Cisco BTS 10200 Softswitch Release Notes for Release 6.0.4 Maintenance Release

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Introduction

The Cisco BTS 10200 Softswitch is a class-independent software switch (softswitch) that provides next generation integrated voice and data switching solutions for packet networks.

Release 6.0.4 MR continues its focus on the broadband and cable providers in the emerging markets, by providing support for V4 and V6 interfaces of NENA i2 Architecture, and adds features and functionalities for the next generation VoIP networks. It also includes many SIP related features, and optimization enhancements.

This document describes the new features and enhancements in Release 6.0.4 Maintenance Release. For more information about BTS 10200, refer to the documents available in the Cisco BTS 10200 Softswitch documentation page:

http://www.cisco.com/en/US/docs/voice_ip_comm/bts/6.0.4/BTS604_Mainpage.html

Warning **Sun Explorer is installed as part of the Release 6.0.4 builds as a requirement from Sun Microsystems for resolving hardware issues, but is left disabled. Sun Explorer should not be enabled to run using cron because this is an untested and unsupported configuration.**

Sun Explorer is CPU intensive and may cause issues with the real-time processes running on active and standby BTS 10200 platforms. Sun Explorer should be run only when the BTS 10200 platform is OOS (for example, after a platform stop all command is executed).

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This document has the following sections:

New Features and Enhancements

Table 1 lists the new features added and enhancements for Release 6.0.4:

Table 1 New Feature and Enhancements

New Features or Enhancements	Description
Call Forward Multiple Redirection	Call Forward Multiple Redirection (CFMR) is a new feature that supports call forward redirection to multiple contacts, one at a time, till the call is successful, or the contact list is exhausted. If a redirection response is received with multiple contacts, CFMR attempts multiple redirections for those contacts whose hostname matches with the hostname of the BTS softswitch. The system does not differentiate between 300, 301, 302, and 305 SIP response messages, and applies the same call processing logic to all these responses. Upon receiving 3XX messages from the least cost routing (LCR) engine, the BTS 10200 softswitch processes contact headers, removes carrier-identifying prefixes, and routes calls to the defined destination. It preserves all the routing information from the previous call process. The preserved routing-information is restored in the outgoing signaling message, if the trunk-group properties specify so. However, BTS does not make use of this preserved call-information for further call-processing. BTS uses the dial-plan ID assigned to the LCR trunk-group to process the number received in the contact header of a 3XX message, and routes the calls to redirected contacts based on longest-match criteria.

Table 1 New Feature and Enhancements

New Features or Enhancements	Description
Support for ENUM Query for n11 Services	Support was added to provision this feature. This feature enables the BTS 10200 to perform an ENUM query on the calling subscriber digits for n11 services such as REPAIR (611), BUSINESS (811), NON-EMG (311), and Directory Assistance (DA) (411). The call routing is based on the translated number received in the ENUM response from the ENUM server. Since the calling subscriber originating the n11 service may be from a different rate center or region, the ENUM query method uses the closest path to help route the call to the destination in a short time.
Support for SIP P-Charge-Info Header	Support was added to provision this feature. This feature enables the BTS 10200 to convey the charge party information of a call. Currently, the BTS 10200 Softswitch identifies the caller to be charged for a call using the following headers: • P-Asserted-Identity • FROM header • P-DCS-Billing-Info (if enabled) • Diversion Header The identity or number collected is received by the SIP User Agent (UA), and displayed to the end user. This number is also used for billing purposes by the network entities involved in carrying out the session. However, in some network configurations, the caller ID presented to the receiving UA may be different from the number desired for billing purposes. The SIP P-Charge-Info header fulfills the need to pass an additional billing identifier that is used to convey the billing information about the calling party. This identifier is used between network entities for accurate billing of services. If the charging information is not received, or it is not processed due to disability of flags, and the diversion header is present in the incoming invite, the diversion header is used to send the charging information in the P-Charge-Info header of the outgoing invite.

Installation

Release 6.0.4 of BTS 10200 Softswitch is for fresh installations, and for upgrade from Release 6.0.1. See installation related documents at:

http://www.cisco.com/en/US/docs/voice_ip_comm/bts/6.0.4/BTS604_Mainpage.html

Hardware Requirements

This section has the following topics:

Host Hardware

Minimum required memory for CAs is 8 GB; 16 GB is required for larger systems.

Caution To ensure that memory is available for the necessary switch functions, and to avoid negative impact on performance, do not run non-BTS applications on CAs.

8 GB Sample Configurations

The following sample BTS 10200 configurations use 8GB of physical memory. It is for illustrative purposes only.

- mediumNCS
  - 150,000 NCS subscribers
  - 10,000 for trunk groups

16 GB Sample Configurations

The following sample BTS 10200 configurations use 16 GB of physical memory. These examples are for illustrative purposes only.

- medium
  - 150,000 total subscribers (Combination of SIP and NCS)
  - 15,000 for H.323
  - 10,000 for trunk groups
- mgc
  - 10,000 total MGC subscribers
  - 10,000 for trunk groups
- tas
  - 200,000 total subscribers (20,000 can be SIP or NCS, up to 200,000 for TAS)

  - 10,000 for trunk groups
- commercial
  - 200,000 total subscribers (Combination of SIP, NCS, MGC, and 60,000 Centrex groups)
  - Limit to 200 for H.323 subscribers
  - Limit to 10,000 for trunk groups
- commercial225
  - 225,000 total subscribers (Combination of NCS, MGC, and 60,000 Centrex groups)
  - Limit to 250 for SIP subscribers
  - Limit to 200 for H.323 subscribers
  - Limit to 10,000 for trunk groups

For more information on configurations, choose "Table Sizing Configuration" from the drop-list in the Cisco BTS 10200 CLI Database. For more information on how to access and download the CLI Database, refer to *Compressed CLI Database Readme* document available at:

http://www.cisco.com/en/US/docs/voice_ip_comm/bts/6.0.4/BTS604_Mainpage.html

Table 2 lists requirements for supported host hardware. The requirements listed in the table are for a new installation of Release 6.0.4:

Table 2 Requirements for Supported Host Hardware

Platforms	Processors	Memory (in GB)	Disk Size (in GB)
Sun Fire V1280	4 x 1280	8	4 x 73
Sun Fire V1280	8 x 1200	16	2 x 73
Sun Fire V1280	12 x 1200	24	4 x 73
Sun Fire V240	2 x 1280	8	2 x 73
Sun Fire V245	2 x 1500	16	4 x 73
Sun Fire V440	4 x 1280	8	4 x 73
Sun Fire V445	4 x 1593	16	2 x 73
Sun Netra 1280	4 x 1200	8	2 x 73
Sun Netra 1280	8 x 1200	16	2 x 73
Sun Netra 1280	12 x 1200	24	2 x 73
Sun Netra 1290	8 x 1500	32	2 x 146
Sun SPARC Enterprise T5120	4 core	16	2 x 146
Sun SPARC Enterprise T5220	4 core	16	2 x 146
Sun SPARC Enterprise T5120	8 core	16	2 x 146
Sun SPARC Enterprise T5220	8 core	16	2 x 146

Ancillary Hardware

Table 3 lists ancillary hardware required if you are using reference sale host hardware.

Table 3 Ancillary Hardware

System	Description
DC	Cisco Catalyst 2970 x1 DC 10/100 Autosensing Fast Ethernet Switch
AC and DC	Terminal server that permits console login

Software Release Types

Table 4 lists the BTS 10200 software release types:

Table 4 Software Release Types

Release	Purpose	Version Numbering	Source and Defect Fixes
Major	Offers: • Significant new features • Enhancements • Architectural changes • Defect fixes	• Increments with each new version. • Numbers cannot be skipped.	• Based on a previous main release • Receives defect fixes synced from previous Main releases throughout its life
Point	Offers: • New features of limited scope • Enhancements • Defect fixes	• Increments as content is added. • Numbers can be skipped.	• Based on a previous major or point release • Receives defect fixes synced from previous major or point releases throughout its life
Maintenance	Offers defect fixes for specific problems.	• Increments as content is added. • Numbers can be skipped.	—

Release Names

BTS 10200 product release version numbering is defined as either:

- Cisco BTS 10200 uu.ww.xx.yzz Pxx (for example, in Release Notes)

  or

- 900-uu.ww.xx.yzz Pxx (CD part number)

where

- uu is the major release ID (0–99)—for example, 900-03.ww.xx.yzz

- ww is a point release (within a major) (0–99)—for example, 900-03.05.xx.yzz
- xx is the maintenance package number (within a point) (0–99)—for example, 900-03.05.03.yzz
- y is the software state, such that—for example, 900-03.05.03V00
  - D = Development load
  - I = Integration load
  - Q = System test load
  - F = Field verification ready
  - V = Verified (specified for externally available)
- When Pxx is at the end of the release numbering, a patch has been applied. P is the patch, and xx is the patch numbering.

Examples are:

- 900-04.05.00.V01
- 900-04.05.01.V00
- 900-05.00.00.V00
- 900-06.00.00.V00
- 900-06.00.01.V02
- 900-06.00.03.V00

Component Interoperability

Following table lists the certified platforms, functions, and protocols successfully tested with BTS 10200. Earlier or later releases of platform software might be interoperable, and it might be possible to use other functions on these platforms.

Platform(s) Tested	Function(s) Tested	Protocol(s) Tested	Load(s) Tested	Last Verified in BTS 10200 Release
Arris TM402P	MTA	• NCS 1.0 • IPSEC	5.0.50B	—
Arris TM502G	MTA	• NCS 1.0 • IPSEC	5.0.50B	6.0.3
Arris TM508A/512A	MTA	• NCS 1.0 • IPSEC	• SIP: TS 5.2.32 • NCS: 5.2.22	6.0.3
Blueslice	• SH messaging • TAS Call Processing	Diameter	HSS 3000 4.0	6.0
Camiant MultiMedia Service Controller	Policy Server	—	2.3	6.0.3
Cisco 243x	IAD	MGCP 1.0	12.4(11)T4	6.0.3

Platform(s) Tested	Function(s) Tested	Protocol(s) Tested	Load(s) Tested	Last Verified in BTS 10200 Release
Cisco 2651	SS7 Signaling Gateway	• SIGTRAN • M3UA/SUA	12.2(25)SW9	6.0
Cisco 5850	Trunking Gateway	—	12.3(11)T9	6.0 and 6.0.3
Cisco AS5300/5350/5400	Trunking Gateway	• MGCP 1.0 • TGCP	12.4.12c	6.0.3
Cisco BACC	Provisioning Server	—	2.6.2.7	6.0.3
Cisco Cat 3550	Ethernet Switch	—	121-22.EA10	6.0.3
Cisco DPE	Provisioning Server	—	2.6.1.7	6.0.3
Cisco ITP 7301	Signaling Gateway	SIGTRAN M3UA/SUA	12.2(25)SW9	6.0
Cisco ITP 7507	Signaling Gateway	—	12.2(25)SW9	6.0.3
Cisco ITP 7600	Signaling Gateway	—	—	6.0
Cisco MSFC1	IP Core - Cat 6500	—	6.4-20	—
Cisco MSFC1	IP Core - Cat 6500	—	121-26.E4	—
Cisco Network Registrar	IP address management	—	6.1.2.3	6.0.3
Cisco PXM45/AXSM	Trunking Gateway	• MGCP 1.0 • TGCP	5.3(10.201)	—
Cisco RPM	Trunking Gateway	• MGCP 1.0 • TGCP	12.4(6) T6	—
Cisco SUP720-3BXL	IP Core - Cat 7606	—	12.2(17D)SXB4	—
Cisco uBR 10K	CMTS	CALEA SII	12.3(17b)BC3	6.0.3
Cisco uBR7246VXR	CMTS	PacketCable EM 08	12.3(17b)BC5	6.0 and 6.0.3
Cisco UC500 2811	SS7 Signaling Gateway	• SIGTRAN • M3UA/SUA	12.4(11)SW3	6.0
Cisco UC500 2811	• Integrated Services Router • SIP PBX	SIP	12.4-11XJ	—
Cisco VISM-PR	Trunking Gateway	• MGCP 1.0 • TGCP	3.53(30.200)	—
Cisco VXSM	Trunking Gateway	• MGCP 1.0 • TGCP	5.53(10.206)	—
Cognitronics Cx500/Cx4000	Announcements	—	3.0	6.0
IP Unity Harmony 6000	Announcements	MGCP 1.0	3.1.19	6.0.3
IP Unity Harmony 6000	VoiceMail	SIP RFC3261	3.1	6.0.3

Platform(s) Tested	Function(s) Tested	Protocol(s) Tested	Load(s) Tested	Last Verified in BTS 10200 Release
IP Unity Harmony 6000	Privacy Director	SIP RFC3261	3.1	6.0
IP Unity Harmony 6000	Media Server	MGCP 1.0	3.1	—
JSI CF	—	—	1.5 I01 Prototype v5.0	6.0
Linksys PAP2T	ATA	SIP	5.1.15a	6.0.3
Motorola SBV5220	MTA	NCS 1.0 IPSEC	2.16.1.3scm15	6.0
Netnumber	ENUM	—	Titan 5.2	—
Scientific Atlanta DPC2203	MTA	—	dpc2203-P10-14-v202r1 262-061128asCMCST	6.0
Scientific Atlanta Dpx2203	MTA	NCS 1.0 IPSEC	dpx2203-p10-11-v112r1 151-060803a	6.0
SS8 DDE	CALEA	—	3.1.1.40	6.0
SS8 SSDF	CALEA	—	4.0.0	6.0
Tektronix DQ R7	• Network Loop Back • Network Continuity	MGCP	7.10 Build 168	6.0
Thomson MTA	—	—	—	6.0

Operator Access

Operator access to BTS 10200 is available only by using secure shell (SSH) session to the EMS. The BTS 10200 supports outbound FTP to other systems. It does not support inbound FTP.

For security purposes, SSH access is limited to the use of defined management interfaces.

BTS 10200 installation and upgrade procedures require you to change default user names and passwords.

Bug Toolkit

To access Bug Toolkit, have an Internet connection, Web browser, and a cisco.com username and password.

To query defects and caveats, follow this procedure:

Step 1 Click here to log onto Bug Toolkit.

Step 2 Click **Launch Bug Toolkit**.

Step 3 For a specific caveat, enter the ID number in the “Search for bug ID” field.

To view all caveats, go to “Select Product Category”, and select “Voice and Unified Communications” from the menu.

Step 4 Select “Cisco BTS 10200 Softswitch” in the “Select Products” section.

Step 5 Select the **Software Version** such as 6.0, and so on.

Step 6 Select the **Version Type** based on

- Known Affected Version (software/version assumed to contain the bug),
- Fixed-In (Software version/release in which the bug has been fixed),
- Found-In (Software version/release in which the bug was first reported)

Step 7 Use keywords to search for a caveat title and description.

Step 8 Select **Advanced Options**, including Bug Severity level, Bug Status Group, and Release Note Enclosure options, Modified Date.

Step 9 Click **Search**.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, 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

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