



Preface

Revised: July 2, 2009, OL-7680-24

This document describes the network features and subscriber features supported by the Cisco BTS 10200 Softswitch.



Note

Some features involve the use of other network elements (NEs) deployed in the service provider network, for example, gateways, media servers, announcement servers, eMTAs, and SIP phones. See the [Component Interoperability](#) section of the *Release Notes* for a complete list of the specific peripheral platforms, functions, and software loads that have been used in system testing for interoperability with the Cisco BTS 10200 Softswitch Release 4.5.x software. Earlier or later releases of platform software might be interoperable and it might be possible to use other functions on these platforms. The list in the *Release Notes* certifies only that the required interoperation of these platforms, the functions listed, and the protocols listed have been successfully tested with the Cisco BTS 10200 Softswitch.

Objective

The owner/operator of a Cisco BTS 10200 Softswitch can use this document to understand the behavior of each feature from the end-user perspective, and to see how to provision the system to deliver the desired feature behaviors.

Audience

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

Organization

This *Cisco BTS 10200 Softswitch Feature Descriptions* document contains the following chapters:



Note

These numbered chapters were previously part of the *Cisco BTS 10200 Softswitch System Description* document. The appendix is new for Release 4.5.x.

- [Chapter 1, “Network Features”](#)
- [Chapter 2, “Subscriber Features”](#)
- [Chapter 3, “Class of Service Restrictions and Outgoing Call Barring Features”](#)
- [Chapter 4, “Feature Interactions”](#)
- [Appendix A, “Interactive Voice Response Functions”](#)

This document also includes an index.



Tip

The companion document is the *Cisco BTS 10200 Softswitch System Description*, which contains the following chapters—[Technical Overview](#) and [Signaling Protocols](#). It also contains 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.

Updates to this Document for Release 4.5.x

This document includes all of the information about telephony features that was contained in the previous issue (Release 4.4.x) of the *Cisco BTS 10200 Softswitch System Description*, and has been updated for Release 4.5.x as described below.



Note

This document is new for Release 4.5.x. It consists of the chapters on network and subscriber features that were previously Chapters 3 through 6 of the *Cisco BTS 10200 Softswitch System Description*.

Chapter 01—Network Features

The following network features are new for Release 4.5.x and are covered in [Chapter 1, “Network Features”](#):

- [Dial 1 Options for Local, Toll, and InterLATA Calls](#)
- [NRUF Reporting for NANPA Audit Support](#)
- [Active Call Information Display](#)
- [Alerting Notification to Third-Party Feature Server](#)
- [Testing Capability for 911 FGD-OS Trunks](#)

The following network features were enhanced in Release 4.5.x:

- [Emergency Services \(911\)](#)
- [Calling Party Number Options for Outgoing SETUP Messages](#)
- [T.38 Fax Relay](#)
- [Network Loopback Test for NCS/MGCP Subscriber Endpoints](#)
- [1xx Test Line Support](#)

In addition, information has been updated for Release 4.5.x in several other sections of this chapter.

The following updates were made in version OL-7680-02:

- NRUF Reporting—Information about the required input was corrected.
- EMG/911—Interaction with CHD was added, and information about the office service ID was clarified.
- 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.
- Office service ID and default office service ID—Wording was clarified for these parameters in the 911/EMG, BLV/OI, LNP, and 8XX sections.

The following change was made in version OL-7680-08:

- Release 4.5.1 only—Support was added for T.38 fax relay on RFC3261-compliant SIP endpoints.

The following changes were made in version OL-7680-09:

- The links to additional information for the Active Call Information Display feature were updated.
- Information on n11 calls was updated to include support for 211 and 511.

The following change was made in version OL-7680-10:

- Information was updated for the Active Call Information Display feature.

The following information was added in version OL-7680-12:

- Release 4.5.1—Network loopback test for ISDN PRI trunks.

The following information was added in version OL-7680-13:

- The information about 8XX (Toll-Free Calling) was corrected and enhanced.

Chapter 02—Subscriber Features

The following subscriber features are new for Release 4.5.x and are covered in [Chapter 2, “Subscriber Features”](#):

- [Call Forwarding Combined \(CFC\)](#)
- [Limited Call Duration Service \(Prepaid/Postpaid\) with RADIUS Interface to AAA](#)
- [Message Waiting Indicator \(MWI\)—Audible and Visual](#)
- [No Solicitation Announcement \(NSA\)](#)
- [Privacy Screening \(Calling Identity with Enhanced Screening\)](#)
- [Temporarily Disconnected Subscriber Status and Soft Dial Tone](#)
- [Voice Mail \(VM\) and Voice Mail Always \(VMA\)](#)

In addition, information has been updated for Release 4.5.x in several other sections of this chapter.

The following information was updated in version OL-7680-02:

- CFU—Interaction with BLV/OI was added.
- CHD—Interaction with EMG/911 call was added.
- CT—Clarification was added regarding initiation of TWC by CT subscriber.
- TWC and TWCD—Interaction with CT was added.
- Office service ID and default office service ID—Wording was clarified for these parameters in the AC, AR, COT, and USTWC sections.

The following information was updated in version OL-7680-03:

- CT—Interaction with TWC: Clarification was added regarding TWC-initiator going on-hook.
- TWC and TWCD—Interaction with CT: Clarification was added regarding TWC-initiator going on-hook.
- CW—Information was added for scenario when CW expires: CFNA (or VM) is cancelled.
- CFNA—Information was added for scenario when CW expires: CFNA (or VM) is cancelled.
- VM—Information was added for scenario when CW expires: CFNA (or VM) is cancelled.
- PS—Additional information was added regarding the network configuration and user options.

The following information was updated in version OL-7680-04:

- LCD—The interaction of LCD with VSCs was clarified.
- CW, CIDCW, and CWD—Additional examples of VSCs were provided.

The following clerical changes were made in version OL-7680-05:

- CW and CIDCW—The paragraphs about limitations and feature interactions was moved within these sections, but no content changes were made.
- CNAB—A note was added that the CNAB feature is not supported over SIP trunks.

The following clerical changes were made in version OL-7680-06:

- CFU, CFVBBG, CFB, and CFNA—Corrections were made to the descriptions of the FDT and SDT parameters.

The following changes were made in version OL-7680-08:

- The permitted values for the second dial tone (SDT) and final dial tone (FDT) were changed. This applies to all of the call forwarding features: CFU, CFB, CFNA, and CFC.
- Updates to the CFB description:
 - Release 4.5.0 and earlier—Added a note regarding limitation on call forwarding when subscriber is unreachable.
 - Release 4.5.1 and later—Added a new trigger, T_NOT_REACHABLE.

The following changes were made in version OL-7680-11:

- A note was added to the AC and AR sections to indicate that, for inter-office calls, these features do not work during a Feature Server switchover.
- The note regarding office-service-id and default-office-service-id was clarified.

The following information was added in version OL-7680-12:

- Additional clarification was added for the privacy screening feature.

The following information was added in version OL-7680-13:

- A note was added to the CCW section regarding feature behavior when there is a CA switchover.
- Information about the 8XX (toll-free calling) and MLHG features was enhanced.

The following information was added in version OL-7680-14:

- Additional clarifications were added regarding MLHG in the [“Multiline Hunt Group \(MLHG\)” section on page 2-81](#).
- The REFER feature was added to the list of valid features in the [“Office Service ID and Default Office Service ID” section on page 2-124](#). Additional editorial clarifications were also made in this section.

The following information was added or modified in version OL-7680-15:

- Clarifying examples were added to help explain the interaction of CHD, CW, and CFNA. See the [“Call Hold \(CHD\)” section on page 2-60](#).
- A correction was made in the description of DACWI for Centrex subscribers. See the [“Direct Inward/Outward Dialing for Centrex” section on page 2-62](#) and the [“Distinctive Alerting/Call Waiting Indication \(DA/CWI\)” section on page 2-64](#).
- Clarification was added that the reminder ring option is not provided for SIP endpoints. See the [“Do Not Disturb \(DND\)” section on page 2-72](#).
- Information about MLHG features and feature activation was added in the [“Multiline Hunt Group \(MLHG\)” section on page 2-81](#).
- References to the Cognitronics brand name were updated to ThinkEngine Networks.

The following information was added in version OL-7680-17:

- Information was added regarding the treatment of incoming calls when certain subscriber features are invoked. See the [“Multiline Hunt Group \(MLHG\)” section on page 2-81](#).
- Removed references to music on hold for the Call Park and Privacy Screening features. The music on hold is not a feature provided by the BTS 10200 (although music can be provided by some third-party servers). Changes were made in [Chapter 2, “Subscriber Features.”](#)

The following information was changed in version OL-7680-20:

- Information was corrected in the notes for [Figure 2-4, “Searching an MLHG—Incoming Call to an Individual Terminal \(Example\)”](#).

The following information was added in version OL-7680-21:

- Information was added regarding the block all inbound calls feature. See [“Block All Inbound Calls” section on page 2-70](#).

The following information was added in version OL-7680-22:

- Information was added for the Change Number feature. See [“Change Number \(CN\)” section on page 2-71](#).

The following information was added in version OL-7680-24:

- Information was added regarding subscriber types for which Customer Originated Trace (COT) is inhibited. See [“Customer-Originated Trace \(COT\)” section on page 2-71](#).
- Updated the [“Provisionable Parameters for VM and VMA” section on page 2-119](#).

Chapter 03—Class of Service Restrictions and Outgoing Call Barring Features

The following Release 4.5.x updates are covered in [Chapter 3, “Class of Service Restrictions and Outgoing Call Barring Features”](#)

- Updates were made to the section [“Exemptions from COS and OCB Restrictions”](#).
- The following changes were included in the section [“Account Codes and Authorization Codes”](#):
 - Tone-based options were enhanced.
 - IVR-based options were added.
- The [“Temporary Disconnect Treatment”](#) section was added to explain the role of the COS feature in assigning a temporarily-disconnected status to subscribers.
- Additional capabilities and provisioning options were included in the [“Outgoing Call Barring \(OCB\)”](#) section. These OCB enhancements were originally introduced in the [Release 4.4.1 OCB feature module](#).

The following information was added in version OL-7680-14:

- Information about the black/white lists was clarified in [“Overview—Black and White List Features” section on page 3-4](#).

The following information was added in version OL-7680-15:

- Additional information about call types was added in the [“National White and Black Lists \(Number Blocking\)” section on page 3-5](#).

Chapter 04—Feature Interactions

The following information was added for Release 4.5.x:

- Information about the interaction of CHD, CFNA,CW was added in [Chapter 4, “Feature Interactions.”](#)
- Information was added to show that CT has precedence over both TWC and TWCD.
- Information was corrected in the [“CHD, CFNA, and CW Interaction for Centrex Subscriber” section on page 4-13](#) in version OL-7680-15.

Appendix A—Interactive Voice Response Functions

The following information was added for Release 4.5.x:

- [Appendix A, “Interactive Voice Response Functions,”](#) was added. The IVR response functions are applicable to specific subscriber features.
- Additional clarifications were incorporated in version OL-7680-02.
- Information for privacy screening IVR functions was added in version OL-7680-12.
- References to the Cognitronics brand name were updated to ThinkEngine Networks in version OL-7680-15.
- A reference list of announcements was added at the end of the Privacy Screening description in version OL-7680-16.

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly What's New in Cisco Product Documentation, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

