



Preface

Revised: October 23, 2008, OL-11335-06

Introduction

This document provides detailed troubleshooting procedures for the Cisco BTS 10200 Softswitch. It provides the procedures for troubleshooting network, subscriber, billing, operations and maintenance, system administrative problems. It also includes details for aiding troubleshooting by utilizing diagnostic and trace procedures.

Objective

The maintenance personnel/troubleshooter of a Cisco BTS 10200 Softswitch can use this document to better understand how to troubleshoot the Cisco BTS 10200 Softswitch and quickly clear network problems.

Audience

This document is designed for engineers, technicians, and system administrators who troubleshoot and repair the Cisco BTS 10200 Softswitch.

Organization

This Troubleshooting Guide contains the following chapters:

- [Chapter 1, “Troubleshooting Overview”](#) – Provides an overview of troubleshooting the Cisco BTS 10200 Softswitch.
- [Chapter 2, “Audit Troubleshooting”](#) – Provides the information needed to monitor and troubleshoot Audit events and alarms.
- [Chapter 3, “Billing Troubleshooting”](#) – Provides the information needed to monitor and troubleshoot Billing events and alarms.
- [Chapter 4, “Call Processing Troubleshooting”](#) – Provides the information needed to monitor and troubleshoot Call Processing events and alarms.
- [Chapter 5, “Configuration Troubleshooting”](#) – Provides the information needed to monitor and troubleshoot Configuration events and alarms.
- [Chapter 6, “Database Troubleshooting”](#) – Provides the information needed to monitor and troubleshoot Database events and alarms.
- [Chapter 7, “Maintenance Troubleshooting”](#) – Provides the information needed to monitor and troubleshoot Maintenance events and alarms.
- [Chapter 8, “Operations Support System Troubleshooting”](#) – Provides the information needed to monitor and troubleshoot Operations Support System events and alarms.
- [Chapter 9, “Security Troubleshooting”](#) – Provides the information needed to monitor and troubleshoot Security events and alarms.
- [Chapter 10, “Signaling Troubleshooting”](#) – Provides the information needed to monitor and troubleshoot Signaling events and alarms.
- [Chapter 11, “Statistics Troubleshooting”](#) – Provides the information needed to monitor and troubleshoot Statistics events and alarms.
- [Chapter 12, “System Troubleshooting”](#) – Provides the information needed to monitor and troubleshoot System events and alarms.
- [Chapter 13, “Network Troubleshooting”](#) – Provides the information needed to conduct network troubleshooting on the Cisco BTS 10200 Softswitch.
- [Chapter 14, “General Troubleshooting”](#) – Provides the general troubleshooting information needed to conduct troubleshooting on the Cisco BTS 10200 Softswitch.
- [Chapter 15, “Diagnostic Tests”](#) – Describes the diagnostic tests that can be performed on media gateways, subscriber terminations, and trunk terminations.
- [Chapter 16, “Disaster Recovery Procedures”](#) – Describes how to recover the database in a disaster situation, how to recover the database from another database, and how to recover data from the Call Agent shared memory.
- [Chapter 17, “Disk Replacement”](#) – Describes how to manually recover a Cisco BTS 10200 Softswitch system.
- [Appendix A, “System Usage of MGW Keepalive Parameters, Release 4.4.x”](#) – Explains how the Cisco BTS 10200 Softswitch determines the connectivity status between itself and a media gateway (MGW)

Conventions

This document uses the following conventions:



Note

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



Caution

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

Updates to this Document for Release 4.4

This document is new for Release 4.4.

Added the following information for version OL-11335-02 of the document:

- [Appendix A, “System Usage of MGW Keepalive Parameters, Release 4.4.x”](#)

Updated the following information for version OL-11335-03 of the document:

- [Appendix A, “System Usage of MGW Keepalive Parameters, Release 4.4.x”](#)

For version OL-11335-05 of the document the Threshold/Throttle information in [Chapter 1, “Troubleshooting Overview”](#) was updated.

For version OL-11335-06 of the document Audit 4 alarm information was updated.

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 universal resource locator (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 compact disk - read only media (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 annual 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, USA.) 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 send your comments in e-mail 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, the Cisco Technical Assistance Center (TAC) provides 24-hour, award-winning technical support services, online and over the phone. Cisco.com features the Cisco TAC website as an online starting point for technical assistance.

Cisco TAC Website

The Cisco TAC website (<http://www.cisco.com/tac>) provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The Cisco TAC website is available 24 hours a day, 365 days a year.

Accessing all the tools on the Cisco TAC website requires a Cisco.com user identification (ID) and password. If you have a valid service contract but do not have a login ID or password, register at this URL:

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

Opening a TAC Case

The online TAC Case Open Tool (<http://www.cisco.com/tac/caseopen>) is the fastest way to open S3 and S4 cases. (Your network is minimally impaired or you require product information). After you describe your situation, the TAC Case Open Tool automatically recommends resources for an immediate solution. If your issue is not resolved using these recommendations, your case will be assigned to a Cisco TAC engineer.

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

To open a case 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 listing of Cisco TAC contacts, go to this URL:

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

TAC Case Priority Definitions

To ensure that all cases are reported in a standard format, Cisco has established case priority 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.

- *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/index.html>