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:

Purpose

The *Troubleshooting Guide for Cisco CallManager Release 4.1(2)* 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 that are frequently seen by the Cisco Technical Assistance Center (TAC) or frequently asked questions from newsgroups.

Audience

The *Troubleshooting Guide for Cisco CallManager Release 4.1(2)* 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 4.0 (or later) and provides general guidelines for collecting information to avoid repetitive testing and re-collection 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 API Troubleshooting Guide*
- *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 4.0(1)*
- *Cisco CallManager Documentation Guide for Release 4.0(1)*
- *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**.
italic font	Arguments for which you supply values are in *italics*.
[ ]	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.
italic screen font	Arguments for which you supply values are in *italic screen* font.
< >	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 documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain 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 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

You can access international Cisco websites at this URL:

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

Ordering Documentation

You can find instructions for ordering documentation at this URL:

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

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Ordering tool:

  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, USA) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can send comments about technical documentation 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

For all customers, partners, resellers, and distributors who hold valid Cisco service contracts, Cisco Technical Support provides 24-hour-a-day, award-winning technical assistance. The Cisco Technical Support Website on Cisco.com features extensive online support resources. In addition, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not hold a valid Cisco service contract, contact your reseller.

Cisco Technical Support Website

The Cisco Technical Support Website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day, 365 days a year at this URL:

http://www.cisco.com/techsupport

Access to all tools on the Cisco Technical Support Website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

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

Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool automatically provides recommended solutions. If your issue is not resolved using the recommended resources, your service request will be assigned to a Cisco TAC engineer. The TAC Service Request Tool is located at this URL:

http://www.cisco.com/techsupport/servicerequest

For S1 or S2 service requests or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco TAC engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)
EMEA: +32 2 704 55 55
USA: 1 800 553 2447

For a complete list of Cisco TAC contacts, go to this URL:

http://www.cisco.com/techsupport/contacts

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—Your 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.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

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

- Cisco Marketplace provides a variety of Cisco books, reference guides, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:

  http://www.cisco.com/go/marketplace/

- 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://cisco.com/univercd/cc/td/doc/pcat/

- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:

  http://www.ciscopress.com

- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:

  http://www.cisco.com/packet

- *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/ipj

- World-class networking training is available from Cisco. You can view current offerings at this URL:

  http://www.cisco.com/en/US/learning/index.html