Number of All Devices Sharing This Line	This check box displays for shared line directory numbers only. Check this check box to change the directory number of all devices that share this directory number. Leave this check box unchecked to only change the directory number or partition for this device (the other devices that share this directory number will remain unchanged).
Directory Number Settings	
Voice Mail Profile	<p>Choose from list of Voice Mail Profiles that are defined in the Voice Mail Profile Configuration.</p> <p>The first option specifies <None>, which is the current default Voice Mail Profile that is configured in the Voice Mail Profile Configuration.</p>

Table 49-3 *Directory Number Configuration Settings (continued)*

Field	Description
Calling Search Space	<p>Choose the appropriate calling search space. A calling search space comprises a collection of partitions that are searched for numbers that are called from this directory number. The value that you choose applies to all devices that are using this directory number.</p> <p>Note Changes result in an update of the numbers that are listed in the Call Pickup Group field.</p> <p>You can configure calling search space for Forward All, Forward Busy, Forward No Answer, and Forward on Failure directory numbers. The value that you choose applies to all devices that are using this directory number.</p> <p>If you set the Forward All Calling Search Space field to <None>, Cisco CallManager uses the calling search spaces of the line and the phone when the user forwards calls by using the Cisco IP Phone User Options windows or the CFwdAll softkey on the phone. If you want to restrict users from forwarding calls on their phones, you must choose a restrictive calling search space from the Forward All Calling Search Space field; for example:</p> <p>You have two calling search spaces: Building and PSTN. The Building calling search space only allows users to call within the building, while the PSTN calling search space allows users to call within and outside the building. You assign the phone to the Building calling search space and the line on your phone to the PSTN calling search space. If you set the Call Forward All calling search space to <None>, Cisco CallManager can forward calls to any number within the PSTN or building calling search spaces. To prevent the user from forwarding calls to numbers outside the building, set the Call Forward All calling search space to Building.</p> <p>For more information, refer to Partitions and Calling Search Spaces, in the <i>Cisco CallManager System Guide</i>.</p>

Table 49-3 *Directory Number Configuration Settings (continued)*

Field	Description
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.
User Hold Audio Source	Choose the audio source that plays when a user initiates a hold action.
Network Hold Audio Source	Choose the audio source that plays when the network initiates a hold action.
Auto Answer	<p>Choose one of the following options to activate the Auto Answer feature for this directory number:</p> <ul style="list-style-type: none"> • Auto Answer Off <Default> • Auto Answer with Headset • Auto Answer with Speakerphone (Intercom) <p>Note Make sure that the headset or speakerphone is not disabled when you choose Auto Answer with headset or Auto Answer with speakerphone.</p> <p>Note Do not configure Auto Answer for devices that have shared lines.</p>

Table 49-3 *Directory Number Configuration Settings (continued)*

Field	Description
Call Forward and Pickup Settings	
Forward All	<p>Voice Mail—Check this check box to use settings in the Voice Mail Profile Configuration window.</p> <p>Note When this check box is checked, Cisco CallManager ignores the settings in the Destination box and Calling Search Space.</p> <p>Destination—This setting indicates the directory number to which all calls are forwarded.</p> <p>Use any dialable phone number, including an outside destination.</p> <p>Calling Search Space—This setting applies to all devices that are using this directory number.</p>
Forward Busy	<p>Voice Mail—Check this check box to use settings in the Voice Mail Profile Configuration window.</p> <p>Note When this check box is checked, Cisco CallManager ignores the settings in the Destination box and Calling Search Space.</p> <p>Destination—Use any dialable phone number, including an outside destination.</p> <p>Calling Search Space—This setting applies to all devices that are using this directory number.</p>

Table 49-3 *Directory Number Configuration Settings (continued)*

Field	Description
Forward No Answer	<p>Voice Mail—Check this check box to use settings in the Voice Mail Profile Configuration window.</p> <p>Note When this check box is checked, Cisco CallManager ignores the settings in the Destination box and Calling Search Space.</p> <p>Destination—This setting indicates the directory number to which a call is forwarded when the call is not answered.</p> <p>Use any dialable phone number, including an outside destination.</p> <p>Calling Search Space—This setting applies to all devices that are using this directory number.</p>
Forward on Failure	<p>This field applies only to CTI route points and CTI ports.</p> <p>Voice Mail—Check this check box to use settings in the Voice Mail Profile Configuration window.</p> <p>Note When this check box is checked, Cisco CallManager ignores the settings in the Destination box and Calling Search Space.</p> <p>Destination—This setting specifies the directory number to which a nonconnected call is forwarded when an application that controls that directory number fails.</p> <p>Use any dialable phone number, including an outside destination.</p> <p>Calling Search Space—This setting applies to all devices that are using this directory number.</p>

Table 49-3 *Directory Number Configuration Settings (continued)*


Field	Description
No Answer Ring Duration (seconds)	<p>Used in conjunction with Call Forward No Answer Destination, this field sets the timer for how long the phone will ring before it gets forwarded. Leave this setting blank to use the value that is set in the Cisco CallManager service parameter, Forward No Answer Timer.</p> <p> Caution By default, Cisco CallManager makes the time for the T301 timer longer than the No Answer Ring Duration time; if the set time for the T301 timer expires before the set time for the No Answer Ring Duration expires, the call ends and no call forwarding can occur. If you choose to do so, you can configure the time for the No Answer Ring Duration to be greater than the time for the T301 timer. For information on the T301 timer, choose Service > Service Parameter; choose the server, the Cisco CallManager service and then the parameter in the window that displays.</p>
Call Pickup Group	Choose the number that can be dialed to answer calls to this directory number (in the specified partition).
MLPP Alternate Party Settings	
Target (Destination)	<p>Enter the number to which MLPP precedence calls should be directed if this directory number receives a precedence call and neither this number nor its call forward destination answers the precedence call.</p> <p>Values can include numeric characters and octothorpe (#) and asterisk (*).</p>
Calling Search Space	From the drop-down list box, choose the calling search space to associate with the alternate party target (destination) number.

Table 49-3 Directory Number Configuration Settings (continued)

Field	Description
No Answer Ring Duration	<p>Enter the number of seconds (between 4 and 60) after which an MLPP precedence call will be directed to this directory number's alternate party if this directory number and its call forwarding destination have not answered the precedence call.</p> <p>Leave this setting blank to use the value that is set in the Cisco CallManager enterprise parameter, Precedence Alternate Party Timeout.</p>
Line Settings for This Device	
Display (Internal Caller ID)	<p>Leave this field blank to have the system display the extension.</p> <p>Use a maximum of 30 alphanumeric characters. Typically, use the user name or the directory number.</p> <p>Setting applies only to the current device unless you check the check box at right and click the Propagate selected button. (The check box at right displays only if other devices share this directory number.)</p>
Line Text Label	<p>Use this field only if you do not want the directory number to show on the line appearance. Enter text that identifies this directory number for a line/phone combination.</p> <p>Suggested entries include boss's name, department's name, or other appropriate information to identify multiple directory numbers to secretary/assistant who monitors multiple directory numbers.</p> <p>Setting applies only to the current device unless you check the check box at right (called Update Shared Device Settings) and click the Propagate selected button. (The check box at right displays only if other devices share this directory number.)</p>

Table 49-3 Directory Number Configuration Settings (continued)

Field	Description
External Phone Number Mask	<p>Indicate phone number (or mask) that is used to send Caller ID information when a call is placed from this line.</p> <p>You can enter a maximum of 30 number and “X” characters. The Xs represent the directory number and must appear at the end of the pattern. For example, if you specify a mask of 972813XXXX, an external call from extension 1234 displays a caller ID number of 9728131234.</p> <p>Setting applies only to the current device unless you check the check box at right (called Update Shared Device Settings) and click the Propagate selected button. (The check box at right displays only if other devices share this directory number.)</p>
Message Waiting Lamp Policy	<p>Use this field to configure the handset lamp illumination policy. Choose one of the following options:</p> <ul style="list-style-type: none"> • Use System Policy (The directory number refers to the service parameter “Message Waiting Lamp Policy” setting.) • Light and Prompt • Prompt Only • Light Only • None <p>Setting applies only to the current device unless you check the check box at right (called Update Shared Device Settings) and click the Propagate selected button. (The check box at right displays only if other devices share this directory number.)</p>

Table 49-3 Directory Number Configuration Settings (continued)

Field	Description
Ring Setting (Phone Idle)	<p>Use this field to configure the ring setting for the line appearance when an incoming call is received and no other active calls exist on that device. Choose one of the following options:</p> <ul style="list-style-type: none"> • Use system default • Disable • Flash only • Ring once • Ring <p>Setting applies only to the current device unless you check the check box at right (called Update Shared Device Settings) and click the Propagate selected button. (The check box at right displays only if other devices share this directory number.)</p>
Ring Setting (Phone Active)	<p>From the drop-down list box, choose the ring setting that is used when this phone has another active call on a different line. Choose one of the following options:</p> <ul style="list-style-type: none"> • Use system default • Disable • Flash only • Ring once • Ring • Beep only <p>Setting applies only to the current device unless you check the check box at right (called Update Shared Device Settings) and click the Propagate selected button. (The check box at right displays only if other devices share this directory number.)</p>

Table 49-3 Directory Number Configuration Settings (continued)

Field	Description
Multiple Call/Call Waiting Settings	
Maximum Number of Calls	<p>You can configure up to 200 calls for a line on a device, with the limiting factor being the total number of calls that are configured on the device. As you configure the number of calls for one line, the calls that are available for another line decrease.</p> <p>The default specifies 4. If the phone does not allow multiple calls for each line, the default specifies 2.</p> <p>For CTI route points, you can configure up to 10,000 calls for each port. The default specifies 5000 calls. Use this field in conjunction with the Busy Trigger field.</p> <p>Tip To review how this setting works for devices with shared line appearances, refer to “Shared Line Appearance” in the <i>Cisco CallManager System Guide</i>.</p>
Busy Trigger	<p>This setting, which works in conjunction with Maximum Number of Calls and Call Forward Busy, determines the maximum number of calls to be presented at the line. If maximum number of calls is set for 50 and the busy trigger is set to 40, then incoming call 41 gets rejected with a busy cause (and will get forwarded if Call Forward Busy is set). If this line is shared, all the lines must be busy before incoming calls get rejected.</p> <p>Use this field in conjunction with Maximum Number of Calls for CTI route points. The default specifies 4500 calls.</p> <p>Tip To review how this setting works for devices with shared line appearances, refer to “Shared Line Appearance” in the <i>Cisco CallManager System Guide</i>.</p>
Forwarded Call Information Display	
Caller Name	Checking this check box will cause the caller name to display upon call forward.

Table 49-3 *Directory Number Configuration Settings (continued)*

Field	Description
Redirected Number	Checking this check box will cause the number that was redirected to display upon call forward.
Caller Number	Checking this check box will cause the caller number to display upon call forward.
Dialed Number	Checking this check box will cause the original dialed number to display upon call forward.

Character Set

Choose the character set (alphabet and characters) for the language that is used to display settings on the directory number.

Directory Number Status

[Table 49-4](#) describes the directory number status area on the Directory Number Configuration window (see [Figure 49-3](#)).

Table 49-4 *Directory Number Status*

Field	Description
Used By	This field lists the line group or Cisco CallManager Attendant Console hunt group in which the directory number resides.
Associated With	This field lists the devices with which the directory is associated.

Table 49-5 Directory Number Configuration Status

The screenshot shows the Cisco CallManager Administration interface for configuring a directory number. The main heading is "Directory Number Configuration" with a sub-heading "Configure Device (SEP02242134234) Dependency Records".

Used By: 4000

Associated With: SEP02242134234 (Line 3), SEP234242134234 (Line 1)

Directory Number: 4444 (Status: Ready)

Buttons: Update, Remove from Device, Reset Devices

Directory Number Settings: Changes affect all listed devices

Directory Number*: 4444 (Shared Line)

Partition: <None>

Update Directory Number of All Devices sharing this line

Voice Mail Profile: <None> (Choose <none> to use default)

Calling Search Space: <None>

AAR Group: <None>

User Hold Audio Source: <None>

Network Test Audio Source: <None>

Related Topics

- [Line Group Configuration, page 18-1](#)
- [Cisco IP Phone Configuration, page 49-1](#)
- [Gateway Configuration, page 48-1](#)
- [Resetting a Phone, page 49-8](#)
- [Adding a Directory Number, page 49-39](#)
- [Updating a Directory Number, page 49-41](#)
- [Deleting Unassigned Directory Numbers, page 24-4](#)
- [Cisco IP Phones, Cisco CallManager System Guide](#)
- [Phone Features, Cisco CallManager System Guide](#)
- [Phone Configuration Checklist, Cisco CallManager System Guide](#)



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:

- [Finding a Trunk, page 50-2](#)
- [Adding a Trunk, page 50-3](#)
- [Deleting a Trunk, page 50-4](#)
- [Modifying a Trunk, page 50-6](#)
- [Resetting a Trunk, page 50-7](#)
- [Trunk Configuration Settings, page 50-8](#)

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 50-3](#)
- [Deleting a Trunk, page 50-4](#)
- [Modifying a Trunk, page 50-6](#)
- [Resetting a Trunk, page 50-7](#)
- [Trunk Configuration Settings, page 50-8](#)
- [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 50-1](#). For SIP trunks, enter the appropriate settings as described in [Table 50-2](#).
- Step 5** Click **Insert** to add the new trunk.
- The page updates, and the name of the new trunk displays in the Trunks list.
-

Related Topics

- [Finding a Trunk, page 50-2](#)
- [Deleting a Trunk, page 50-4](#)
- [Modifying a Trunk, page 50-6](#)
- [Resetting a Trunk, page 50-7](#)
- [Trunk Configuration Settings, page 50-8](#)
- [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 an error 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/Hunt Pilot” section on page 21-6](#).
- Delete the route patterns that are using the trunk that you want to delete. See the [“Deleting a Route Pattern/Hunt Pilot” section on page 21-8](#).

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 50-2](#)
- [Adding a Trunk, page 50-3](#)
- [Modifying a Trunk, page 50-6](#)
- [Resetting a Trunk, page 50-7](#)
- [Trunk Configuration Settings, page 50-8](#)

- [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 50-1](#) for H.225 trunks and intercluster trunks or in [Table 50-2](#) 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 50-2](#)
- [Adding a Trunk, page 50-3](#)
- [Deleting a Trunk, page 50-4](#)
- [Resetting a Trunk, page 50-7](#)
- [Trunk Configuration Settings, page 50-8](#)
- [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 50-2](#)
- [Adding a Trunk, page 50-3](#)
- [Deleting a Trunk, page 50-4](#)
- [Modifying a Trunk, page 50-6](#)
- [Trunk Configuration Settings, page 50-8](#)
- [Gatekeepers and Trunks, *Cisco CallManager System Guide*](#)
- [Gatekeeper and Trunk Configuration in Cisco CallManager, *Cisco CallManager System Guide*](#)

Trunk Configuration Settings

Table 50-1 describes the trunk configuration settings for gatekeeper-controlled H.225 trunks, gatekeeper-controlled intercluster trunks, and non-gatekeeper-controlled intercluster trunks. (**Table 50-2** describes the trunk configuration settings for SIP trunks.)

Table 50-1 *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 50-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Device Pool	<p>Choose the appropriate device pool for the trunk.</p> <p>For trunks, device pools specify a list of Cisco CallManagers that the trunk uses to distribute the call load dynamically.</p> <p>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.</p> <p>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.</p>
Media Resource Group List	<p>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 is defined in a Media Resource Group List.</p>
Location	<p>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.</p>

Table 50-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
AAR Group	<p>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.</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).</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 or if you want media streaming to terminate through a single source.</p> <p>If you check this check box to require an MTP and one or both parties are a video endpoint, the call will be audio only.</p>

Table 50-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Retry Video Call as Audio	<p>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).</p> <p>By default, the system checks this check box to specify that this device should immediately retry a video call that does not connect as an audio call prior to sending the call to call control for rerouting.</p> <p>If you uncheck this check box, a video call that fails to connect as video fails to call control, where the call can be rerouted via Automatic Alternate Routing (AAR) and/or route/hunt list.</p>
Wait for Far-End H.245 Terminal Capability Set (H.225 trunks only)	<p>This field applies only to H.323 devices.</p> <p>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.</p>
Call Routing Information	
Inbound Calls	
Significant Digits	<p>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.</p> <p>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.</p>

Table 50-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Calling Search Space	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.
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.
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.

Table 50-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Outbound Calls	
Calling Party Selection	<p>Choose the directory number that is 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. • 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	<p>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.</p> <p>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.</p>

Table 50-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
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 you are connecting to a PBX that expects the called directory number to be encoded to a non-national numbering plan type.</p> <p>Choose one of the following options:</p> <ul style="list-style-type: none"> • Cisco 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. • Subscriber—Use when you are dialing a subscriber by using a shortened subscriber number.

Table 50-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Calling party IE number type unknown	<p>Choose the format for the type of number in calling party directory numbers.</p> <p>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.</p> <p>Choose one of the following options:</p> <ul style="list-style-type: none"> • Cisco 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. • Subscriber—Use when you are dialing a subscriber by using a shortened subscriber number.

Table 50-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Called Numbering Plan	<p>Choose the format for the numbering plan in called party directory numbers.</p> <p>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.</p> <p>Choose one of the following options:</p> <ul style="list-style-type: none"> • 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—The dialing plan is unknown.

Table 50-1 *Trunk Configuration Settings for H.225 and Intercluster Trunks (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 you are connecting to a PBX that expects the calling numbering plan to be encoded to a non-national numbering plan.</p> <p>Choose one of the following options:</p> <ul style="list-style-type: none"> • 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—The dialing plan is unknown.

Table 50-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
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 trunk.</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.
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>

Table 50-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (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-messaging integration only. If your configured voice-messaging system supports Redirecting Number IE, you should check the check box.</p> <p>Note The default setting leaves this check box unchecked.</p>
Gatekeeper Information	
(for gatekeeper-controlled H.225 trunks and intercluster trunks)	
Gatekeeper Name	Choose the gatekeeper that controls this trunk.
Terminal Type	<p>Use the Terminal Type field to designate the type for all devices that this trunk controls.</p> <p>Always set this field to Gateway for normal trunk call admission control.</p>

Table 50-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (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 that the value that you enter exactly matches the <i>type-prefix</i> value that is 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 50-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (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 that is 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 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. <p>Refer to the command reference documentation for your gatekeeper for more information.</p>
<p>Remote Cisco CallManager Information</p>	
<p>(for non-gatekeeper-controlled intercluster trunks)</p>	
Server 1 IP Address/Host Name	Enter the IP address or host name of the first remote Cisco CallManager that this trunk accesses.

Table 50-1 *Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)*

Field	Description
Server 2 IP Address/Host Name	<p>Enter the IP address or host name of the second remote Cisco CallManager that this trunk accesses.</p> <p>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.</p>
Server 3 IP Address/Host Name	<p>Enter the IP address or host name of the third remote Cisco CallManager that this trunk accesses.</p> <p>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.</p>

Table 50-2 describes the trunk configuration settings for SIP trunks.

Table 50-2 *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.

Table 50-2 Trunk Configuration Settings for SIP Trunks (continued)

Field	Description
Device Pool	<p>Choose the appropriate device pool for the trunk.</p> <p>For trunks, device pools specify a list of Cisco CallManagers that the trunk uses to distribute the call load dynamically.</p> <p>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.</p> <p>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.</p>
Media Resource Group List	<p>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.</p>
Location	<p>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.</p>
AAR Group	<p>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.</p>

Table 50-2 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 <i>RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals</i> 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. The value that you enter 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 50-2 Trunk Configuration Settings for SIP Trunks (continued)

Field	Description
Call Routing Information	
Inbound Calls	
Significant Digits	<p>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.</p> <p>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.</p>
Connected Line ID Presentation	<p>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.</p> <p>Choose Allowed, which is the default, if you want Cisco CallManager to send connected line information.</p> <p>Choose Restricted if you do not want Cisco CallManager to send connected line information.</p>
Connected Name Presentation	<p>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.</p> <p>Choose Allowed, which is the default, if you want Cisco CallManager to send connected name information.</p> <p>Choose Restricted if you do not want Cisco CallManager to send connected name information.</p>

Table 50-2 Trunk Configuration Settings for SIP Trunks (continued)

Field	Description
Calling Search Space	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.
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.
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.

Table 50-2 *Trunk Configuration Settings for SIP Trunks (continued)*

Field	Description
Outbound Calls	
Calling Party Selection	<p>Choose the directory number that is 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. • 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	<p>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.</p> <p>Choose Allowed, which is the default, if you want Cisco CallManager to send calling number information.</p> <p>Choose Restricted if you do not want Cisco CallManager to send the calling number information.</p>

Table 50-2 Trunk Configuration Settings for SIP Trunks (continued)

Field	Description
Calling Name ID Presentation	<p>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.</p> <p>Choose Allowed, which is the default, if you want Cisco CallManager to send calling name information.</p> <p>Choose Restricted if you do not want Cisco CallManager to send the calling name information.</p>
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 trunk.</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.

Table 50-2 *Trunk Configuration Settings for SIP Trunks (continued)*

Field	Description
Caller Name	Overrides the caller name that is received from the originating Cisco CallManager device.
Redirecting Number Delivery - Outbound	<p>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.</p> <p>Uncheck the check box to exclude the first Redirecting Number and the redirecting reason from the outgoing INVITE message.</p> <p>You use Redirecting Number for voice-messaging integration only. If your configured voice-messaging system supports Redirecting Number, you should check the check box.</p> <p>Note The default setting leaves this check box unchecked.</p>

Related Topics

- [Finding a Trunk, page 50-2](#)
- [Adding a Trunk, page 50-3](#)
- [Deleting a Trunk, page 50-4](#)
- [Resetting a Trunk, page 50-7](#)
- [Modifying a Trunk, page 50-6](#)
- [Gatekeepers and Trunks, *Cisco CallManager System Guide*](#)
- [Gatekeeper and Trunk Configuration in Cisco CallManager, *Cisco CallManager System Guide*](#)



Phone Button Template Configuration

Cisco CallManager includes several default phone button templates. When adding phones, you can assign one of these templates to the phones or create a new template.

Creating and using templates provides a fast way to assign a common button configuration to a large number of phones. For example, if users in your company do not use the conference feature, you can create a template that reassigns this button to a different feature, such as speed dial.

Make sure that all phones have at least one line assigned. Normally, this is button 1. You can assign additional lines to a phone, depending on the Cisco IP Phone model. Phones also generally have several features, such as speed dial and call forward, that are assigned to the remaining buttons.

The following sections provide details about using and working with the phone button templates:

- [Updating Device Defaults, page 6-1](#)
- [Finding a Phone Button Template, page 51-2](#)
- [Adding Phone Button Templates, page 51-4](#)
- [Phone Button Configuration Settings, page 51-5](#)
- [Modifying Phone Button Templates, page 51-6](#)
- [Phone Button Templates, *Cisco CallManager System Guide*](#)
- [Phone Configuration Checklist, *Cisco CallManager System Guide*](#)

Finding a Phone Button Template

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

**Note**

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

Procedure

Step 1 Choose **Device > Device Settings > Phone Button Template**.

The Find and List Phone Button Templates window displays. Use the two drop-down list boxes to search for a phone button template.

Step 2 From the first Find phone button templates where name drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly

From the second Find where phone button template is drop-down list box, choose one of the following criteria:

- Both
- Standard
- Non-Standard

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 phone button templates that are registered in the database, click **Find** without entering any search text.

A list of discovered phone button templates displays by

- Phone Button Template icon
- Phone Button Template Name

**Note**

You can delete multiple nonstandard phone button templates from the Find and List Phone Button Templates window by checking the check boxes next to the appropriate phone button templates and clicking **Delete Selected**. You can delete all phone button templates in the window by checking the check box in the Matching records title bar and clicking **Delete Selected**. You can delete only phone button templates that display a check box in the left column. All other phone button templates serve as standard, read-only templates

Step 4 From the list of records, click the Phone Button Template icon or name or the Description that matches your search criteria.

The window displays the phone button template that you choose.

Related Topics

- [Updating Device Defaults, page 6-1](#)
- [Adding Phone Button Templates, page 51-4](#)
- [Phone Button Configuration Settings, page 51-5](#)
- [Modifying Phone Button Templates, page 51-6](#)
- [Phone Button Templates, *Cisco CallManager System Guide*](#)
- [Phone Configuration Checklist, *Cisco CallManager System Guide*](#)

Adding Phone Button Templates

Cisco CallManager includes default templates for each Cisco IP Phone model. When adding phones, you can assign one of these templates to the phone or create a template of your own.

Before You Begin

If you are creating a custom phone button template, refer to the guidelines for creating new phone button templates. See the “[Guidelines for Customizing Phone Button Templates](#)” section in the *Cisco CallManager System Guide*.

Procedure

-
- Step 1** Choose **Device > Device Settings > Phone Button Template**.
- The Find and List Phone Button Templates window displays.
- Step 2** In the upper, right corner of the window, click the **Add a New Phone Button Template** link.
- The Phone Button Template Configuration window displays.
- Step 3** From the Phone Button Template drop-down list box, choose a template and click **Copy** to create a new template.
- The new template exactly duplicates the existing template. You must assign a new name for the new template. Update this new template if you want it to differ from the original.
- Step 4** Update the appropriate settings as described in [Table 51-1](#).
- Step 5** Click **Insert** to add the new template.
- Step 6** Click the **View Button Layout** link to verify the button layout.
-

Related Topics

- [Finding a Phone Button Template, page 51-2](#)
- [Modifying Phone Button Templates, page 51-6](#)

- [Guidelines for Customizing Phone Button Templates](#), *Cisco CallManager System Guide*
- [Phone Configuration Checklist](#), *Cisco CallManager System Guide*

Phone Button Configuration Settings

Table 51-1 describes the phone button configuration settings.

Table 51-1 Phone Button Configuration Settings

Field	Description
Button Template Name	Enter a unique name that Cisco CallManager uses to identify the template.
Feature	Choose the function of the phone button that you want to specify in the template. Available functions include Speed Dial, Line, None, Privacy, and Service URL. Note You cannot change the function of buttons in default phone button templates.
Label	Enter a description of the button.

Related Topics

- [Updating Device Defaults](#), page 6-1
- [Finding a Phone Button Template](#), page 51-2
- [Adding Phone Button Templates](#), page 51-4
- [Modifying Phone Button Templates](#), page 51-6
- [Phone Button Templates](#), *Cisco CallManager System Guide*
- [Phone Configuration Checklist](#), *Cisco CallManager System Guide*

Modifying Phone Button Templates

You can make changes to the custom templates that you created, and you can change the label of the custom phone button template. You cannot change the function of the buttons in the default templates.

Use the following procedures to rename custom templates, to update custom templates to add or remove features, lines, or speed dials, and to delete templates that are no longer being used.

If you create a template for a phone (Cisco IP Phone model 7960), you can change the default template for that phone during auto-registration. See the [“Updating Device Defaults”](#) section on page 6-1.

Related Topics

- [Finding a Phone Button Template, page 51-2](#)
- [Renaming a Phone Button Template, page 51-6](#)
- [Deleting a Phone Button Template, page 51-7](#)
- [Updating a Phone Button Template, page 51-9](#)

Renaming a Phone Button Template

Use this procedure to rename a phone button template. Renaming a template does not affect the phones that use that template. All Cisco IP Phones that use this template continue to use this template after it is renamed.

Procedure

-
- Step 1** Find the phone button template by using the procedure in the [“Finding a Phone Button Template”](#) section on page 51-2.

- Step 2** From the list of matching records, choose the phone button template that you want to rename.



Note You can rename only phone button templates that display a check box in the left column. All other phone button templates serve as standard, read-only templates.

The Phone Button Template Configuration page displays.

- Step 3** In the Button Template Name field, enter the new name.

- Step 4** Click **Update**.

The template redisplay with the new name.

Related Topics

- [Finding a Phone Button Template, page 51-2](#)
- [Adding Phone Button Templates, page 51-4](#)
- [Deleting a Phone Button Template, page 51-7](#)
- [Updating a Phone Button Template, page 51-9](#)
- [Guidelines for Customizing Phone Button Templates, *Cisco CallManager System Guide*](#)
- [Phone Configuration Checklist, *Cisco CallManager System Guide*](#)

Deleting a Phone Button Template

Use this procedure to delete a phone button template.

Before You Begin

You can delete phone templates that are not currently assigned to any phone in your system. You cannot delete a template that is assigned to one or more devices or device profiles or the default template for a model (which is specified in the Device Defaults Configuration window).

To find out which devices are using the phone button template, click the **Dependency Records** link from the Phone Button Template 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 phone button template that is in use, Cisco CallManager displays an error message. Before deleting a phone button template that is currently in use, you must perform either or both of the following tasks:

- Assign a different phone button template to any devices that are using the phone button template that you want to delete. See the [“Updating a Phone” section on page 49-10](#).
- Delete the devices that are using the phone button template that you want to delete. See the [“Deleting a Phone” section on page 49-11](#).

Procedure

-
- Step 1** Find the phone button template by using the procedure in the [“Finding a Phone Button Template” section on page 51-2](#).
- Step 2** From the list of matching records, choose the phone button template that you want to delete.



Note You can delete only phone button templates that display a check box in the left column. All other phone button templates serve as standard, read-only templates.

The Phone Button Template Configuration page displays.

- Step 3** Click **Delete**.
- A message verifies that you want to delete the template.
- Step 4** Click **OK** to delete the template.
- A message verifies that the template was deleted.
- Step 5** Click **OK** to continue.
-

Related Topics

- [Finding a Phone Button Template, page 51-2](#)
- [Adding Phone Button Templates, page 51-4](#)
- [Updating a Phone Button Template, page 51-9](#)
- [Renaming a Phone Button Template, page 51-6](#)

Updating a Phone Button Template

You can update a custom phone button template to add or remove features, add or remove lines and speed dials, or assign features, lines, and speed dials to different buttons on the phone. You can change the button labels in the default phone button templates, but you cannot change the function of the buttons in the default templates. If you update a phone template, be sure to inform affected users of the changes.

Follow these instructions to update a phone button template.



Note

When you update a template, the change affects all phones that use the template.

Procedure

- Step 1** Find the phone button template by using the procedure in the [“Finding a Phone Button Template”](#) section on page 51-2.
- Step 2** From the list of matching records, choose the phone button template that you want to update.



Note

You can update only phone button templates that display a check box in the left column. All other phone button templates serve as standard, read-only templates.

The Phone Button Template Configuration page displays.

- Step 3** Update the appropriate settings as described in [Table 51-1](#).
- Step 4** Click **Update**.

The template displays with the changes that are assigned to it.



Note After updating the template, you must restart devices that are using the template.

Step 5 Click **Restart Devices** to apply the updated phone button template.

Related Topics

- [Finding a Phone Button Template, page 51-2](#)
- [Adding Phone Button Templates, page 51-4](#)
- [Deleting a Phone Button Template, page 51-7](#)
- [Renaming a Phone Button Template, page 51-6](#)
- [Guidelines for Customizing Phone Button Templates, *Cisco CallManager System Guide*](#)
- [Phone Configuration Checklist, *Cisco CallManager System Guide*](#)



Softkey Template Configuration

Softkey template configuration allows the administrator to manage softkeys that the Cisco IP Phones (such as model 7960) support. Cisco CallManager supports two types of softkey templates: standard and nonstandard. Applications that support softkeys can have one or more standard softkey templates that are associated with them; for example, Cisco IPMA has the Standard IPMA Assistant, the Standard IPMA Manager, and the Standard IPMA Manager Shared Mode softkey templates associated with it. You cannot modify standard softkey templates.

The administrator can copy, update, or delete nonstandard softkey templates by using softkey template configuration.

The following sections provide details about softkey template configuration:

- [Finding a Softkey Template, page 52-2](#)
- [Adding Nonstandard Softkey Templates, page 52-4](#)
- [Adding Application Softkeys to Nonstandard Softkey Templates, page 52-5](#)
- [Configuring Softkey Positions in a Nonstandard Softkey Template, page 52-6](#)
- [Modifying Softkey Templates, page 52-8](#)
- [Assigning Softkey Templates to IP Phones, page 52-12](#)

Finding a Softkey Template

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

**Note**

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

Procedure

Step 1 Choose **Device > Device Settings > Softkey Template**.

The Find and List Softkey Templates window displays. Use the three drop-down list boxes to search for a softkey template.

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

- Name
- Description

**Note**

The criterion that you choose in this drop-down list box specifies how the list of softkey templates that your search generates will be sorted. For example, if you choose Description, the Description column will display as the left column of the results list.

From the second Find softkey templates where drop-down list box, choose one of the following criteria:

- begins with
- contains

- ends with
- is exactly

From the third Find softkey templates where drop-down list box, choose one of the following criteria:

- Both
- Standard
- Non-Standard

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 softkey templates that are registered in the database, click **Find** without entering any search text.

A list of discovered softkey templates displays by

- Softkey Template icon
- Softkey Template Name
- Description



Note You can delete multiple softkey templates from the Find and List Softkey Templates window by checking the check boxes next to the appropriate softkey templates and clicking **Delete Selected**. You can delete all softkey templates 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 Softkey Template icon or Name or the Description that matches your search criteria.

The window displays the softkey template that you choose.

Related Topics

- [Adding Nonstandard Softkey Templates, page 52-4](#)
- [Adding Application Softkeys to Nonstandard Softkey Templates, page 52-5](#)

- [Configuring Softkey Positions in a Nonstandard Softkey Template](#), page 52-6
- [Modifying Softkey Templates](#), page 52-8

Adding Nonstandard Softkey Templates

Cisco CallManager includes standard softkey templates for call processing and applications. When creating custom, nonstandard softkey templates, copy the standard templates and make modifications as required.

Procedure

- Step 1** Choose **Device > Device Settings > Softkey Template**.
- The Find and List Softkey Templates window displays.
- Step 2** In the upper, right corner of the window, click the **Add a New Softkey Template** link.
- The Softkey Template Configuration window displays.
- Step 3** From the drop-down list box, choose a softkey template and click the **Copy** button to create a new template.
- The Softkey Template Configuration window redisplay and contains the fields in which to enter a unique softkey template name, description, and application that are associated with the soft keys.
- Step 4** In the Softkey Template Name field, enter a unique name to identify the softkey template.
- Step 5** Enter a description that describes use of the template.
- Step 6** Click the **Insert** button.
- The standard template gets copied, and the Softkey Template Configuration window redisplay with additional configuration options.
- Step 7** If you want to add additional application softkeys to the nonstandard softkey template, see the [“Adding Application Softkeys to Nonstandard Softkey Templates”](#) section on page 52-5.

- Step 8** To configure the positions of the softkeys on the Cisco IP Phone LCD screen, see the [“Configuring Softkey Positions in a Nonstandard Softkey Template”](#) section on page 52-6.
- Step 9** To save your configuration, click the **Update** button.
-

Related Topics

- [Finding a Softkey Template, page 52-2](#)
- [Adding Application Softkeys to Nonstandard Softkey Templates, page 52-5](#)
- [Configuring Softkey Positions in a Nonstandard Softkey Template, page 52-6](#)
- [Modifying Softkey Templates, page 52-8](#)
- [Softkey Templates, Cisco CallManager System Guide](#)

Adding Application Softkeys to Nonstandard Softkey Templates

Cisco CallManager includes standard softkey templates for call processing and applications. When creating custom, nonstandard softkey templates, copy the standard templates and make modifications as required. This procedure describes how to add application softkeys to a nonstandard softkey template that you created.

Procedure

- Step 1** Find the softkey template by using the procedure in the [“Finding a Softkey Template”](#) section on page 52-2.
- Step 2** From the list of matching records, choose the softkey template to which you want to add application softkeys.



Note You can modify only softkey templates that display a check box in the left column. All other softkey templates are standard, read-only templates.

The Softkey Template Configuration page displays.

Step 3 To add additional application softkeys to the nonstandard softkey template, click the **Add Application** button.

The Add Application window displays.

Step 4 Choose the standard softkey template that you want added to the nonstandard softkey template.

Step 5 Click the **Insert** or **Insert and Close** button.

The softkeys that are associated with the standard softkey template that you chose get added at the end of the nonstandard softkey template. Duplicate softkeys automatically get deleted. If the number of softkeys for a particular call state exceeds 16, the optional softkeys for that call state will be removed (from the end to the front). If after the optional softkeys are removed, the number of softkeys still exceeds 16, an error displays.

Step 6 To save your softkey set configuration, click the **Update** button.

Step 7 To make the updates of the softkey template take effect on the phone, click the **Restart Devices** button.

Related Topics

- [Finding a Softkey Template, page 52-2](#)
- [Adding Nonstandard Softkey Templates, page 52-4](#)
- [Configuring Softkey Positions in a Nonstandard Softkey Template, page 52-6](#)
- [Modifying Softkey Templates, page 52-8](#)
- [Softkey Templates, Cisco CallManager System Guide](#)

Configuring Softkey Positions in a Nonstandard Softkey Template

Cisco CallManager includes standard softkey templates for call processing and applications. When creating custom, nonstandard softkey templates, copy the standard templates and make modifications as required. This procedure describes how to configure softkey positions for each call state in a nonstandard softkey template that you created.

Procedure

-
- Step 1** Find the softkey template by using the procedure in the “[Finding a Softkey Template](#)” section on page 52-2.
- Step 2** From the list of matching records, choose the softkey template in which you want to configure softkey positions.



Note You can modify only softkey templates that display a check box in the left column. All other softkey templates are standard, read-only templates.

The Softkey Template Configuration page displays.

- Step 3** To configure the positions of the softkeys on the Cisco IP Phone LCD screen, click the **Configure Softkey Layout** link.

The Softkey Layout Configuration window displays. The Call States list on the left of the window lists each Cisco CallManager call state for an IP phone.

- Step 4** To configure the softkey positions for a call state, choose the call state from the Call States list.

The Softkey Layout Configuration window redisplay, and the fields Unselected Softkeys and Selected Softkeys display softkeys that are applicable to the call state that you chose.



Tip To create a relative place holder for a softkey, add the Undefined softkey. This allows the softkey that you added to occupy the same softkey position in all call states.

- Step 5** To move softkeys from one list to the other, use the right and left arrows.
- Step 6** To rearrange the positions of the Selected Softkeys, use the up and down arrows.
- Step 7** To save your softkey set configuration, click the **Update** button.
- Step 8** To return to the Softkey Template Configuration window, click the Softkey Template Configuration link.
- Step 9** To save your configuration, click the **Update** button.

- Step 10** To make the updates of the softkey template take effect on the phone, click the **Restart Devices** button.
-

Related Topics

- [Finding a Softkey Template, page 52-2](#)
- [Adding Nonstandard Softkey Templates, page 52-4](#)
- [Adding Application Softkeys to Nonstandard Softkey Templates, page 52-5](#)
- [Modifying Softkey Templates, page 52-8](#)
- [Softkey Templates, *Cisco CallManager System Guide*](#)

Modifying Softkey Templates

You can make changes to custom, nonstandard softkey templates that you created:

- [Renaming a Softkey Template, page 52-9](#)
- [Deleting a Softkey Template, page 52-10](#)
- [Updating a Softkey Template, page 52-11](#)

Related Topics

- [Finding a Softkey Template, page 52-2](#)
- [Adding Nonstandard Softkey Templates, page 52-4](#)
- [Adding Application Softkeys to Nonstandard Softkey Templates, page 52-5](#)
- [Configuring Softkey Positions in a Nonstandard Softkey Template, page 52-6](#)

Renaming a Softkey Template

Use this procedure to rename a nonstandard softkey template that you created.

Procedure

- Step 1** Find the softkey template by using the procedure in the [“Finding a Softkey Template” section on page 52-2](#).
- Step 2** From the list of matching records, choose the softkey template that you want to rename.



Note You can rename only softkey templates that display a check box in the left column. All other softkey templates are standard, read-only templates.

The Softkey Template Configuration page displays.

- Step 3** In the Softkey Template Name field, enter the new name.
- Step 4** Click the **Update** button.

The Softkey Template Configuration window redisplay with the new softkey template name.

Related Topics

- [Finding a Softkey Template, page 52-2](#)
- [Adding Nonstandard Softkey Templates, page 52-4](#)
- [Modifying Softkey Templates, page 52-8](#)
- [Deleting a Softkey Template, page 52-10](#)
- [Updating a Softkey Template, page 52-11](#)

Deleting a Softkey Template

Use this procedure to delete a nonstandard softkey template that you created.

Before You Begin

You cannot delete a nonstandard softkey template that is currently assigned to a device or device pool. To find out which devices and device pools are using the nonstandard softkey template, click the **Dependency Records** link from the Softkey 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 nonstandard softkey template that is in use, Cisco CallManager displays an error message. Before deleting a nonstandard softkey template that is currently in use, you must perform either or both of the following tasks:

- Assign a different softkey template to any devices or device pools that are using the nonstandard softkey template that you want to delete. See the [“Updating a Phone” section on page 49-10](#).
- Delete the devices that are using the nonstandard softkey template that you want to delete. See the [“Deleting a Phone” section on page 49-11](#).

Procedure

-
- Step 1** Find the softkey template by using the procedure in the [“Finding a Softkey Template” section on page 52-2](#).
- Step 2** From the list of matching records, choose the softkey template that you want to delete.



Note You can delete only softkey templates that display a check box in the left column. All other softkey templates are standard, read-only templates.

The Softkey Template Configuration window displays.

- Step 3** Click the **Delete** button.
- A message verifies that you want to delete the template.

Step 4 Click the **OK** button.

The Softkey Template Configuration window redisplay with the softkey template deleted.

Related Topics

- [Finding a Softkey Template, page 52-2](#)
- [Adding Nonstandard Softkey Templates, page 52-4](#)
- [Modifying Softkey Templates, page 52-8](#)
- [Renaming a Softkey Template, page 52-9](#)
- [Updating a Softkey Template, page 52-11](#)

Updating a Softkey Template

Use this procedure to update a nonstandard softkey template that you created. You can update the template name, description, application soft keys that are supported, and the softkey layout.

Procedure

Step 1 Find the softkey template by using the procedure in the [“Finding a Softkey Template”](#) section on page 52-2.

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



Note You can update only softkey templates that display a check box in the left column. All other softkey templates are standard, read-only templates.

The Softkey Template Configuration window displays.

Step 3 Update the settings that you want changed (such as adding an application softkey set or the softkey layout). See the [“Adding Application Softkeys to Nonstandard Softkey Templates”](#) section on page 52-5 and the [“Configuring Softkey Positions in a Nonstandard Softkey Template”](#) section on page 52-6.

Step 4 Click the **Update** button.

The Softkey Template Configuration window redisplay with the softkey template updated.



Note After making updates to a softkey template, you must restart devices that are using the template.

Step 5 Click the **Restart Devices** button to apply the updated softkey template.

Related Topics

- [Finding a Softkey Template, page 52-2](#)
- [Adding Nonstandard Softkey Templates, page 52-4](#)
- [Modifying Softkey Templates, page 52-8](#)
- [Renaming a Softkey Template, page 52-9](#)
- [Deleting a Softkey Template, page 52-10](#)

Assigning Softkey Templates to IP Phones

Softkey templates are assigned to IP Phones when the phones are configured. You can assign standard and nonstandard softkey templates. There are two ways to assign a softkey template to a phone:

- Assign the softkey template to a device pool (one that you create or the default) and then assign the device pool to the phone in the Phone Configuration window.
- Assign the softkey template to the phone in the softkey template field in the Phone Configuration window.

For more information about configuring device pools and phones, see [Device Pool Configuration](#) and the “[Adding a Phone](#)” section on page 49-4.



PART 7

User Configuration





Adding a New User

The User Configuration window in Cisco CallManager Administration allows the administrator to add, search, display, and maintain information about Cisco CallManager users. The following topics contain information on managing user directory information:

- [Adding a User, page 53-2](#)
- [User Configuration Settings, page 53-3](#)
- [Changing a User Password, page 53-6](#)
- [Changing a PIN, page 53-7](#)
- [Configuring Application Profiles, page 53-7](#)
- [Associating Devices to a User, page 53-8](#)
- [Associating Auto Attendant Profiles, page 53-9](#)
- [Associating Cisco CallManager Extension Mobility Profiles, page 53-10](#)
- [Associating Cisco IP SoftPhone Profiles, page 53-11](#)
- [Managing User Directory Information, *Cisco CallManager System Guide*](#)
- [Managing User Directory Configuration Checklist, *Cisco CallManager System Guide*](#)

Adding a User

The following procedure provides instructions on adding a user.

Procedure

Step 1 Choose **User > Add a New User**.



Note You can temporarily change the language for the User Information window by choosing a different language from the **View page in** drop-down list box; however, doing so only changes the language that displays for the current web session. The next time that you log on, the User Information window displays in the default language.

Step 2 Enter the appropriate settings as described in [Table 53-1](#).

Step 3 When you have completed the user information, save your changes and add the user by clicking **Insert**.

Next Steps

If you want to associate devices to this user, continue with the [“Associating Devices to a User”](#) procedure.

Related Topics

- [User Configuration Settings, page 53-3](#)
- [Changing a User Password, page 53-6](#)
- [Changing a PIN, page 53-7](#)
- [Configuring Application Profiles, page 53-7](#)
- [Associating Devices to a User, page 53-8](#)
- [Searching the Global Directory, page 54-1](#)
- [Managing User Directory Configuration Checklist, Cisco CallManager System Guide](#)

User Configuration Settings

Table 53-1 describes the user configuration settings. See the [“Supported Characters in the Directory”](#) section on page 53-5 for additional information.



Note

Cisco CallManager does not allow you to use the following special characters in any field on the User Information window: =, +, <, >, #, ;, \, , “”, and blank spaces.

Table 53-1 User Configuration Settings

Field	Description
First Name	Enter the user first name.
Last Name	Enter the user last name.
UserID	Enter the user identification name. Cisco CallManager does not permit modifying the user ID after it is created.
User Password	Enter five or more alphanumeric characters for the user password.
Confirm Password	Enter the user password again.
PIN	Enter five or more numeric characters for the Personal Identification Number.
Confirm PIN	Enter the PIN again.
Telephone Number	Enter the user telephone number.
Manager UserID	Enter the name of the user manager ID. The manager name that you enter must already exist in the directory as a user.
Department	Enter the user department information (for example, the department number or name).

Table 53-1 User Configuration Settings (continued)

Field	Description
User Locale	<p>From the drop-down list box, choose the locale that is associated with the user. The user locale identifies a set of detailed information to support users, including language and font.</p> <p>Cisco CallManager uses this locale for Extension Mobility and the Cisco IP Phone User Options pages. For Cisco CallManager Extension Mobility log on, the locale that is specified here takes precedence over the device and device profile settings. For Cisco CallManager Extension Mobility log off, Cisco CallManager uses the user locale that is specified in the default device profile.</p> <p>Note If you do not choose a user locale, the locale that is specified in the Cisco CallManager service parameters as Default User Locale applies.</p>
Enable CTI Application Use	To configure users so they can use Computer Telephony Integration (CTI) applications, check the Enable CTI Application Use check box.
Call Park Retrieval Allowed	To configure users so they can retrieve parked calls, check the Call Park Retrieval Allowed check box.
Enable Calling Party Number Modification	Choose this field to allow an application such as Cisco Emergency Responder (CER) to change the calling number when initiating a feature request from an application programming interface (API). Refer to the Cisco Emergency Responder documentation for more information.
Associated PC	This field, which is required for Cisco SoftPhone and Cisco CallManager Attendant Console users, displays after the user is added.
Primary Extension	This field displays after the user is added and represents the primary directory number for the user. You choose no primary line when you associate devices to the user. Users can have multiple lines on their phones.

Table 53-1 User Configuration Settings (continued)

Field	Description
Controlled Devices	This field displays after the user is added. After the device is associated, this field displays the description information (for example, the MAC address) that the user controls.
Enable Authentication Proxy Rights	This field, which is required if the authentication proxy rights for a user with Cisco CallManager Extension Mobility is enabled, displays after the user is added. If authentication proxy rights is enabled, this field displays True; if disabled, this field displays False.
Controlled Device Profiles	This field displays after the user is added. This field displays a list of controlled device profiles that are associated with a user who is configured for Cisco CallManager Extension Mobility.
View page in	From the drop-down selection box, choose the language that the phone displays.

Supported Characters in the Directory



Caution

Using non-ISO-Latin1 characters greater than 127 with DC Directory, Netscape Directory, or Active Directory can cause directory database errors. Cisco CallManager Release 3.3 and above supports all ISO-Latin1 (ISO-8859-1) characters and all non-ISO-Latin1 characters in the range 0-127 with any directory.

Cisco CallManager only supports ISO-Latin1 and ASCII characters in the User Configuration windows in Cisco CallManager Administration.

After you download the locale installer, you can display field names in the User Configuration windows in Cisco CallManager Administration in your chosen language. However, Cisco CallManager only supports ISO-Latin1 (ISO-8859-1) characters and non-ISO-Latin1 characters in the range 0-127 in the fields and in all user accounts and passwords that are needed to access these windows. If a user enters data that is not in the allowed character range, a dialog box displays and states that the user must enter data by using only ISO-Latin1 characters and non-ISO-Latin1 characters in the range 0-127.

Related Topics

- [Adding a User, page 53-2](#)
- [Changing a User Password, page 53-6](#)
- [Changing a PIN, page 53-7](#)
- [Associating Devices to a User, page 53-8](#)

Changing a User Password

Use the following procedure to change a user password for a user in the global directory.

Procedure

-
- Step 1** From the global directory, choose the user whose password you want to change as described in the [“Searching the Global Directory” section on page 54-1](#).
- The User Configuration window displays with information about the chosen user.
- Step 2** Click the **Change** button next to the User Password field.
- The Change Password for dialog box appears.
- Step 3** In the Password field, enter the new password.
- Step 4** In the Confirm Password field, enter the new password again.
- Step 5** Click **Update and Close**.
-

Related Topics

- [Adding a User, page 53-2](#)
- [Changing a PIN, page 53-7](#)
- [Searching the Global Directory, page 54-1](#)
- [Managing User Directory Configuration Checklist, *Cisco CallManager System Guide*](#)

Changing a PIN

Use the following procedure to change the personal identification number (PIN) for a user in the global directory.

Procedure

- Step 1** From the global directory, choose the user whose PIN you want to change as described in the [“Searching the Global Directory” section on page 54-1](#).
- The User Configuration window displays with information about the chosen user.
- Step 2** Click the **Change** button next to the PIN field.
- The Change PIN for dialog box appears.
- Step 3** In the PIN field, enter the new PIN.
- Step 4** In the Confirm PIN field, enter the new PIN again.
- Step 5** Click **Update and Close**.
-

Related Topics

- [Adding a User, page 53-2](#)
- [Changing a User Password, page 53-6](#)
- [Searching the Global Directory, page 54-1](#)

Configuring Application Profiles

After you add a new user, you can configure a profile for each application that is listed in the Application Profiles pane on the left side of the User Configuration window. These profiles allow each user to personalize phone features, Cisco IPMA, Cisco CallManager Extension Mobility, Auto Attendant, and Cisco IP SoftPhone capability.

Before you begin

Make sure that the user is in the database. See the [“Searching the Global Directory” section on page 54-1](#) for more information.

Related Topics

- [Associating Devices to a User](#), page 53-8
- [Associating Auto Attendant Profiles](#), page 53-9
- [Associating Cisco CallManager Extension Mobility Profiles](#), page 53-10
- [Associating Cisco IP SoftPhone Profiles](#), page 53-11
- [Cisco IP Manager Assistant Profiles](#), *Cisco CallManager System Guide*

Associating Devices to a User

After you have added a user, you can associate devices over which users will have control. Users can control some devices, such as phones. Applications that are identified as users can control other devices, such as CTI ports. When users have control of a phone, they can control certain settings for that phone, such as speed dial and call forwarding.

Before You Begin

To assign devices to a user, you must access the User Configuration window for that user. See the [“Searching the Global Directory”](#) section on page 54-1 for information on accessing information on existing users. When the User Configuration window displays, perform the following procedure to assign devices.

Procedure

- Step 1** In the Application Profiles pane, click **Device Association**.
 - Step 2** Limit the list of available devices by entering the search criteria in the Available Device List Filters section, if desired, and click **Select Devices**.
 - Step 3** Check the check box of one or more devices that you want to associate with the user. You can assign one primary extension from the devices to which the user is assigned by clicking the radio button in the **Primary Ext.** column for that device.
 - Step 4** When you have completed the assignment, click **Update Selected** to assign the devices to the user.
-

Related Topics

- [Adding a User, page 53-2](#)
- [Searching the Global Directory, page 54-1](#)
- [Device Association, Cisco CallManager System Guide](#)
- [Managing User Directory Configuration Checklist, Cisco CallManager System Guide](#)

Associating Auto Attendant Profiles

The Automated Attendant (AA) service answers incoming calls and prompts the caller for a user name or extension. The AA scans the directory for a match to resolve the user name or extension and transfers the caller to the appropriate endpoint.

Before You Begin

To associate an automated attendant profile to a user, you must access the User Information window for that user. See the [“Searching the Global Directory” section on page 54-1](#) for information on accessing information on existing users. When the User Information window displays, perform the following procedure to associate profiles.

Procedure

- Step 1** In the Application Profiles pane, choose **Auto Attendant**.
 - Step 2** In the **Name Dialing** field, enter the attendant name (LastFirstM). For example, for John Quincy Smith, enter SmithJohnQ.

If a same name or same numerical mapping occurs, a prompt indicates a duplicate key. At this point, you can either change the user name (through nicknames or removal of middle initials) or allow duplicates.
 - Step 3** Click **Insert**.
-

Related Topics

- [Adding a User, page 53-2](#)
- [Searching the Global Directory, page 54-1](#)
- [Cisco CallManager Auto Attendant Profiles](#), *Cisco CallManager System Guide*
- [Managing User Directory Configuration Checklist](#), *Cisco CallManager System Guide*

Associating Cisco CallManager Extension Mobility Profiles

Use Cisco CallManager Extension Mobility to configure a Cisco IP Phone 7940 or Cisco IP Phone 7960 to temporarily appear as the phone of a user. The user can log in to a phone, and the extension mobility profile (including line and speed-dial numbers) for the user resides on the phone. This feature applies primarily in environments where users are not permanently assigned to physical phones.

To associate an extension mobility profile to a user, you must access the User Information window for that user. See the “[Searching the Global Directory](#)” section on page 54-1 for information on accessing information on existing users. To configure and associate Cisco CallManager Extension Mobility for users, refer to the “[Cisco CallManager Extension Mobility](#)” chapter in the *Cisco CallManager Features and Services Guide*.

Related Topics

- [Adding a User, page 53-2](#)
- [Searching the Global Directory, page 54-1](#)
- [Managing User Directory Configuration Checklist](#), *Cisco CallManager System Guide*
- [Associating a User Device Profile to a User](#), *Cisco CallManager Features and Services Guide*

Associating Cisco IP SoftPhone Profiles



You can associate a device (line) to a user as a Cisco IP SoftPhone. This enables users to use their desktop PC to place and receive telephone calls and to control an IP telephone.

For more information on Cisco IP SoftPhone, refer to the *Cisco IP SoftPhone Administrator Guide*.

Before You Begin

To associate a desktop PC to a user, you must access the User Information window for that user. See the [“Searching the Global Directory” section on page 54-1](#) for information on accessing information on existing users. When the User Information window displays, perform the following procedure to associate the PC.

Procedure

-
- Step 1** In the Application Profiles pane, choose **SoftPhone**.
The SoftPhone window displays.
- Step 2** In the **Associated PC** field, enter the IP Address or host name of the desktop PC.
-  **Note** You must make an entry in the Associated PC field, which is required for collaboration with Virtual Conference Room.
-
- Step 3** Click **Insert**.
The User Configuration window displays.
-  **Note** To use phone lines in standalone mode, check the Enable CTI Application Use check box.
-
- Step 4** Click **Update**.
-

Related Topics

- [Adding a User, page 53-2](#)
- [Searching the Global Directory, page 54-1](#)
- [Cisco IP SoftPhone Profiles, *Cisco CallManager System Guide*](#)
- [Managing User Directory Configuration Checklist, *Cisco CallManager System Guide*](#)



Searching the Global Directory

The Global Directory for Cisco CallManager contains every user within a Cisco CallManager directory. Cisco CallManager uses Lightweight Directory Access Protocol (LDAP) to interface with a directory that contains user information. Cisco supports this embedded directory with Cisco CallManager. Maintaining the associations of devices with users describes its primary purpose.

Using either a basic or an advanced user search, you can access the Global Directory.

See the [“Adding a New User” section on page 53-1](#) for details on adding and configuring a new user.

The following topics contain information on searching the Global Directory:

- [Using Basic Search, page 54-1](#)
- [Using Advanced Search, page 54-3](#)
- [Global Directory Search Tips, *Cisco CallManager System Guide*](#)

Using Basic Search

The Basic User search utility searches the first name, last name, and user ID fields for matches of any substring that you enter as search criteria. For example, if you enter “li” in the search field, the search results include users whose first name, last name, or user ID matches that substring. If you enter two or more substrings that are separated by spaces, the search looks for matches for any substring in any of the three search fields.

**Tip**

For more information on how Cisco CallManager uses the search fields, refer to [“Basic Search”](#) in the *Cisco CallManager System Guide*.

The following procedure contains information about how to use the Global Directory Basic User Search engine.

Procedure

Step 1 Choose **User > Global Directory**.

The User Information Basic Search window displays.



Note You can temporarily change the language for the User Information window by choosing a different language from the **View page in** drop-down list box. However, doing so only changes the language that displays for the current web session. The next time that you log on, the User Information window displays in the default language.

Step 2 In the User Search field, enter the first name, last name, user ID, or substring of the user for whom you are searching, and click **Search**.

Step 3 From the resulting list of matching names, click the desired name to view specific information on that user.

Next Steps

To modify this user information, update the appropriate fields as described in the [“User Configuration Settings”](#) section on page 53-3 and click **Update**.

To view or modify this user device assignment, see the [“Associating Devices to a User”](#) section on page 53-8 for more information.

Related Topics

- [Adding a User, page 53-2](#)
- [Associating Devices to a User, page 53-8](#)

- [Using Advanced Search](#), page 54-3
- [Global Directory Search Tips](#), *Cisco CallManager System Guide*

Using Advanced Search

With the Advanced User Search utility, you can enter search criteria by using four search fields and built-in Boolean logic to perform more complex searches. If you enter two or more names or substrings that are separated by spaces in any one field, the search looks for matches where any of your specified criteria is true. For example, if you enter “john jerry,” the search returns all users whose first names are John or Jerry. If you enter a substring in two or more search fields, the search looks for matches where both criteria are true. For example, if you enter “Ling” for first name and “Chu” for last name, the search returns the user named Ling Chu.



Tip

For more information on how Cisco CallManager uses the search fields, refer to [“Advanced Search”](#) in the *Cisco CallManager System Guide*.

The following procedure contains information about how to use the Global Directory Advanced User Search engine.

Procedure

Step 1 Choose **User > Global Directory**.

Step 2 Click **Advanced Search**.

The User Information Advanced User Search window displays.



Note

You can temporarily change the language for the User Information window by choosing a different language from the **View page in** drop-down list box. However, doing so only changes the language that displays for the current web session. The next time that you log on, the User Information window displays in the default language.

Step 3 In the appropriate fields, enter the first name, last name, user ID, or department search criteria of the user for whom you are searching.

Step 4 Click **Search**.



Note If you want to further limit your search, click **Refine Search**. When refining a search, you can enter new search criteria and then click **Search**, or click **Reset** to populate the fields with the last search criteria. To delete all entries from the fields, click **Clear**.

Step 5 When the desired user displays in the search list, click the user ID or name to display the User Configuration window.

Next Steps

To modify this user information, update the appropriate fields as described in [Table 53-1](#) and click **Update**.

To view or modify this user device assignment, see the “[Associating Devices to a User](#)” section on page 53-8 for more information.

Related Topics

- [Adding a User, page 53-2](#)
- [Associating Devices to a User, page 53-8](#)
- [Using Basic Search, page 54-1](#)
- [Global Directory Search Tips, Cisco CallManager System Guide](#)



Multilevel Administration Access Configuration

Multilevel administration access (MLA) allows users with full access to configure different levels of administration access for Cisco CallManager administrators. Users with full access configure functional groups, user groups, and access privileges for user groups. In general, full-access users configure the access of other users to Cisco CallManager Administration.

Three levels of access exist: full access, read-only access, and no access. These differ as follows:

- Users with full access can view and modify the Cisco CallManager Administration pages that belong to the functional groups to which the user's user group has full access.
- A user with read-only access can view the Cisco CallManager Administration pages that belong to the functional groups to which the user's user group has read-only access. A user with read-only access cannot, however, make any changes on the administration pages to which the user has only read-only access. For a user with read-only access, Cisco CallManager grays out all buttons and disables icons that modify Cisco CallManager configuration information.
- A user with no access can neither view nor change the Cisco CallManager Administration pages that belong to the functional groups to which the user's user group has no access.

Use the following topics to configure multilevel administration access:

- [Enabling Multilevel Administration Access, page 55-2](#)
- [Functional Groups, page 55-3](#)
- [User Groups, page 55-6](#)
- [User Group Privileges, page 55-11](#)
- [Configuring Multilevel Administration Access Enterprise Parameters, page 55-14](#)
- [Exiting Multilevel Administration Access, page 55-15](#)

Related Topics

- [Functional Groups, Cisco CallManager System Guide](#)
- [User Groups, Cisco CallManager System Guide](#)
- [User Group Access Privileges, Cisco CallManager System Guide](#)

Enabling Multilevel Administration Access

This section describes how to enable multilevel administration access in Cisco CallManager Administration prior to performing multilevel administration access configuration.

Procedure

- Step 1** After Cisco CallManager Administration has been installed, access Cisco CallManager Administration and Cisco CallManager Serviceability with the following URLs:
- <http://<CCMServer>/ccmadmin>
- where <CCMServer> specifies the IP address or name of the Cisco CallManager server.
- Step 2** Choose **User > Access Rights > Configure MLA Parameters**.
The MLA Enterprise Parameter Configuration page displays.
- Step 3** To change the Enable MultiLevelAdmin enterprise parameter, click the drop-down list box on the right and select **True**.

Step 4 Click **Update**.

A message informs you that you must restart the web server in all Cisco CallManager systems in the cluster for the change to take effect.

Related Topics

- [Login Authentication](#), *Cisco CallManager System Guide*
- [Functional Groups](#), page 55-3
- [User Groups](#), page 55-6
- [User Group Privileges](#), page 55-11
- [Configuring Multilevel Administration Access Enterprise Parameters](#), page 55-14
- [Exiting Multilevel Administration Access](#), page 55-15

Functional Groups

Functional groups comprise groups of Cisco CallManager Administration pages. Typically, each major menu item of Cisco CallManager Administration makes up a standard (default) functional group. You may, however, create custom functional groups that consist of Cisco CallManager Administration pages. The following topics describe adding, updating, and deleting functional groups:

- [Adding a Functional Group](#), page 55-4
- [Updating a Functional Group](#), page 55-5
- [Deleting a Functional Group](#), page 55-5

Related Topics

- [Functional Groups](#), *Cisco CallManager System Guide*
- [Enabling Multilevel Administration Access](#), page 55-2
- [User Groups](#), page 55-6
- [User Group Privileges](#), page 55-11

- [Configuring Multilevel Administration Access Enterprise Parameters, page 55-14](#)
- [Exiting Multilevel Administration Access, page 55-15](#)

Adding a Functional Group

This section describes how to add a functional group to Cisco CallManager Administration.

Procedure

Step 1 Choose **User > Access Rights > Functional Group**.

The Functional Group Configuration page displays.

Step 2 In the Functional Group Name field, enter the name of a new functional group.

Step 3 Click the check box next to the menu(s) that you want to include in the new functional group.

By default, all submenu pages related to a menu item get selected when you click on a menu item.

Step 4 To remove a particular submenu page, click the check box next to the submenu page that you want to exclude from the new functional group.

Step 5 Click **Insert**.

The name of the functional group that you added displays in alphabetical order in the Functional Groups list at left.

Related Topics

- [Updating a Functional Group, page 55-5](#)
- [Deleting a Functional Group, page 55-5](#)
- [User Groups, page 55-6](#)
- [User Group Privileges, page 55-11](#)
- [Functional Groups, *Cisco CallManager System Guide*](#)

Updating a Functional Group

This section describes how to update a functional group in Cisco CallManager Administration.

Procedure

- Step 1** Choose **User > Access Rights > Functional Group**.
The Functional Group Configuration page displays.
- Step 2** In the list of Functional Groups at left, click the name of the functional group that you want to update.



Note You cannot update nor delete a standard functional group.

The functional group that you chose displays.

- Step 3** Click the check box next to the menu(s) or submenu(s) that you want to update in the functional group that you chose.
- Step 4** Click **Update**.
-

Related Topics

- [Adding a Functional Group, page 55-4](#)
- [Deleting a Functional Group, page 55-5](#)
- [User Groups, page 55-6](#)
- [Functional Groups, page 55-3](#)
- [Functional Groups, Cisco CallManager System Guide](#)

Deleting a Functional Group

This section describes how to delete a functional group in Cisco CallManager Administration.

Procedure

- Step 1** Choose **User > Access Rights > Functional Group**.
The Functional Group Configuration page displays.
- Step 2** In the list of Functional Groups at left, click the name of the functional group that you want to delete.



Note You cannot delete a standard functional group.

The functional group that you chose displays.

- Step 3** Click **Delete**.
You receive a message that asks you to confirm the deletion.
- Step 4** Click **OK**.
The page refreshes, and the functional group that you deleted no longer displays in the Functional Groups list at left.
-

Related Topics

- [Adding a Functional Group, page 55-4](#)
- [Updating a Functional Group, page 55-5](#)
- [User Groups, page 55-6](#)
- [User Group Privileges, page 55-11](#)
- [Functional Groups, *Cisco CallManager System Guide*](#)

User Groups

User groups comprise lists of directory users. A user may belong to multiple user groups. After you add a user group, you then add users to a user group. Afterward, you may proceed to assign privileges to a user group. If a user belongs to multiple user groups, the MLA permission enterprise parameter determines the effective privilege of the user.

The following topics describe adding and deleting user groups, and adding and deleting users to (from) user groups:

- [Adding a User Group, page 55-7](#)
- [Deleting a User Group, page 55-8](#)
- [Adding Users to a User Group, page 55-9](#)
- [Deleting Users from a User Group, page 55-10](#)

Related Topics

- [User Groups, *Cisco CallManager System Guide*](#)
- [Enabling Multilevel Administration Access, page 55-2](#)
- [Functional Groups, page 55-3](#)
- [User Group Privileges, page 55-11](#)
- [Configuring Multilevel Administration Access Enterprise Parameters, page 55-14](#)
- [Exiting Multilevel Administration Access, page 55-15](#)

Adding a User Group

This section describes how to add a user group to Cisco CallManager Administration.

Procedure

Step 1 Choose **User > Access Rights > User Group**.

The User Group Configuration page displays.

Step 2 In the User Group Name field, enter the name of a new user group.

Step 3 Click **Insert**.

The name of the user group that you added displays in alphabetical order in the User Groups list at left.

- Step 4** Proceed to add users to this user group. See [Adding Users to a User Group, page 55-9](#).
- Step 5** Proceed to assign privileges to the user group. See [Assigning Privileges to a User Group, page 55-12](#).
-

Related Topics

- [User Groups, Cisco CallManager System Guide](#)
- [Adding Users to a User Group, page 55-9](#)
- [Deleting a User Group, page 55-8](#)
- [Functional Groups, page 55-3](#)
- [User Group Privileges, page 55-11](#)

Deleting a User Group

This section describes how to delete a user group from Cisco CallManager Administration. Use the following procedure to delete a user group entirely. If you want to delete only certain users from a user group, see [Deleting Users from a User Group, page 55-10](#).

Procedure

- Step 1** Choose **User > Access Rights > User Group**.
- The User Group Configuration page displays.
- Step 2** In the list of User Groups at left, click the name of the user group that you want to delete.
- The user group that you chose displays. The list shows the users in this user group in alphabetical order.
- Step 3** If you want to delete the group entirely, click **Delete Group**.
-

Related Topics

- [User Groups](#), *Cisco CallManager System Guide*
- [Adding a User Group](#), page 55-7
- [Deleting Users from a User Group](#), page 55-10
- [Functional Groups](#), page 55-3
- [User Group Privileges](#), page 55-11

Adding Users to a User Group

This section describes how to add users to a user group in Cisco CallManager Administration.

Procedure

-
- Step 1** Choose **User > Access Rights > User Group**.
The User Group Configuration page displays.
 - Step 2** In the list of User Groups at left, click the name of the user group to which you want to add users.
The user group that you chose displays. The list shows the users that currently belong to the user group that is listed under Users in the group.
 - Step 3** Click **Add a User to Group**.
The User Group Configuration page displays.
 - Step 4** In the User Search field, enter a user name and click **Search**.



Note You can perform the search for users in a variety of ways. You can enter the first name, last name, or user ID of a user. Alternatively, you can leave the field blank, which results in display of all users.

If the user that you specified is found in the database, the user's record displays. If the list display contains too many users, click **Refine Search** to narrow the search by repeating this step.

Step 5 In the list of search results, click the check box next to the users that you want to add to this user group. If the list comprises multiple pages, use the links at the bottom to see more results.

Step 6 Click **Add Selected**.

The User Group Configuration page redisplay with the users that you added listed in the Users in the group list.



Note After you add a user, you can view the user's privileges by clicking the key icon next to the user's name.

Related Topics

- [User Groups, Cisco CallManager System Guide](#)
- [Deleting Users from a User Group, page 55-10](#)
- [Adding a User Group, page 55-7](#)
- [Deleting a User Group, page 55-8](#)
- [Functional Groups, page 55-3](#)
- [User Group Privileges, page 55-11](#)

Deleting Users from a User Group

This section describes how to delete users from a user group in Cisco CallManager Administration.

Procedure

Step 1 Choose **User > Access Rights > User Group**.

The User Group Configuration page displays.

Step 2 In the list of User Groups at left, click the name of the user group from which you want to delete users.

The user group that you chose displays. The list shows the users that currently belong to the user group that is listed under Users in the group.

- Step 3** Click the check boxes next to the names of the users that you want to delete from this user group.
- Step 4** Click **Delete Selected**.
A confirmation message asks you to confirm the deletion.
- Step 5** Click **OK**.
The User Group redisplay with the deleted users removed from the Users in the group list.
-

Related Topics

- [User Groups](#), *Cisco CallManager System Guide*
- [Adding Users to a User Group](#), page 55-9
- [Adding a User Group](#), page 55-7
- [Deleting a User Group](#), page 55-8
- [Functional Groups](#), page 55-3
- [User Group Privileges](#), page 55-11

User Group Privileges

Users with full access can assign privileges to user groups for access to functional (page) groups.

Use the following topics to assign privileges to user groups:

- [Assigning Privileges to a User Group](#), page 55-12
- [Viewing the Privileges Report](#), page 55-13
- [Viewing a User's Privileges](#), page 55-13

Related Topics

- [User Group Access Privileges](#), *Cisco CallManager System Guide*
- [Enabling Multilevel Administration Access](#), page 55-2
- [Functional Groups](#), page 55-3
- [User Groups](#), page 55-6

- [Configuring Multilevel Administration Access Enterprise Parameters, page 55-14](#)
- [Exiting Multilevel Administration Access, page 55-15](#)

Assigning Privileges to a User Group

This section describes assigning privileges to a user group in Cisco CallManager Administration.

Procedure

- Step 1** Choose **User > Access Rights > Assigning Privileges to User Group**.
- The Assign Privileges to User Group page displays.
- Step 2** Click the name of the user group to which you want to assign privileges.
- For the user group that you chose, the list of associated functional groups displays. For each functional group, an access privilege displays.
- Step 3** For each functional group, choose the privilege level that you want to assign to users in this user group. Choose one of the following choices from the drop-down list: No Access, Read Only, or Full Access.
- Step 4** Click **Update**.
-

Related Topics

- [User Group Access Privileges, Cisco CallManager System Guide](#)
- [Viewing the Privileges Report, page 55-13](#)
- [Functional Groups, page 55-3](#)
- [User Groups, page 55-6](#)

Viewing the Privileges Report

This section describes how to view the privileges report. The privileges report shows the privileges that are assigned to all user groups for each functional group. The report displays user groups in rows that form the left column of the report. The various functional groups form the report columns. User groups display alphabetically from top to bottom. Functional groups display alphabetically from left to right.

Use the following procedure to view the privileges report.

Procedure

-
- Step 1** Choose **User > Access Rights > Assigning Privileges to User Group**.
- The Assign Privileges to User Group page displays.
- Step 2** Click **View Privileges Report**.
- The Privileges Report page displays.
- Step 3** To return to assigning privileges, click **Back to Assign Privileges**.
-

Related Topics

- [User Group Access Privileges, Cisco CallManager System Guide](#)
- [Assigning Privileges to a User Group, page 55-12](#)
- [Functional Groups, page 55-3](#)
- [User Groups, page 55-6](#)

Viewing a User's Privileges

This section describes how to view the privileges that are assigned to a user. Use the following procedure to view the privileges that are assigned to a user.

Procedure

- Step 1** Choose **User > Access Rights > User Group**.
- The User Group Configuration page displays.
- Step 2** In the list of User Groups at left, click the name of the user group to which the user whose privileges you want to view belongs.
- The User Group that you chose displays. The list shows the users in this user group.
- Step 3** Click on the key icon next to the user whose privileges you want to view.
- The privilege report of the user displays.
-

Related Topics

- [User Group Access Privileges, Cisco CallManager System Guide](#)
- [Assigning Privileges to a User Group, page 55-12](#)
- [Functional Groups, page 55-3](#)
- [User Groups, page 55-6](#)

Configuring Multilevel Administration Access Enterprise Parameters

Users with full access can configure multilevel administration access enterprise parameters. This section describes how to configure multilevel administration access enterprise parameters.

Procedure

- Step 1** Choose **User > Access Rights > Configure MLA Parameters**.
- The Configure MLA Parameters page displays.
- Step 2** To change the User Group Base enterprise parameter, enter the value for User Group Base.

- Step 3** To change the Administrative User Base enterprise parameter, enter the value for Administrative User Base.
- Step 4** To change the Debug Level enterprise parameter, choose the value for Debug Level from the drop-down list box.
- Step 5** To change the Effective Access Privileges For Overlapping User Groups enterprise parameter, choose a value from the drop-down list box.
- Step 6** To change the Effective Access Privileges For Overlapping Functional Groups enterprise parameter, choose a value from the drop-down list box.
- Step 7** To change the Enable MultiLevelAdmin enterprise parameter, choose a value from the drop-down list box.
- Step 8** Click **Update**.
-

Related Topics

- [Login Authentication, Cisco CallManager System Guide](#)
- [Enabling Multilevel Administration Access, page 55-2](#)
- [Functional Groups, page 55-3](#)
- [User Groups, page 55-6](#)
- [User Group Privileges, page 55-11](#)
- [Exiting Multilevel Administration Access, page 55-15](#)

Exiting Multilevel Administration Access

After performing multilevel administration access configuration within Cisco CallManager Administration, close your browser to prevent unauthorized users from accessing MLA functions.

Related Topics

- [Enabling Multilevel Administration Access, page 55-2](#)
- [Functional Groups, page 55-3](#)
- [User Groups, page 55-6](#)

- [User Group Privileges, page 55-11](#)
- [Configuring Multilevel Administration Access Enterprise Parameters, page 55-14](#)



PART 8

Application Configuration





Plugin Configuration

Application plugins extend the functionality of Cisco CallManager. For example, the Cisco CallManager Attendant Console plugin allows a receptionist to rapidly answer and transfer calls within an organization, and the JTAPI plugin allows a computer to host applications that access the Cisco CallManager via the Java Telephony Application Programming Interface (JTAPI).

For detailed information on the Cisco Customer Directory Configuration Plugin, refer to the latest online version of *Installing and Configuring the Cisco Customer Directory Configuration Plugin*.

This section contains the following instructions:

- [Installing Plugins, page 56-2](#)
- [Updating the Plugin URL, page 56-2](#)
- [Update Plugin URL Configuration Settings, page 56-3](#)

Installing Plugins

**Tip**

After Cisco CallManager upgrades, you must reinstall all plugins except for the Cisco CDR Analysis and Reporting plugin.

Before you install any plugins, disable all intrusion detection or antivirus services that run on the server where you plan to install the plugin.

Perform the following procedure to install any plugin.

Procedure

-
- Step 1** Choose **Application > Install Plugins**.
The Install Plugins page displays all available plugin applications.
 - Step 2** Click the icon next to the plugin that you want to install.
 - Step 3** To download the plugin, click **Run this program from its current location or Save this program to disk**.
 - Step 4** Follow the instructions in the installation wizard to complete the installation.
-

Related Topics

- [Plugin Configuration, page 56-1](#)
- [Updating the Plugin URL, page 56-2](#)

Updating the Plugin URL

During the Cisco CallManager install process, records that are added to the Plugins table specify the URLs that the Administration applications use to build the Application drop-down menu. The basis for the URL that is constructed is the domain name server (DNS) at installation time. If the DNS changes, the URL does not get updated.

Perform the following procedure to update the DNS of the Plugin URL.

Procedure

-
- Step 1** Choose **Application > Update Plugin URL**.
- The Update Plugin URL window displays.
- Step 2** From the drop-down list box, choose the Plugin type.
- Step 3** From the drop-down list box, choose the Plugin name.
- Step 4** Enter the DNS name in the Host Name/IP Address field.
- Step 5** Click the **Update** button.
-

Related Topics

- [Plugin Configuration, page 56-1](#)
- [Installing Plugins, page 56-2](#)

Update Plugin URL Configuration Settings

[Table 56-1](#) describes the update plugin URL configuration settings.

Table 56-1 Update Plugin URL Configuration Settings

Field	Description
Plugin Type	From the drop-down list box, choose the plugin type for which you are changing the DNS name; for example, application or installation.
Plugin Name	From the drop-down list box, choose the plugin name for which you are changing the DNS name; for example, Bulk Administration Tool or Cisco CallManager Attendant Console.
URL	The URL automatically displays.
DNS Name	Use only alphanumeric characters for the DNS name.

■ Update Plugin URL Configuration Settings



PART 9

Appendixes





Dependency Records

This appendix provides information about the dependency record windows in Cisco CallManager Administration. These windows help you to determine which records in the database use other records. For example, you can determine which devices (such as CTI route points or phones) use a particular calling search space.

If you need to delete a record from Cisco CallManager, you can use dependency records to show which records are associated with the record that you want to delete. You can then reconfigure those records, so they are associated with a different record.

This appendix contains the following sections:

- [Enabling Dependency Records, page A-1](#)
- [Disabling Dependency Records, page A-2](#)
- [Accessing Dependency Records, page A-3](#)
- [Dependency Records Buttons, page A-5](#)

Enabling Dependency Records

To access dependency records, you must first enable them. The system disables dependency records by default. To enable the dependency records, perform the following procedure.

**Caution**

Enabling the dependency records functionality causes high CPU usage. This task executes at below-normal priority and may take time to complete due to dial plan size and complexity, CPU speed, and the CPU requirements of other applications.

Procedure

-
- Step 1** Choose **System > Enterprise Parameters**.
 - Step 2** Scroll to the CCMAAdmin Parameters area of the window.
 - Step 3** From the Enable Dependency Records drop-down list box, choose True.
A dialog box displays with a message about the consequences of enabling the dependency records. Read the information carefully before clicking OK.
 - Step 4** Click **OK**.
The field displays True.
 - Step 5** Click **Update**.
 - Step 6** Close the browser that you are using; then, reopen the browser. This makes the parameter take affect for the entire system.

Disabling Dependency Records

If you have dependency records enabled and your system is experiencing CPU usage issues, you can disable dependency records. (The system disables dependency records by default.) To disable the dependency records, perform the following procedure.

Procedure

-
- Step 1** Choose **System > Enterprise Parameters**.
 - Step 2** Scroll to the CCMAAdmin Parameters area of the window.
 - Step 3** From the Enable Dependency Records drop-down list box, choose False.
A dialog box displays with a message about dependency records. Read the information carefully before clicking OK.

- Step 4** Click **OK**.
The field displays True.
- Step 5** Click **Update**.
- Step 6** Close the browser that you are using; then, reopen the browser. This makes the parameter take affect for the entire system.

Accessing Dependency Records

To access dependency records from Cisco CallManager configuration windows, click the **Dependency Records** link. The Dependency Records—Summary window displays. This window displays the number and type of records that use the record that is shown in the Cisco CallManager configuration window.



Note

If the dependency records are not enabled, the Dependency Records—Summary window displays a message, not the information about the record. To enable dependency records, see the [“Enabling Dependency Records” section on page A-1](#).

For example, if you display a the Default device pool in the Device Pool Configuration window and click the Dependency Records link, the Dependency Records—Summary window displays all the records that use that device pool, as shown in [Figure A-1](#).

Figure A-1 Dependency Records—Summary Example

Dependency Records - Summary Device Pool: Default

40 Record(s) are using Device Pool: Default

Refresh Close Close and go Back

Record Count	Record Type
27	Device Defaults
2	Phone
3	Gateway
1	Cisco Voice Mail Port
7	Trunk

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To display detailed dependency records information, click the record about which you want more information; for example, click the trunk record. The Dependency Records—Detail window displays, as shown in [Figure A-2](#). If you want to return to the original configuration window, click the [Back to <configuration window name>](#) link.

Figure A-2 Dependency Records—Detail Example

Device Name	Description
name23	name23
name2345566	name2345566
name234566	name234566
newlatest	newlatest
name234	name234
sptest	sptest
ewinterCluster	ewinterCluster

To return to the summary window, click the **Back to Summary** link at the top of the window.

To display the configuration window of the record, click the record. The configuration window for that record displays. For example, if you click name23 trunk record that is shown in [Figure A-2](#), the Trunk Configuration window displays with information about the name23 trunk.

Dependency Records Buttons

Three buttons display in the Dependency Records - Summary window:

- Refresh—Updates the window with current information.
- Close—Closes the window but does not return to the Cisco CallManager configuration window in which you clicked the Dependency Records link.
- Close and Go Back—Closes the window and returns to the Cisco CallManager configuration window in which you clicked the Dependency Records link.



Removing a Subscriber Server from Cisco CallManager

You delete a subscriber server from the Cisco CallManager cluster by using the Server Configuration window in Cisco CallManager Administration. This deletion, however, deletes the server from the Cisco CallManager Administration database, but not all of the server dependencies get deleted.

To fully delete a server from the system, you must perform the following steps:

1. Remove all dependencies from the server; for example, delete the Cisco CallManager service. See the [“Deleting a Server” section on page 2-5](#).
2. Remove the server from Cisco CallManager Administration. See the [“Deleting a Server” section on page 2-5](#).
3. Run a script file that removes the SQL replication information from the database. See the [“Remove SQL Replication Information” section on page B-2](#).
4. Run a script file that removes the DCD replication agreements from the publisher if Cisco CallManager cluster is integrated with local DCDirectory. See the [“Remove Redundant DCD Replication Agreements” section on page B-3](#).

Remove SQL Replication Information

After the server is removed by using Cisco CallManager Administration, run the script file to remove the SQL replication information. A script file exists for the publisher server and one for the subscriber server.

Run RemoveServerFromDB.bat Script on Publisher

Execute the RemoveServerFromDB.bat script file from the Cisco CallManager publisher server that you want to remove. This script runs from the command prompt from any directory.



Tip

To view the procedure that runs the script, run the script with no parameters.

From any directory on the publisher server, enter the following command:

```
<path where you saved the script>:\RemoveServerFromDB "server" "database"  
"name_of_server_to_delete_from_ProcessNode.Name"
```

When this command gets run from the command prompt, errors display; no separate error log file gets generated.

To view the contents of the script file, see the [“Contents of the RemoveServerFromDB.bat Script File”](#) section on page B-3.

Run RemoveSubscription.bat Script on Subscriber

Execute the RemoveSubscription.bat script file from the Cisco CallManager subscriber server that you want to remove. This script runs from the command prompt from any directory.



Tip

To view the procedure that runs the script, run the script with no parameters.

From any directory on the subscriber server, enter the following command:

```
<path where you saved the script>:\RemoveSubscription "server" "database"
```

When this command runs from the command prompt, errors display; no separate error log file gets generated.

To view the contents of the script file, see the [“Contents of the RemoveSubscription.bat Script File”](#) section on page B-5.

Remove Redundant DCD Replication Agreements

After the subscriber server is removed from the cluster, clean its DCD replication information from the publisher DCD by running the `clean_publisher` script. The script file only executes on the publisher server.

You can access the script on Cisco CallManager release 3.3 and above. It gets installed on the Cisco CallManager server during installation of Cisco Directory component.

From any directory on the publisher server, enter the following command:

```
c:Clean_publisher.cmd
```

The script file removes the replication agreements to all nonexistent subscribers from the publisher DCD. It does not delete or modify existing data.



Note

If administrator removes the server without running the `Clean_publisher.cmd` script and then adds the server back with the same host name into the same cluster from where it was removed, the DCD script that is used to configure the subscriber DCD will clean up the previous DCD replication agreement from the publisher DCD database during the Directory installation of the Cisco CallManager installation on the server.

Contents of the RemoveServerFromDB.bat Script File

[Example B-1](#) displays the contents of the script file that removes the SQL replication information from the publisher server.

Example B-1 Script File Contents

```
@echo off
@if "%3x" == "x" goto Usage
```

Contents of the RemoveServerFromDB.bat Script File

```

echo Install stored procedure in database %2
echo USE %2 temp.sql
echo GO temp.sql
echo DROP PROCEDURE dblRemoveServerFromDB temp.sql
echo GO temp.sql
echo CREATE PROCEDURE [dblRemoveServerFromDB] temp.sql
echo (@servername NVARCHAR(50),@ispublisher NVARCHAR(50)) AS temp.sql
echo BEGIN TRANSACTION temp.sql
echo DECLARE @nodeid NVARCHAR(50), @deviceid NVARCHAR(50), @pnsid NVARCHAR(50) temp.sql
echo -- temp.sql
echo PRINT 'Get the Node ID' temp.sql
echo SELECT @nodeid=pkid from ProcessNode where name=@servername temp.sql
echo -- temp.sql
echo PRINT 'Delete associated Device and MediaMixer' temp.sql
echo WHILE (SELECT COUNT(*) FROM Device WHERE fkProcessNode=@nodeid) ^> 0 temp.sql
echo BEGIN temp.sql
echo     SELECT @deviceid=pkid from Device where fkProcessNode=@nodeid temp.sql
echo     PRINT 'Delete MediaMixer' temp.sql
echo     DELETE FROM MediaMixer WHERE fkDevice=@deviceid temp.sql
echo     PRINT 'Delete MOHServer' temp.sql
echo     DELETE FROM MOHServer WHERE fkDevice=@deviceid temp.sql
echo     PRINT 'Delete Device' temp.sql
echo     DELETE FROM Device WHERE pkid=@deviceid temp.sql
echo END temp.sql
echo -- temp.sql
echo PRINT 'Delete associated CallManager records' temp.sql
echo DELETE FROM CallManagerGroupMember FROM CallManagerGroupMember AS M temp.sql
echo JOIN CallManager AS C ON C.pkid=M.fkCallManager WHERE C.fkProcessNode=@nodeid
temp.sql
echo DELETE FROM CallManager WHERE fkProcessNode=@nodeid temp.sql
echo -- temp.sql
echo PRINT 'Delete associated ProcessConfig records' temp.sql
echo DELETE FROM ProcessConfig WHERE fkProcessNode=@nodeid temp.sql
echo -- temp.sql
echo PRINT 'Delete associated AlarmConfig records' temp.sql
echo DELETE FROM AlarmConfig FROM AlarmConfig AS A JOIN ProcessNodeService temp.sql
echo AS S ON A.fkProcessNodeService=S.pkid WHERE S.fkProcessNode=@nodeid temp.sql
echo PRINT 'Delete associated ProcessNodeService records' temp.sql
echo DELETE FROM ProcessNodeService WHERE fkProcessNode=@nodeid temp.sql
echo -- temp.sql
echo PRINT 'Delete associated ComponentVersion records' temp.sql
echo DELETE FROM ComponentVersion WHERE fkProcessNode=@nodeid temp.sql
echo -- temp.sql
echo PRINT 'Delete the node' temp.sql
echo DELETE FROM ProcessNode WHERE pkid=@nodeid temp.sql
echo -- temp.sql
echo COMMIT TRANSACTION temp.sql
echo GO temp.sql

```

```
echo -- Execute procedure on server %1
echo exec dblRemoveServerFromDB '%3' temp.sql
osql -S %1 -d %2 -E -e -i temp.sql
del temp.sql
echo USE %2 temp1.sql
echo sp_dropsublication @publication = %2, @subscriber = '%3', @article='all' temp1.sql
echo GO temp1.sql
osql -S %1 -d %2 -E -e -i temp1.sql
del temp1.sql
goto endd
:Usage
@echo Usage:   RemoveServerFromDB "server" "database"
              "name_of_server_to_delete_from_ProcessNode.Name"
@echo Example: RemoveServerFromDB . CCM0300 fred.cisco.com
:endd
```

Contents of the RemoveSubscription.bat Script File

[Example B-2](#) displays the contents of the script file that removes the SQL replication information from the subscriber server.

Example B-2 Script File Contents

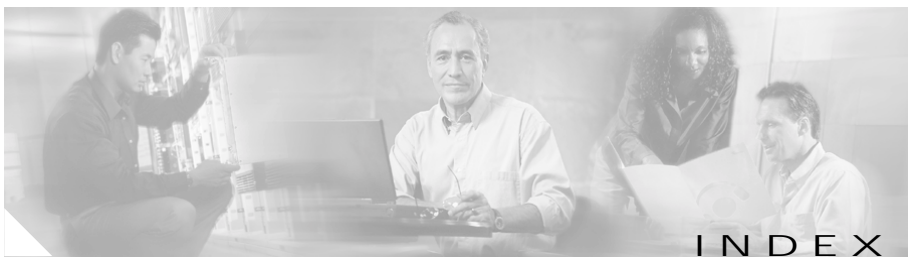
```
@echo off
@if "%2x" == "x" goto Usage
echo Install stored procedure in database %2

echo sp_removedbreplication @dbname = %2 temp1.sql
echo GO temp1.sql
osql -S %1 -d %2 -E -e -i temp1.sql

del temp1.sql

goto endd
:Usage
@echo Usage:   RemoveSubscription "server" "database"
@echo Example: RemoveSubscription . CCM0300
:endd
```

■ Contents of the RemoveSubscription.bat Script File



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