



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 *Troubleshooting Guide for Cisco CallManager* provides troubleshooting procedures for the Cisco CallManager. This document does not cover every possible trouble event that might occur on a Cisco CallManager system but instead focuses on those events frequently seen by the Cisco Technical Assistance Center (TAC) or frequently asked questions from newsgroups.

Audience

The *Troubleshooting Guide for Cisco CallManager* provides guidance for network administrators responsible for managing the Cisco CallManager system, for enterprise managers, and for employees. This guide requires knowledge of telephony and IP networking technology.

Organization

Table 1 shows how this guide is organized.

Table 1 *How This Document Is Organized*

Chapter and Title	Description
Chapter 1, “Troubleshooting Overview”	Provides an overview of the tools and resources that are available for troubleshooting the Cisco CallManager.
Chapter 2, “Troubleshooting Tools”	Addresses the tools and utilities that you use to configure, monitor, and troubleshoot Cisco CallManager 3.3 and provides general guidelines for collecting information to avoid repetitive testing and recollection of identical data.
Chapter 3, “Installation, Backup, and Restore Issues”	Describes solutions for the most common issues related to a Cisco CallManager installation, backup, or restore.
Chapter 4, “Cisco CallManager System Issues”	Describes solutions for the most common issues related to a Cisco CallManager system.

Table 1 *How This Document Is Organized (continued)*

Chapter and Title	Description
Chapter 5, “Directory Issues”	Describes solutions for the most common issues related to a Cisco CallManager DC Directory (DCD), the Lightweight Directory Access Protocol (LDAP) directory, or the Microsoft Active Directory (AD).
Chapter 6, “Device Issues”	Describes solutions for the most common issues related to IP phones and gateways.
Chapter 7, “Dial Plans and Routing Issues”	Describes solutions for the most common issues related to dial plans, route partitions, and calling search spaces.
Chapter 8, “Cisco CallManager Services Issues”	Describes solutions for the most common issues related to services, such as conference bridges and media termination points.
Chapter 9, “Voice Messaging Issues”	Describes solutions for the most common voice messaging issues.
Appendix A, “Opening a Case With TAC”	Describes what information is needed to open a case for TAC.
Appendix B, “Case Study: Troubleshooting Intracluster Phone Calls”	Describes in detail the call flow between two Cisco IP Phones within a cluster.
Appendix C, “Case Study: Troubleshooting Cisco IP Phone-to-Cisco IOS Gateway Calls”	Describes a Cisco IP Phone calling through a Cisco IOS Gateway to a phone connected through a local PBX or on the Public Switched Telephone Network (PSTN).
Appendix D, “Case Study: Troubleshooting Intercluster Phone Calls”	Describes a Cisco IP Phone calling another Cisco IP Phone located in a different cluster.

Related Documentation

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

- *Cisco CallManager Administration Guide*
- *Cisco CallManager System Guide*
- *Cisco CallManager Serviceability Administration Guide*
- *Cisco CallManager Features & Services Guide*
- *Cisco CallManager Quick Start Guide*
- *Cisco CallManager Installation Instructions*
- *Cisco CallManager Backup and Restore Procedure*
- *Cisco CallManager Attendant Console User Guide*
- *Cisco CallManager Multilevel Administration Access Guide*
- *Cisco CallManager Directory Services Guide*
- *Release Notes for Cisco CallManager Release 3.3(2)*
- *Cisco CallManager Documentation Guide for Release 3.3(2)*
- *Hardware Configuration Guide for the Cisco Voice Gateway 200*
- *Software Configuration Guide for the Cisco Voice Gateway 200*
- *Cisco IP Phone Administration Guide for Cisco CallManager*
- *Bulk Administration Tool Guide for Cisco CallManager*
- *Cisco Technical Solution Series: IP Telephony Solution Guide*
- *Guide to Cisco Systems VOIP Infrastructure Solution for SIP*

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 <i>screen font</i> .
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> .
< >	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:



Tips

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/cisco/web/support/index.html>

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/doctypes/prod_series_index_listing_sitecopy.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