Preface

Revised: March 19, 2007, OL-5906-14

This document provides an overview of the components, features, and functions of the Cisco BTS 10200 Softswitch. It describes the signaling protocols, network features, and subscriber features supported by the system.

Objective

The owner/operator of a Cisco BTS 10200 Softswitch can use this document to better understand how the system interfaces with their network, and how it provides network and subscriber features in conjunction with other network elements.

Audience

This document is designed for engineers, technicians, and system administrators who install, configure, and operate the Cisco BTS 10200 Softswitch.

Organization

This System Description contains the following chapters:

- Chapter 1, “Cisco BTS 10200 Softswitch Technical Overview”
- Chapter 2, “Supported Signaling Protocols”
- Chapter 3, “Network Features”
- Chapter 4, “Subscriber Features”
- Chapter 5, “Class of Service Restrictions and Outgoing Call Barring”
- Chapter 6, “Feature Interactions”

This document also includes a glossary and an index.

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.

Revision History for Release 4.4.x

This document includes all of the information that was contained in the previous issue (the Release 4.1 System Description), and has been updated for Release 4.4.x as described in this Preface.

Note All of the features and functions described in this document are applicable to both Release 4.4.0 and Release 4.4.1, unless specifically noted. Release 4.4.x refers to both Release 4.4.0 and 4.4.1.

The following list is a summary of features that are specific to Release 4.4.1, and are not supported in Release 4.4.0. See the appropriate documents in the Release 4.4.x documentation set:

- OCB enhancements (See the *Cisco BTS 10200 Softswitch Enhanced Outgoing Call Barring Feature Module*)
- ETSI v2 ISUP variant. (See the *Release Notes* for a list of ISUP variants supported for specific countries.)
- ISDN updates (See the *Cisco BTS 10200 Softswitch ISDN Provisioning and Troubleshooting Guide*):
  - ETSI Net 5 PRI
  - User Side Support of ISDN PRI
  - ISDN Info Digits
- H.323 applications (See the *Cisco BTS 10200 Softswitch H.323 Protocol Guide*)
- Short term LNP requirement (See the *Cisco BTS 10200 Softswitch Release Notes* document)

Following is a summary of the major changes and additions to this Release 4.4.x document versus the Release 4.1 document:

- Chapter 1, “Cisco BTS 10200 Softswitch Technical Overview”:
  - Described the new interface configuration with four Ethernet interfaces on the CA and two on the EMS. The four interfaces on the CA allow separation of system management data from external signaling and communications data.
  - Added a statement that the Mini-Browser Adapter (MBA) runs on a separate host machine.
  - Referred to the *Release Notes* document for a list of hardware options on which the Cisco BTS 10200 Softswitch software can run.
  - Added information about the CLI-based dialed-number query tools, QVT and TVT.

  - Updated information regarding DNS and IP Manager.
  - Added information about new system security features for Release 4.4.x.
  - Added information about AUEP and ICMP pings for MGCP-based MGWs.
  - Added or modified wording to improve organization and clarity (throughout).
- Chapter 2, "Supported Signaling Protocols"
  - Updated the description of the ISDN capabilities.
  - Removed information on PacketCable and H.323 protocols that is available in protocol-specific documents (*Cisco BTS 10200 Softswitch PacketCable Guide* and *Cisco BTS 10200 Softswitch H.323 Protocol Guide*).
  - Added a line regarding SIP-trunk route advance feature.
  - Removed reference to M3UA layer.
  - Version OL-5906-08—Updated the list of supported ISUP variants.
- Chapter 3, "Network Features":
  - Updated information on T.38 fax transmission modes (feature enhancement in Release 4.2).
  - Added information on calling party number (CPN) options (Release 4.2 feature).
  - Added information about the simultaneous operation of both PacketCable Intercept mode and Cisco SII mode for CALEA.
  - Added information on the basic network loopback testing feature.
  - For version OL-5906-09, the following changes were made:

    EMG/911—Interaction with CHD was added.

    BLV/OI—Information was added for interaction with CFU (when CFU activated), and interaction with all other features (when invoked). Information was added on provisioning the denial of BLV function per subscriber.
  - For version OL-5906-12, the following changes were made:

    Enhanced the description of "Calling Party Number Options for Outgoing SETUP Messages."

    Enhanced the description of "n11 support (211, 311, 411, 611, 711, 811)" and included support for 211 calls.
  - Version OL-5906-13, the following changes were made:

    Clarified the description of the 8XX (Toll-Free Calling) feature.
- Chapter 4, "Subscriber Features":
  - Added information on the two-step automatic recall (AR) function.
  - Added statement that CFB features are applied when a subscriber line is unreachable.
  - Updated description of ACR activation.
  - Version OL-5906-07—Added limitations and interactions information:

    - Added information on limitations for using certain features (CW, CIDCW, TWC and USTWC) when using ISUPs other than ANSI ISUP.

    - Added information specific to Centrex users with CHD feature—There are limitations on call forwarding when CHD, CFNA, and CW are all active on the subscriber line.

  - Version OL-5906-08—Deleted an incorrect statement regarding the Call Transfer (CT) feature. The deleted (incorrect) statement said that CT is available only to Centrex subscribers. The correct statement is that CT is available to both POTS and Centrex subscribers.
  - Version OL-5906-09, the following changes were made:

    CFU—Interaction with BLV/OI was added.

    CHD—Interaction with EMG/911 call was added.
  - Version OL-5906-10, the following changes were made:

    CT/TWC and CT/TWCD interactions—Additional details about these interactions were added.

    CW/CFNA interaction—Additional details about this interaction were added.

    CW, CIDCW, and CWD—VSC examples were updated.

    CW and CIDCW—The paragraphs about limitations and feature interactions was moved within these sections, but no content changes were made.
  - Version OL-5906-11, the following change was made:

    Update to the CFB description—Added a note regarding limitation on call forwarding when subscriber is unreachable.
  - Version OL-5906-13, the following changes were made:

    Added a note regarding CCW behavior if there is a CA switchover.

    Clarified the description of the MLHG feature.
  - Version OL-5906-14:

    Additional clarifications were added regarding MLHG.
- Chapter 5, “Class of Service Restrictions and Outgoing Call Barring”:
  - Added information on the provisionable timers for account codes and authorization codes used with the COS restriction feature.
  - Made corrections and clarifications to the COS flow diagrams.
  - Added a reference to the *Enhanced Outgoing Call Barring* Feature Module for Release 4.4.1.
- Chapter 6, “Feature Interactions”:
  - Version OL-5906-09—Information was added to show that CT has precedence over both TWC and TWCD.

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 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_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 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 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 P3 and P4 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 P1 or P2 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 P1 and P2 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.

Priority 1 (P1)—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.

Priority 2 (P2)—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.

Priority 3 (P3)—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.

Priority 4 (P4)—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