Cisco BTS 10200 Softswitch Release Notes for Release 6.0.3 Maintenance Release

Revised on: August 10, 2011, OL-25516-01

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 6.0.3 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 6.0.3 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/6.0.3/BTS603_Mainpage.html

⚠️
Warning **Sun Explorer is installed as part of the Release 6.0.3 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 6.0.3:

Table 1   New Feature and Enhancements

New Features or Enhancements	Description
8XX Caching	This feature enhances the current 8XX call setup by using cache (a shared memory table) to store recent 8XX TCAP query responses received from the Service Control Point (SCP). This allows BTS 10200 to first check the cache for any subsequent 8XX calls to the same number. When a match is found in the cache, the translated number and the routing information received from the cache is used for downstream call processing, instead of sending a query again to the SCP for each call.
	This feature improves the processing of 8XX toll-free calling and optimizes the use of existing resources available to route the call. It also reduces the CPU overhead when traffic to a specific 8XX number increases.
Caller ID enhancement to support calling number from both PAID and FROM header.	Prior to 6.0.3 Release, the calling number and name were saved from either the P-Asserted-ID *or* the FROM header of an incoming SIP INVITE. Consequently, when routing a call to another switch connected by the SIP trunk, the same calling party number and name information were populated in the P-Asserted Identity and the FROM header of the outgoing INVITE.
	This feature allows BTS 10200 to save and map the calling numbers and names received in the FROM *and* the P-Asserted-ID of an incoming SIP INIVITE to the respective FROM and P-Asserted-ID of the outgoing INVITE request over a SIP trunk. Thus, this feature prevents information loss while sending out the INVITE on another SIP trunk.

Table 1   *New Feature and Enhancements*

New Features or Enhancements	Description
ENUM Query for n11 Services	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.
Gate-Delete State-Machine Enhancement	This feature enables BTS 10200 to address an interoperability issue with some Cable Modem Termination System (CMTS) vendor equipment. This interoperability issue results in a call failure, when a call originated by a Network-based Call Signaling (NCS) end-point is forwarded to a forwarding number during a CFNA call setup. Gates are created for each call segment of a CFNA call setup. The first gate is created when a subscriber initiates a call towards a CFNA subscriber's terminal. The second gate is created (for the call originator) when the call is forwarded to a forwarding number or a voicemail. Currently, the first gate is deleted immediately by BTS 10200 using the Gate-Delete message while forwarding the call. With this feature enhancement BTS 10200 does not delete the first gate immediately during a CFNA call setup; instead, it waits for a provisioned time period before deleting the gate. The time period can be set using the **GATE_CLOSE_TIMER** token in the **AGGR_PROFILE** table.
Raised alarm level of emergency endpoints (911) from INFO to MAJOR	This feature enables BTS 10200 to raise a MAJOR signaling alarm 182 when encountering: • transient errors (such as 5XX error for CRCX) on emergency end-points. • transient shared memory error and out-of-sequence messages received at Media Gateway Adapter (MGA). • errors when trunk-group is out-of-service for 911 (emergency) call-processing. This feature is controlled by a new **CA_CONFIG** token **TYPE=SPECIAL-ALARM-FOR-911-TRANS-ISSUES**.
Secondary Database Query for CNAM	This feature enables the BTS 10200 to perform a Transaction Capabilities Application Part (TCAP) query to a secondary (backup) database when the first query to the primary SCP database fails. This allows the calling subscriber's name to be displayed on the called party's terminal, when the primary database is unavailable, or when the calling subscriber's name is not found in the primary database.

Table 1   *New Feature and Enhancements*

New Features or Enhancements	Description
Secondary Database Query for LNP	This feature enhances the current LNP feature by allowing BTS 10200 to perform a TCAP query to a secondary (backup) database when the first query to the primary SCP database fails. The secondary query enables successful routing of the call, when the primary database is unavailable, timed-out, or when the BTS 10200 is unable to find the LRN in the primary database.
SIP Call-Info-Header Support	This feature enables the BTS 10200 to process an incoming SIP call for a Call Forward Busy (CFB) subscriber based on the **purpose** parameter of the Call-Info header field. When the **purpose** parameter is set to **answer_if_not_busy**, BTS 10200 Softswitch ignores any active CFB service assigned for the target subscriber. That is, the softswitch does not forward calls when the target subscriber is busy. Instead, it processes the call as if CFB is inactive at the subscriber's terminal. **Note** The BTS 10200 Softswitch processes the **purpose** parameter only when the value is **answer_if_not_busy**. All other values of purpose parameter are ignored.
SIP Header Tunneling Support	The Cisco BTS 10200 Softswitch SIP header tunneling feature enables the BTS 10200 to preserve up to five unknown SIP headers, and one unknown parameter received in each of the TO, FROM, VIA, REQ-URI, and CONTACT header of an incoming request, and tunnel these in the outgoing request. The BTS 10200 processes only the first five unknown headers received in a SIP invite. If more than five unknown headers are received, the BTS 10200 saves only the first five and ignores the rest. Additionally, the BTS 10200 saves only one unknown header-parameter or user-parameter received in the REQ-URI, VIA, FROM, TO, and CONTACT headers of a SIP request message.
SIP Media Stream Enhancement	This feature enables the BTS 10200 to modify the media stream received in the Session Description Protocol (SDP) answer generated by a terminating endpoint. This resolves any inter-operational issues arising whenever a terminating endpoint generates a non-compliant SDP answer. As per RFC 3264 section 6.1, the media mode of the stream in the SDP answer must match that of the offer. The SIP media stream enhancement addresses this requirement and allows the BTS 10200 to modify the SDP answer to make it compatible with the offer, and sends it on the SIP trunk to the endpoint that generated the offer.

Table 1   New Feature and Enhancements

New Features or Enhancements	Description
SIP OLI and CPC Parameter Support	This feature enables the BTS 10200 to process the CPC or OLI parameters received in the P-Asserted-ID (PAID) header or in the FROM header of a SIP invite message.
	The primary use for these parameters in BTS 10200 Softswitch is for interworking CPC and OLI information between SIP and ISUP.
	Before release 6.0.3, the BTS 10200 Softswitch supported this feature based on the IETF internet draft—*The Calling Party's Category tel URI Parameter, draft-**mahy**-iptel-cpc-02.txt*. Consequently, the BTS 10200 Softswitch supported sending or receiving of only **CPC** parameter in the PAID header of a SIP invite message.
	With the new feature implementation, based on the IETF draft—*draft-**patel**-dispatch-cpc-oli-parameter-03.txt*, the BTS 10200 Softswitch processes both **CPC** and/or **OLI** parameters received in the PAID or the FROM header of SIP invite message.
SIP P-Charge-Info Header Support	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)
	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.
SIP REFER Enhancement	This feature is an enhancement for the existing SIP Blind REFER for Call Transfer. The feature allows BTS 10200 to terminate the transferor at an early-call-state, and play a ring-back tone to the transferee. When the destination line is found to be busy, the BTS 10200 sends a busy tone to the transferee.
	The early-call-state release of the transferor can be provisioned in the BTS 10200 using the **BT_EARLY_RELEASE_TO_TRANSFEROR** token in the **softsw-tg-profile** table. When enabled, the BTS 10200 sends a BYE message to the transferor following a *202 Accepted NOTIFY* message

Table 1   New Feature and Enhancements

New Features or Enhancements	Description
SIP Trunk Group Routing Protocol (TGRP) Query Support	This feature enables the BTS 10200 to pass the egress trunk group information to a remote switch. The remote switch uses this information to route the call further into the network. The BTS 10200 performs a TGRP query for a called subscriber number on the ENUM server. • If the query results in a positive response containing the tgrp-ID, trunk-context, and domain parameters, the BTS 10200 routes the call to the remote switch based on the trunk-context and domain parameters. Additionally, the BTS 10200 sends the tgrp-ID and trunk-context parameters in the Req-URI of SIP INVITE message to the remote switch. Subsequently, the remote switch routes the call to the specified trunk based on tgrp-ID parameter. • If the query results in a negative response, the BTS 10200 Softswitch routes the call based on destination routing.
SIP UPDATE Support	This feature enhances the existing SIP UPDATE support on BTS 10200. The SIP UPDATE method is used by the user agent (UA) to modify a session, within an early dialog or a confirmed dialog without impacting the dialog state. Prior to release 6.0(3), the BTS 10200 supported SIP UPDATE in the forward direction. This meant that the originator of a call (caller) could send an UPDATE to modify the session characteristics, whereas the destination end (callee) could not modify the session characteristics as BTS 10200 was not processing it. In Release 6.0(3), the BTS 10200 supports UPDATE in the reverse direction by processing UPDATE requests received from a callee.

Table 1   *New Feature and Enhancements*

New Features or Enhancements	Description
Support for V6and V4 Interface of NENA i2 Architecture	This feature enables the support for the V6 and V4 interfaces as defined by the National Emergency Number Association's (NENA) Interim VoIP Architecture for Enhanced 911 Services (i2). This feature enables BTS 10200 to route emergency calls originating from subscriber endpoint to the appropriate PSAP on the basis of ESRN (as called number), and ESQK (as ANI). If the ESRN based routing fails, the BTS 10200 can re-route the call using the dialed emergency number, and the calling subscriber's ANI.
	The NENA standard for the i2 architecture recommends the support for interconnection between the VoIP network and the emergency services network to help route emergency calls between callers and PSAPs.
Support for optional O-SCAN request in automatic callback (AC) or automatic recall (AR)	This feature enhances the existing AC/AR feature. With this enhancement, the terminating BTS10200 supports a final optional Original Scan (O_SCAN) query received from an originating Stored Program Control Switching System (SPCS) after an IDLE notification for the subscriber was sent by the terminating BTS 10200. In 6.0.3 release, the BTS10200 sends an appropriate response for the optional O_SCAN query to the originating SPCS.
	Prior to 6.0.3 release, the BTS 10200 feature server ignored the optional O_SCAN query if it was received after an IDLE notification was sent. BTS 10200 would send an ERROR response to the originating SPCS in such cases.

Billing Enhancements

Table 2 provides details of the new fields in CDR:

Table 2   *New Fields in CDR*

Field Number	Common Name	Field Type	Field Size	Potential Values	Data Source	Field Description
264	NENA V6 Calling Party	String	64	DIGITS	Incoming SIP INVITE on NENA V4 interface	This field is populated from the FROM header in the V4 invite.
265	NENA V6 Called Party	String	64	DIGITS	Incoming SIP INVITE on NENA V4 interface	This field is populated from the TO header in the V4 invite.
266	NENA V4 ESQK	String	64	DIGITS	Incoming SIP INVITE on NENA V4 interface.	This field is populated from the P-Asserted-ID parameter in the V4 invite.

Table 2   *New Fields in CDR*

Field Number	Common Name	Field Type	Field Size	Potential Values	Data Source	Field Description
267	NENA V4 ESRN	String	64	DIGITS	Incoming SIP INVITE on NENA V4 interface.	This field is populated from the Req-URI in the V4 invite.
268	Incoming Trunk Context	String	64	Alphanumeric	Incoming SIP INVITE message with Req-URI containing the **trunk-context** user parameter.	Represents the trunk-context value that is received in incoming invite.
269	Outgoing Trunk Context	String	64	Alphanumeric	Outgoing SIP INVITE message with Req-URI containing **trunk-context** user parameter	Represents the trunk-context value that is sent in the outgoing invite, when TGRP routing takes place.

Table 3 provides details of the modified fields in CDR:

Table 3   *Modified Field in CDR*

Field Number	Common Name	Field Type	Field Size	Potential Values	Data Source	Field Description
49	Outgoing Trunk Number	Numeric		16 bit unsigned integer	Outgoing SIP INVITE message with Req-URI containing the **tgrp** user parameter.	Represents the tgrp value that is sent in the outgoing invite, when TGRP routing takes place.

Installation

Release 6.0.3 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/6.0.3/BTS603_Mainpage.html

Hardware Requirements

This section has the following topics:

- Host Hardware, page 9
- Ancillary Hardware, page 11

Host Hardware

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

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> **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/6.0.3/BTS603_Mainpage.html

Table 4 lists requirements for supported host hardware. The requirements listed in the table are for a new installation of Release 6.0.3:

Table 4   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 5 lists ancillary hardware required if you are using reference sale host hardware.

Table 5   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 6 lists the BTS 10200 software release types:

Table 6   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.	—

Note Cisco BTS 10200 Softswitch Release 06.00.03.V00 is a Maintenance Release.

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

Platform(s) Tested	Function(s) Tested	Protocol(s) Tested	Load(s) Tested	Last Verified in BTS 10200 Release
Camiant MultiMedia Service Controller	Policy Server	—	2.3	6.0.3
Cisco 243x	IAD	MGCP 1.0	12.4(11)T4	6.0.3
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

Platform(s) Tested	Function(s) Tested	Protocol(s) Tested	Load(s) Tested	Last Verified in BTS 10200 Release
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
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-v202r1262-061128asCMCST	6.0
Scientific Atlanta Dpx2203	MTA	NCS 1.0 IPSEC	dpx2203-p10-11-v112r1151-060803a	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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