



## Preface

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

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## Purpose

The *Cisco CallManager Serviceability System Guide* provides information about the Cisco CallManager Serviceability program, remote serviceability tools, and the CDR Analysis and Reporting tool.

Use this book with the *Cisco CallManager System Guide*, the *Cisco CallManager Administration Guide*, and the *Cisco CallManager Serviceability Administration Guide*. All documents provide instructions for administering the Cisco CallManager program and include descriptions of procedural tasks that you complete using Cisco CallManager Administration.

## Audience

The *Cisco CallManager Serviceability System Guide* provides information for network administrators responsible for managing and supporting the Cisco CallManager system. Network engineers, system administrators, or telecom engineers use this guide to learn about, and administer, remote serviceability features. This guide requires knowledge of telephony and IP networking technology.

## Organization

The following table shows how this guide is organized:

Chapter	Description
Chapter 1, “Introduction”	Provides an overview of the Cisco CallManager Serviceability program, remote serviceability programs, and reporting tools.
Chapter 2, “Performance Objects and Counters”	Provides an overview of the Cisco CallManager objects and counters used for serviceability.
Chapter 3, “Cisco CallManager Services”	Provides a brief description of the Cisco CallManager services such as CiscoTFTP, Cisco CTIManager, and Cisco CDR Insert.
Chapter 4, “Tools Overview”	Provides a brief description of the local and remote tools available to troubleshoot the Cisco CallManager system.
Chapter 5, “Service Activation”	Provides an overview of the procedures for activating and deactivating Cisco CallManager services.

<b>Chapter</b>	<b>Description</b>
Chapter 6, “Control Center”	Provides overview of the procedures for starting and stopping Cisco CallManager services.
Chapter 7, “Alarms”	Provides an overview of alarms and alarm definitions.
Chapter 8, “Trace”	Provides an overview and the procedures for configuring trace parameters, trace collection, and trace analysis.
Chapter 9, “Real-Time Monitoring Tool”	Provides an overview of performance and device monitoring and alert notification.
Chapter 10, “Quality Report Tool”	Provides an overview of the tool used to generate IP phone problem reports.
Chapter 11, “Serviceability Reports Archive”	Provides an overview of the Serviceability Reports Archive.
Chapter 12, “Microsoft Performance”	Provides information on Microsoft Windows 2000 Performance monitoring program used to monitor Cisco CallManager performance on local or remote installations.
Chapter 13, “Bulk Trace Analysis”	Provides an overview of the tool used to create reports for large trace files.
Chapter 14, “CDR Analysis and Reporting”	Provides an overview of CDR Analysis and Reporting, a tool used to create user, system, device, and billing reports.
Chapter 15, “Remote Serviceability Overview”	Provides an overview of the tools available to remotely troubleshoot a Cisco CallManager system.
Chapter 16, “Cisco Secure Telnet”	Provides architecture and operation of the Cisco Secure Telnet system, including network topologies and configurations.
Chapter 17, “Show Command Line Interface”	Provides information on the Cisco Show command line interface.

<b>Chapter</b>	<b>Description</b>
Chapter 18, “Simple Network Management Protocol”	Provides information for using SNMP and the CiscoWorks2000 interface to troubleshoot and to perform diagnostics and network management tasks.
Chapter 19, “CiscoWorks2000”	Provides overview of CiscoWorks2000 when used with Cisco CallManager to manage some of the remote serviceability features.
Chapter 20, “Path Analysis”	Provides information for setting up trace using CiscoWorks2000 Campus Manager.
Chapter 21, “System Log Management”	Provides information for using system log management to diagnose and troubleshoot problems.
Chapter 22, “Cisco Discovery Protocol Support”	Provides overview of Cisco Discovery Protocol used to support Cisco CallManager installations.
Appendix A, “Cisco CallManager Performance Counters, RTMT, and CISCO-CCM-MIB”	Provides tables with related information about Cisco CallManager perfmon counters, the Real-Time Monitoring Tool, and CCM_SNMP_MIB.
Appendix B, “Trace Examples”	Provides an example using Trace to solve a problem with the Cisco CallManager system.
Appendix C, “Performance Objects and Counters”	Provides a complete list of performance objects and their associated counters.

# Related Documentation

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

- *Installing Cisco CallManager Release 3.3*
- *Release Notes for Cisco CallManager Release 3.3*
- *Cisco CallManager Administration Guide*
- *Cisco CallManager System Guide*
- *Cisco CallManager Serviceability Administration*
- *Hardware Configuration Guide for the Cisco Voice Gateway 200*
- *Software Configuration Guide for the Cisco Voice Gateway 200*
- *Cisco IP Phone 7900 Family Administration Guide*
- *Cisco IP Telephony Troubleshooting Guide for Cisco CallManager*
- *Cisco IP Telephony Network Design Guide*
- *Troubleshooting Guide for Cisco CallManager*

# Conventions

This document uses the following conventions:

Convention	Description
<b>boldface</b> font	Commands and keywords are in <b>boldface</b> .
<i>italic</i> font	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.

Convention	Description
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 <code>screen font</code> .
<b>boldface screen font</b>	Information you must enter is in <b>boldface screen font</b> .
<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**

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

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Warnings use the following conventions:



**Warning**

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**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.**

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## 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/univercd/home/home.htm>

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](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\\_inpk/pdi.htm](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 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](mailto: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>

- *iQ Magazine* is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. 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/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>

