Release Notes for Cisco cBR Series Converged Broadband Routers for Cisco IOS-XE Release 3.18S

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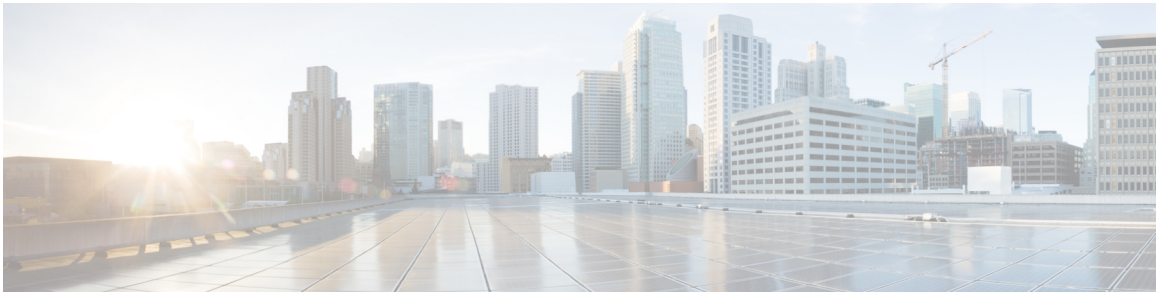
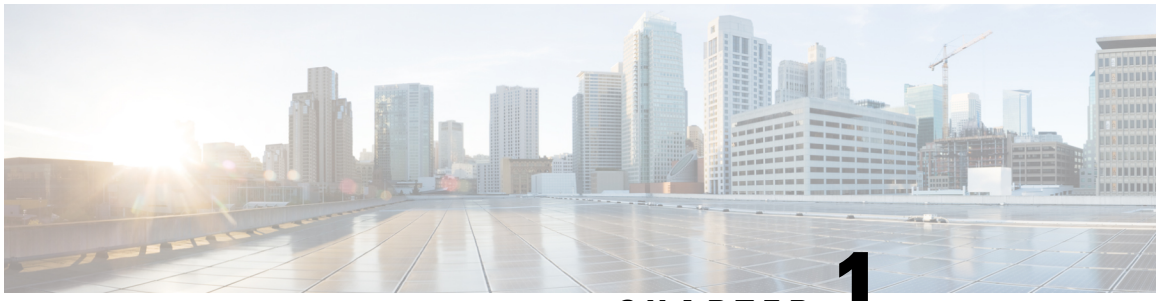


CONTENTS



CHAPTER 1

Introduction

This release notes contain information about downloading and installing Cisco IOS-XE Release 3S. It also provides new and changed information, hardware support, limitations and restrictions, and caveats for Cisco IOS-XE Release 3S.

We recommend that you view the field notices for this release to see if your software or hardware platforms are affected. If you have an account on Cisco.com, you can find field notices at http://www.cisco.com/en/US/customer/support/tsd_products_field_notice_summary.html .

If you do not have a Cisco.com login account, you can find field notices at http://www.cisco.com/en/US/support/tsd_products_field_notice_summary.html .

Note Cisco IOS-XE Release 3S is generally available for field deployment. However, we recommend that you validate and qualify Cisco IOS-XE Release 3S in a limited field trial with your specific network configuration requirements in order to ensure a smoother, faster, and successful field deployment.

This chapter includes the following sections:

System Requirements

These sections describe the system requirements for Cisco IOS-XE Release 3S:

Memory Requirements

This section describes the memory requirements for Cisco IOS-XE Release 3S.

The following table displays the memory recommendations for the Cisco cBR Series Converged Broadband Routers with Cisco IOS-XE Release 3S feature sets.

Table 1: Memory Recommendations for the Cisco cBR Series Converged Broadband Routers

Feature Set	Cisco cBR Route Processor	Software Image	RecommendedFlash Memory	RecommendedDRAM Memory	RunsFrom
CISCO IOS-XE universalk9	Cisco cBR8 (CBR) Processor	cbrsup-universalk9.03.15.00.S.155-2.S-std.SPA.bin	8G	48G	Bootflash:
CISCO IOS-XE CLC K9	Cisco cBR8 (CYLONS) Processor	cbrsup-universalk9.03.15.00. S.155-2.S-std.SPA.bin	8G	16G	Supervisor

Hardware Supported

For detailed information about the hardware supported in Cisco IOS-XE Release 3S, see:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/installation/guide/b_cbr_how_and_what_to_order.html.

Note The Cisco cBR chassis must house line cards with either Downstream DOCSIS 3.0 PHY modules or Downstream DOCSIS 3.1 PHY modules. Mixed configuration is not supported.

Determining the Software Version

To determine the version of the Cisco IOS-XE software running on your Cisco cBR Series Converged Broadband Routers, log in to the router and enter the **show version** EXEC command:

```
Router# show version
Cisco IOS XE Software, Version 03.15.00.S - Standard Support Release
Cisco IOS Software, cBR  Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version 15.5(2)S,
RELEASE SOFTWARE (fc3)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2015 by Cisco Systems, Inc.
Compiled Sun 22-Mar-15 03:32 by mcpre
Cisco IOS-XE software, Copyright (c) 2005-2015 by cisco Systems, Inc. All rights reserved.
 Certain components of Cisco IOS-XE software are licensed under the GNU General Public
License ("GPL") Version 2.0. The software code licensed under GPL Version 2.0 is free
software that comes with ABSOLUTELY NO WARRANTY. You can redistribute and/or modify such
GPL code under the terms of GPL Version 2.0. For more details, see the documentation or
"License Notice" file accompanying the IOS-XE software, or the applicable URL provided on
the flyer accompanying the IOS-XE software.
ROM: IOS-XE ROMMON
Tmaker uptime is 3 hours, 23 minutes
Uptime for this control processor is 3 hours, 26 minutes
System returned to ROM by reload
System restarted at 20:19:18 PST Wed Mar 25 2015
System image file is "bootflash:cbrsup-universalk9.03.15.00.S.155-2.S-std.SPA.bin"
Last reload reason: redundancy force-switchover
This product contains cryptographic features and is subject to United States and local
country laws governing import, export, transfer and use. Delivery of Cisco cryptographic
products does not imply third-party authority to import, export, distribute or use encryption.
 Importers, exporters, distributors and users are responsible for compliance with U.S. and
 local country laws. By using this product you agree to comply with applicable laws and
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regulations. If you are unable to comply with U.S. and local laws, return this product
immediately.
A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html
If you require further assistance please contact us by sending email to export@cisco.com.
cisco cBR1013 (CBR) processor (revision CBR) with 10483520K/6147K bytes of memory.
Processor board ID FXS181902A9
16 Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
50331648K bytes of physical memory.
7739391K bytes of eUSB flash at bootflash:.
97620247K bytes of SATA hard disk at harddisk:.
Configuration register is 0x1820
```

Microcode Software

This section describes microcode software that is supported for the Cisco cBR Series Converged Broadband Routers.

For more information on the upgrade procedures, see the Upgrade Guides.

Cisco IOS-XE Release 3.18.3aSP

There are no new microcode versions for Cisco IOS-XE Release 3.18.3aSP. Use the minimum required versions and upgrade methods for Cisco IOS-XE Release 3.18.2aSP described below.

Cisco IOS-XE Release 3.18.2aSP

Table 2: Downstream Module Firmware Version Supported in Cisco IOS-XE Release 3.18.2aSP

Component	Programmable Device	Existing Versions (In Field)	Minimum Required Version (With IOS-XE 3.18.2aSP)
Gemini-2 LC[1]	Apollo Version	44147 44141 4413D 44131 31030	44148

[1] CBR-D31-DS-MOD

Cisco IOS-XE Release 3.18.2aSP Upgrade Package:
cbrsup-rp-programmable-firmware.156-2.r.SP2-ext.01.SPA.pkg

Cisco IOS-XE Release 3.18.1aSP

Table 3: Downstream Module Firmware Versions Supported in Cisco IOS-XE Release 3.18.1aSP

Component	Programmable Device	Existing Versions (In Field)	Minimum Required Version(s) (With IOS-XE 3.18.1aSP)
CBR-CCAP-SUP-160G	CPLD version	16012711 15091511 14121111	16012711 or 15091511
CBR-CCAP-SUP-160G	Rommon version	15.5(3r)S 15.5(2r)S1 15.5(2r)S	15.5(3r)S
CBR-CCAP-LC-40G	Rommon version	2011.03.13 2011.03.12	2011.03.13
CBR-CCAP-LC-40G	PSOC 0 version	v4.6 v4.3	v4.6
CBR-CCAP-LC-40G	PSOC 1 version	v4.6 v4.3	v4.6
Gemini-1 LC[2]	MicroController Version	1000c 10008 10005 10006	1000e
Gemini-2 LC[3]	MicroController Version	30013 30010 2.000c 2.000a	30016
Gemini-2 LC[4]	Apollo Version	44141 4413D 44131 31030	44147

[2] CBR-D30-DS-MOD
[3] CBR-D31-DS-MOD
[4] CBR-D31-DS-MOD

Cisco IOS-XE Release 3.18.1aSP Upgrade Package:
cbrsup-rp-programmable-firmware.156-2.r.SP1-ext.01.SPA.pkg

Cisco IOS-XE Release 3.18.1SP

Table 4: Downstream Module Firmware Versions Supported in Cisco IOS-XE Release 3.18.1SP

Component	Programmable Device	Existing Versions (In Field)	Minimum Required Version(s) (With IOS-XE 3.18.1SP)
CBR-CCAP-SUP-160G	CPLD version	16012711 15091511 14121111	16012711 or 15091511
CBR-CCAP-SUP-160G	Rommon version	15.5(3r)S 15.5(2r)S1 15.5(2r)S	15.5(3r)S
CBR-CCAP-LC-40G	Rommon version	2011.03.13 2011.03.12	2011.03.13
CBR-CCAP-LC-40G	PSOC 0 version	v4.6 v4.3	v4.6
CBR-CCAP-LC-40G	PSOC 1 version	v4.6 v4.3	v4.6
Gemini-1 LC[5]	MicroController Version	1000c 10008 10005 10006	1000e
Gemini-2 LC[6]	MicroController Version	30013 30010 2.000c 2.000a	30016
Gemini-2 LC[7]	Apollo Version	44141 4413D 44131 31030	44147

[5] CBR-D30-DS-MOD
[6] CBR-D31-DS-MOD
[7] CBR-D31-DS-MOD

Cisco IOS-XE Release 3.18.1SP Upgrade Package:
cbrsup-rp-programmable-firmware.156-2.r.SP1-ext.01.SPA.pkg

Cisco IOS-XE Release 3.18.0SP

Starting from Cisco IOS-XE Release 3.18.0SP, Docsis 3.1 downstream module firmware can only be upgraded via firmware upgrade package using upgrade hw-programmable command. The table below lists the newer version number of Docsis 3.1 downstream module firmware in Cisco IOS-XE Release 3.18.0SP.

Table 5: Firmware Packages and Versions Supported in Cisco IOS-XE Release 3.18.0SP

Component	Programmable Device	Existing Versions (In Field)	New Version (With IOS-XE 3.18.0SP)	Upgrade Package
CBR-D31-DS-MOD	MicroController Image	3.13	3.13	cbrsup-rp-programmable-firmware.156-2.r.SP-ext.01.SPA
	DS PHY FPGA	4.413D	4.4141	

Cisco IOS-XE Release 3.18.1S

Starting from Cisco IOS-XE Release 3.18.1S, Docsis 3.0 and Docsis 3.1 downstream module firmware can only be upgraded via firmware upgrade package using upgrade hw-programmable command. The table below lists the newer version number of Docsis 3.1 downstream module firmware in Cisco IOS-XE Release 3.18.1S.

Table 6: Downstream Module Firmware Versions Supported in Cisco IOS-XE Release 3.18.1S

Component	Programmable Device	Existing Versions (In Field)	New Version (With IOS-XE 3.18.1S)	Upgrade Package
CBR-D31-DS-MOD	MicroController Image	3.10	3.13	cbrsup-rp-programmable-firmware.156-2.r.S1-ext.01.SPA.p
	DS PHY FPGA	4.4131	4.413D	

Cisco IOS-XE Release 3.18.0Sa

There are no new firmware changes in Cisco IOS-XE Release 3.18.0Sa.

Cisco IOS-XE Release 3.18.0S

There are no new firmware changes in Cisco IOS-XE Release 3.18.0S.

Cisco IOS-XE Release 3.17.1S

There are no new firmware changes in Cisco IOS-XE Release 3.17.1S.

Cisco IOS-XE Release 3.16.2S

There are no new firmware changes in Cisco IOS-XE Release 3.16.2S.

Cisco IOS-XE Release 3.17.0S

If you are upgrading the programmable devices listed in the table below, please download the firmware packages from the Cisco software download site. For Cisco IOS-XE Release 3.17.0S, microcode upgrade is optional. The firmware packages listed in the following table are backward compatible with the older image.

Table 7: Firmware Packages and Versions Supported in Cisco IOS-XE Release 3.17.0S

Programmable Device	Existing Versions (In Field)	New Version (With IOS-XE 3.17.0S)	Upgrade Method
ROMMON	15.5(2r)S1	15.5(3r)S	HW-Prog-Pkg: cbrsub-rp-hw-programmable-firmware.156-1.r.S1-std.01.SPA.pkg
Uboot	3.12	3.13	HW-Prog-Pkg: cbrsub-rp-hw-programmable-firmware.156-1.r.S1-std.02.SPA.pkg

Cisco IOS-XE Release 3.16.1S

When Cisco IOS-XE Release 3.16.1S first loads, it will auto-upgrade the Docsis 3.0 and Docsis 3.1 downstream module firmware to a newer version. The table below lists the newer version number of Docsis 3.0 and Docsis 3.1 downstream module firmware in Cisco IOS-XE Release 3.16.1S.

Table 8: Downstream Module Firmware Versions Supported in Cisco IOS-XE Release 3.16.1S

Component	Programmable Device	Existing Versions (In Field)	New Version (With IOS-XE 3.16.1S)
CBR-D30-DS-MOD	MicroController Image	1.8	1.C
	DS PHY FPGA	2F	2F
CBR-D31-DS-MOD	MicroController Image	2.A	2.C
	DS PHY FPGA	3.8	3.103

Cisco IOS-XE Release 3.16.0S

If you are upgrading the programmable devices listed in the table below, please download the firmware packages from the Cisco software download site.

Table 9: Firmware Packages and Versions Supported in Cisco IOS-XE Release 3.16.0S

Programmable Device	Existing Versions (In Field)	New Version (With IOS-XE 3.16.0S)	Upgrade Method
ROMMON	15.5(2r)S	15.5(2r)S1	HW-Prog-Pkg: cbrsup-rp-hw-programmable-firmware.155-3.r.S3-ext.01.SPA.pkg
Fan-Tray firmware	1.4	1.6	HW-Prog-Pkg: cbrsup-rp-hw-programmable-firmware.155-3.r.S3-ext.02.SPA.pkg
CLC CPLD (Daggits)	0x1C(v28)	0x21(v33)	HW-Prog-Pkg: cbrsup-rp-hw-programmable-firmware.155-3.r.S3-ext.03.SPA.pkg
CLC PSOC	4.3	4.6	HW-Prog-Pkg: cbrsup-rp-hw-programmable-firmware.155-3.r.S3-ext.04.SPA.pkg
SUP CPLD (Viper)	0x14121111	0x15091511	HW-Prog-Pkg: cbrsup-rp-hw-programmable-firmware.155-3.r.S3-ext.05.SPA.pkg

Cisco IOS-XE Release 3.15.0S

Table 10: Microcode Software Supported in Cisco IOS-XE Release 3S

Component	Version
ROMMON	15.5(2r)S
Supervisor CPLD	0x14121111
CLC bootloader	2011.03.12
CLC CPLD	0x1C (v28)
Supervisor PIC CPLD	0x14071504(v0.130)
RF-PIC Firmware	0x73E(v7.62)
Fan-Tray Firmware	v1.4
Supervisor DC CPLD	0x14072207
Supervisor CPLD SO	0x14091201
Supervisor CPLD SIO	0x14092901
Supervisor PSOC1	v4.0.9
Supervisor PSOC2	v4.0.8

Component	Version
Supervisor PSOC3	v4.1.0
Supervisor PSOC4	v4.0.6
Supervisor DC PSOC1	v4.0.8
Supervisor DC PSOC2	v4.0.5
Supervisor PIC PSOC1	v2.0.6
Supervisor PIC PSOC2	v2.0.6
CLC PSOC1	v4.2
CLC PSOC2	v4.2

Feature Support

Cisco IOS-XE software is packaged in feature sets that consist of software images that support specific platforms. The feature sets available for a specific platform depend on which Cisco IOS-XE software images are included in a release. Each feature set contains a specific set of Cisco IOS-XE features.

Caution Cisco IOS-XE images with strong encryption (including, but not limited to 168-bit [3DES] data encryption feature sets) are subject to U.S. government export controls and have limited distribution. Strong encryption images to be installed outside the United States are likely to require an export license. Customer orders may be denied or subject to delay because of U.S. government regulations. When applicable, the purchaser or user must obtain local import and use authorizations for all encryption strengths. Please contact your sales representative or distributor for more information, or send an e-mail to export@cisco.com.

New and Changed Information

The following sections list the new hardware and software features supported on the Cisco cBR Series Converged Broadband Routers in Cisco IOS-XE Release 3S:

New Firmware Features in Cisco IOS-XE Release 3.18.3aSP

There are no new firmware features in Cisco IOS-XE 3.18.3aSP.

New Firmware Features in Cisco IOS-XE Release 3.18.2aSP

There are no new firmware features in Cisco IOS-XE 3.18.2aSP.

New Firmware Features in Cisco IOS-XE Release 3.18.1aSP

There are no new firmware features in Cisco IOS-XE Release 3.18.1aSP.

New Firmware Features in Cisco IOS-XE Release 3.18.1SP

There are no new firmware features in Cisco IOS-XE Release 3.18.1SP.

New Firmware Features in Cisco IOS-XE Release 3.18.0SP

There are no new firmware features in Cisco IOS-XE Release 3.18.0SP

New Firmware Features in Cisco IOS-XE Release 3.18.1S

There are no new firmware features in Cisco IOS-XE Release 3.18.1S.

New Firmware Features in Cisco IOS-XE Release 3.18.0Sa

There are no new firmware features in Cisco IOS-XE Release 3.18.0Sa.

New Firmware Features in Cisco IOS-XE Release 3.18.0S

Upstream DOCSIS 3.1 PHY Module

The Upstream DOCSIS 3.1 PHY, a plug-and-play module, provides the hardware support for enabling DOCSIS 3.1 features in the Cisco cBR router.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/Cisco-cBR/index.html

New Firmware Features in Cisco IOS-XE Release 3.17 0S

- SSD (hard disk) access in ROMMON is supported.
- HA PLL chip on the newly shipped line card is supported.

New Hardware Features in Cisco IOS-XE Release 3.18.3aSP

There are no new hardware features in Cisco IOS-XE Release 3.18.3aSP.

New Hardware Features in Cisco IOS-XE Release 3.18.2aSP

There are no new hardware features in Cisco IOS-XE Release 3.18.2aSP.

New Hardware Features in Cisco IOS-XE Release 3.18.1aSP

There are no new hardware features in Cisco IOS-XE Release 3.18.1aSP.

New Hardware Features in Cisco IOS-XE Release 3.18.1SP

There are no new hardware features in Cisco IOS-XE Release 3.18.1SP.

New Hardware Features in Cisco IOS-XE Release 3.18.0SP

There are no new hardware features in Cisco IOS-XE Release 3.18.0SP.

New Hardware Features in Cisco IOS-XE Release 3.18.1S

There are no new hardware features in Cisco IOS-XE Release 3.18.1S.

New Hardware Features in Cisco IOS-XE Release 3.18.0Sa

There are no new hardware features in Cisco IOS-XE Release 3.18.0Sa.

New Hardware Features in Cisco IOS-XE Release 3.18.0S

Cisco cBR DOCSIS 3.1 Upstream PHY Module

Effective with Cisco IOS-XE Release 3.18.0S, the Cisco cBR router supports the Cisco Upstream D3.1 PHY module (PID: CBR-D31-US-MOD).

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/Cisco-cBR/index.html

New Hardware Features in Cisco IOS-XE Release 3.17.1S

There are no new hardware features in Cisco IOS-XE Release 3.17.1S.

New Hardware Features in Cisco IOS-XE Release 3.16.2S

There are no new hardware features in Cisco IOS-XE Release 3.16.2S.

New Hardware Features in Cisco IOS-XE Release 3.17 0S

Sup-60 Productization

Effective with Cisco IOS-XE Release 3.17.0S, CBR-CCAP-SUP-60G supports 8 cable line cards. The total traffic rate is limited to 60Gbps, the total number of downstream service flow is limited to 72268, and downstream unicast low-latency flow does not count against the limits.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/Cisco-cBR/index.html

Single Downstream PHY Module Line Card Configuration Support

The system sends warning message when Downstream PHY module version is inconsistent.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/cisco-cbr/index.html

New Hardware Features in Cisco IOS-XE Release 3.16.1S

There are no new hardware features in Cisco IOS-XE Release 3.16.1S.

New Hardware Features in Cisco IOS-XE Release 3.16.0S

CBR-CCAP-SUP-60G

The Supervisor card with 60 Gbps forwarding capacity (PID CBR-CCAP-SUP-60G) is introduced on the Cisco cBR-8 router. This Supervisor card supports a maximum of four interface cards, working in 3+1 protection mode, on the Cisco cBR-8 router.

Note The Cisco cBR-8 router does not support redundancy if different Supervisor cards are installed in the chassis. We recommend that you install the Supervisor cards with the same capacity in a Cisco cBR-8 router.

This Supervisor card supports a maximum of 72268 downstream unicast flows or 88268 downstream modular quality of service (MQoS) flows. The maximum number of downstream unicast and MQoS flows supported is 88268.

The output of the **show inventory** command was modified.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/installation/guide/b_cbr_overview.html

Downstream DOCSIS 3.1 PHY Module

The Downstream DOCSIS 3.1 PHY, a plug-and-play module, provides the hardware support for enabling DOCSIS 3.1 features in the Cisco cBR router.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/cisco-cbr/index.html

New Hardware Features in Cisco IOS-XE Release 3.15.1S

There are no new hardware features in Cisco IOS-XE Release 3.15.1S.

New Hardware Features in Cisco IOS-XE Release 3.15.0S

This is the first release of the Cisco cBR Series Converged Broadband Routers and its FRUs.

For more information about the new hardware feature, see:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/cisco-cbr/index.html

New Software Features in Cisco IOS-XE Release 3.18.3aSP

There are no new software features in Cisco IOS-XE Release 3.18.3aSP.

New Software Features in Cisco IOS-XE Release 3.18.2aSP

There are no new software features in Cisco IOS-XE Release 3.18.2aSP.

Note ISSU from Cisco IOS XE 3.18.0SP to Cisco IOS XE 3.18.2aSP with OFDM channels, might not recover channel operation after a linecard switchover. ISSU from Cisco IOS XE 3.18.1aSP to Cisco IOS XE 3.18.2aSP has no limitations.

New Software Features in Cisco IOS-XE Release 3.18.1aSP

There are no new software features in Cisco IOS-XE Release 3.18.1aSP.

New Software Features in Cisco IOS-XE Release 3.18.1SP

MAC Filtering

This feature enables/disables MAC address filter on the backhaul interface. It supports 32 unicast filter entries per interface.

For more information, see:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cmts_sec_and_cable_mon_features_cbr/mac_filtering.html

AES-128 for non-MTC DOCSIS3.0 Cable Modem

This feature allows DOCSIS3.0 cable modem working on non-MTC mode to use AES-128 as BPI encryption Algorithms. It also allows DOCSIS3.0 cable modem to use AES-128 as encryption algorithms when EAE is enabled.

For more information, see:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cmts_sec_and_cable_mon_features_cbr/cable_duplicate_map_address_reject.html

DOCSIS 3.1 Downstream OFDMA Guardband Enhancements

This feature allows user to configure the guard band of an OFDM channel.

For more information, see:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer2_docsis31/ofdm_channel_configuration.html

New Software Features in Cisco IOS-XE Release 3.18.0SP

DOCSIS 3.1 2000 Bytes Data PDUs

Cisco cBR-8 router supports 2000 bytes layer 2 MTU and 1982 bytes layer 3 MTU in Cisco IOS-XE 3.18.0SP release.

For more information about this feature, see the following URLs:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_layer2_layer3_vpn/l2vpn_support_on_cable.html#con_1056996

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer3_config/virtual_interface_bundling.html#con_1065039

DOCSIS 3.1 Adaptive CIR, Fair EIR (ACFE)

DOCSIS 3.1 introduces the following new modes for higher throughput and higher spectral efficiency while still allowing backward compatibility to DOCSIS 3.0:

- OFDM channel
- OFDM channel rate
- Interface bandwidth

The following commands were modified:

- **show interface {wideband-cable | modular-cable | integrated-cable}**

For more information about this feature, see the following URL:
http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cmts_quality_of_services/fairness_across_docsis_interfaces.html

DOCSIS 3.1 BPI Authorization Changes

A new security specification is introduced for DOCSIS 3.1. A new certificate public key infrastructure (PKI) is defined, that strengthens the security of cable modem authentication and secures software download features. The following features are supported:

- Support for 256-bit encrypted authentication key.
- Support for 2048-bit encrypted RSA public key.
- Certificates use RSA3 signature algorithm with a SHA-256 hash [FIPS 180-4] (vs D3.0 SHA-1).

DOCSIS 3.1 DS: Commanded Power for US SC-QAMs

Commanded Power for upstream SC-QAMs supports a new method during ranging, to dynamically set the transmit power level of a DOCSIS 3.1 cable modem. The following command displays the new DOCSIS 3.1 Commanded Power levels per upstream:

- **show cable modem**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer2_docsis31/docsis_31_commanded_power_for_upstream_sc_qams.html

DOCSIS 3.1 DS LCHA HA

Line Card High Availability (LCHA) for D3.1 DS features with LCHA feature parity to Cisco IOS-XE 3.18.0S Release has been introduced. There are dependencies on cable modem (CM) firmware performance, so some D3.1 cable modems may fall offline or come up in partial mode due to known CM issues. The Cisco cBR Converged Broadband Routers Series attempt to reset D3.1 CMs that are not w-online after linecard switchover.

DOCSIS 3.1 DS LCPR

Cable Line Card Process Restart (LCPR) support (both CLC IOSd and cdman) for D3.1 DS features with LCPR feature parity to Cisco IOS-XE 3.18.0S Release has been introduced.

DOCSIS 3.1 DS Profile Selection

DOCSIS 3.1 introduces the concept of downstream profiles for OFDM channels. A profile is a list of modulation orders that are defined for each of the subcarriers within an OFDM channel. The CMTS can define multiple profiles for use in an OFDM channel, where the profiles differ in the modulation orders assigned to each subcarrier. The CMTS can assign different profiles for different groups of CMs. To enable or configure profile selection feature, following commands were introduced or modified:

- **cable downstream ofdm-flow-to-profile**
- **cable downstream ofdm-prof-mgmt exempt-sc-pct**
- **cable downstream ofdm-prof-mgmt mer-margin-qdb**
- **cable downstream ofdm-prof-mgmt prof-dwngrd-auto**
- **cable downstream ofdm-prof-mgmt recommend-profile-age**
- **cable downstream ofdm-prof-mgmt rxmer-poll-interval**
- **cable downstream ofdm-prof-mgmt unfit-profile-age**
- **show controller integrated-cable**
- **show cable modem phy ofdm-profile**
- **show cable modem prof-mgmt**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer2_docsis31/docsis_31_downstream_profile_selection.html

For more information on commands, see the following URL:
http://www.cisco.com/c/en/us/td/docs/cable/cmts/cmd_ref/b_cmts_cable_cmd_ref.html

DOCSIS 3.1 DS SUP HA

Support for D3.1 DS features with SUP HA feature parity to Cisco IOS-XE 3.18.0S has been introduced.

DOCSIS 3.1 Interop with Intel Puma7 based CM

The cBR8 D3.1 DS features have gone through interoperability testing with both Broadcom 3390 based D3.1 CMs and Intel Puma7 based D3.1 CMs. Both are supported for D3.1 DS operation with Cisco cBR Converged Broadband Routers Series.

DOCSIS 3.1 OFDM Channel Licensing

The DOCSIS 3.1 license scheme provides support to identify the DOCSIS 3.1 channels and their widths. The DOCSIS 3.1 entitlement is DOCSIS 3.1 Downstream Channel License.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_sw_config_features/cisco_smart_licensing.html

DOCSIS 3.1 Path Selection

RCC template, RCC management, and path selection is enhanced to support OFDM downstream channels and OFDMA upstream channels. RCC/TCS decision process is enhanced to include OFDM and OFDMA channels. Path selection is integrate with the new simplified RCC encoding process and enables the assignment of downstream Profiles. The following commands are introduced:

- **show cable modem path-sel**
- **clear cable modem path-sel**
- **show cable mac-domain rcc simplified**

The following command is updated:

- **show cable mac-domain rcc**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cmts/cmd_ref/b_cmts_cable_cmd_ref.html

DOCSIS 3.1 Protocol Enable or Disable

This feature allows the user to enable and disable the DOCSIS 3.1 mode on a cable modem. By default, the DOCSIS 3.1 mode is enabled. If the user does not want to support the DOCSIS 3.1 cable modem, the DOCSIS 3.1 mode can be disabled on a MAC domain. Then the DOCSIS 3.1 cable modem will connect in DOCSIS 3.0 mode. The following command is introduced:

- **cable d31-mode**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cmts/cmd_ref/b_cmts_cable_cmd_ref.html

DOCSIS 3.1 QoS

DOCSIS 3.1 defines the framework for QoS The aggregation could be per subscriber or based on traffic type, for example; video or data. The following commands were modified:

- **show cable acfe interface**
- **show cable admission-control**
- **show interface wideband-cable**

For more information about this feature, see the following URL:
http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cmts_quality_of_services/fairness_across_docsis_interfaces.html

DOCSIS 3.1 SGAC

Effective from 3.18.0SP Release, for DOCSIS 3.1, if bonding group contains an OFDM channel, the bonding group's total bandwidth that can be reserved (its capacity), is calculated using the least efficient OFDM profile it can use.

Full Spectrum 108-1218 MHz Support

An OFDM channel can be configured within the frequency range of 108 - 1218 MHz.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer2_docsis31/ofdm_channel_configuration.html

IPv6 DQoS Lite

IPv6 DQoSLite is a modem centric solution without notion of gates, to validate and deliver residential voice services over IPv6 to reclaim IPv4 address space.

For more information about this feature, see the following URL:
http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_pktcbl_pktcblmm/packetcable_and_packetcable_multimedia.html

Lawful Intercept- Overlapping Taps and Redundant MDs

The Cisco cBR Series Converged Broadband Routers supports replicating Lawful Intercept (LI) packets to multiple Mediation Devices (MDs). To use this feature, multiple identical taps are configured.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cmts_sec_and_cable_mon_features_cbr/lawful_intercept_architecture.html

MTPS Pass-Through

Switched digital video (SDV) sessions are typically multicast STPS remap type. The Cisco CBR-8 router also supports multicast MTPS pass-through and data-piping session types.

OFDM Channel Support for All Ports

DOCSIS 3.1 introduces modes for higher throughput and higher spectral efficiency while still allowing backward compatibility to DOCSIS 3.0. OFDM Channel support includes 1 OFDM channel per port with channel bandwidth from 24 MHz to 192 MHz. The following commands are introduced:

- **cable downstream ofdm-modulation-profile**
- **assign**
- **description (config-ofdm-mod-prof)**
- **start-frequency**
- **subcarrier-spacing**
- **width**
- **show cable ofdm-modulation-profiles**
- **cable downstream ofdm-chan-profile**
- **cyclic-prefix**
- **description (config-ofdm-chan-prof)**
- **interleaver-depth**
- **pilot-scaling**
- **profile-control**
- **profile-data**
- **profile-ncp**
- **roll-off**

- **show cable ofdm-chan-profiles**
- **max-ofdm-spectrum**
- **ofdm-freq-excl-band**
- **ofdm channel-profile**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer2_docsis31/ofdm_channel_configuration.html

QAM Replication

Multicast sessions can be replicated from one port to other ports on the same line card and/ or across line cards.

Show Patch Info in One CLI

Effective from 3.18.0SP Release, the show platform software patch info command is used to determine the detailed patch information for all the FRUs. The following command was modified:

- **show platform software patch info**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cmts/cmd_ref/b_cmts_cable_cmd_ref.html

Switched Digital Video

The Switched Digital Video (SDV) services are supported for the MPEG video subsystem on the Cisco cBR-8 router. It consists of Multicast IP Packet based video streams that are managed as "Video Sessions". The Cisco cBR-8 router supports both Any Source Multicast (ASM) and Source Specific Multicast (SSM) sessions.

The following commands were introduced or modified:

- multicast-uplink interface-name
- **multicast-label** label
- **session** session-name
- **rf-channel** number
- **show cable video session logical-edge-device**

For more information, see the Switched Digital Video feature guide at:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_video_features/switched_digital_video.html

UCD TLV for Device Type (Ranging Hold Off)

The cable modem steering feature helps to redirect or steer cable modems to multiple CMTS routers using downstream frequency overrides. A configurable string is used to bond the cable modem to the proper CMTS. Once the bonding is done, the CMTS can move the cable modem within itself for load balancing.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer2_docsis30/b_cbr_layer2_docsis_chapter_010010.html

Video ISSU Improvement

The ISSU process performance is improved, time consumed is much less, and the secondary linecard is reloaded for upgrade at first.

New Software Features in Cisco IOS-XE Release 3.18.1S

There are no new software features in Cisco IOS-XE Release 3.18.1S.

New Software Features in Cisco IOS-XE Release 3.18.0Sa

Using VRF for Video Session Traffic

Effective with Cisco IOS-XE release 3.18.0Sa, the **virtual-edge-input** CLI command now supports using a VRF for video session traffic.

For more information, see *Video Virtual Carrier Group and Virtual Edge Input* section at:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/virtual_carrier_group_and_virtual_edge_input_configuration.html

New Software Features in Cisco IOS-XE Release 3.18.0S

Video Services Provisioning Model

The Cisco cBR-8 router offers the next generation CCAP platform supporting converged CMTS and EQAM functionality. The redesigned video data model supports the creation of virtual edge devices within the platform. This data model simplifies the provisioning procedure and enables seamless migration to virtualized video service management in the future. The video provisioning constructs of the new data model provide hardware abstraction and divides services into virtual edge devices for easier provisioning at scale. It also provides isolation between the service applications at the software layer. A bind-operation connects these constructs to the physical resources.

For more information, see the *Video Services Provisioning Model* guide at:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/video_services_provisioning_model.html

Video Virtual Carrier Group and Virtual Edge Input

A Virtual Carrier Group (VCG) is a collection of virtual QAM carriers (RF channels) provisioned on a Logical Edge Device (LED). A Virtual Edge Input (VEI) is a customer assigned IP address that is used, from the Head End, as a destination IP address for unicast video IP packets.

The following commands were introduced:

- **virtual-carrier-group**
- **virtual-edge-input-ip**
- **Encrypt**
- **service-type**
- **rf-channel**
- **show cable video virtual-carrier-group**
- **logical-edge-device**
- **protocol**

- **virtual-edge-input-ip**
- **vcg**
- **active**
- **show cable video logical-edge-device**

For more information about this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/virtual_carrier_group_and_virtual_edge_input_configuration.html

Advanced Video MPEG Features

Cisco cBR Series Converged Broadband Router supports these video features for the MPTS pass-through video sessions: Reserved Output PID Range, PID Filtering, and Program Filtering.

The following commands were introduced:

- **reserve-pid-range**
- **filter pid vcg**
- **ip**
- **pid**
- **filter program vcg**
- **program**
- **show cable video session logical-edge-id**

For more information about this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/advanced_video_mpeg_features.html

Important Notes

For more information about the important notes for Management IP Interface and Virtual Routing Interface, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/important_notes.html

PME Video On Demand

The VoD Privacy Mode Encryption system integrates the encrypted VoD content within a ARRIS digital cable headend. The Cisco CBR-8 and CEM provides encryption for the content received from the VoD system.

The following commands were introduced:

- **protocol table-based**
- **show cable video session logical-edge-device id**
- **show controllers integrated-cable**
- **show interfaces tenGigabitEthernet**

For more information on this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_video_features/table_based_video_and_vpme_encryption.html

Video QAM Replication

The Video QAM replication feature allows video carriers to be replicated to support service group alignment between DOCSIS and Video service groups. This feature is internal to the cBR-8 and replaces the need for external splitters, allowing content to be replicated across multiple ports on a line card.

The following commands were introduced:

- **controller Integrated-Cable**
- **type**
- **scrambler**
- **encrypt**
- **show cable video encryption linecard**

For more information on this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_video_features/replication.html

PowerKEY Video On Demand

PowerKEY Video On Demand is the video content that is chosen by the subscriber and streamed specifically to the subscriber. The content is encrypted using PowerKEY conditional access through a video session that is created on the Cisco cBR-8 specifically for each request.

The following commands were introduced:

- **show cable video encryption linecard**
- **virtual carrier group**
- **virtual edge input**
- **show cable video virtual-carrier-group name**
- **service-distribution-group**
- **onid**
- **logical-edge-device**
- **show cable video logical-edge-device name**
- **show cable video logical-edge-device id**
- **show cable video gqi connections**
- **show cable video session logical-edge-device id**
- **show cable video session logical-edge-device name**
- **show cable video output-port**
- **show cable video scg logical-edge-device id**
- **show cable video scg id**

For more information on this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_video_features/powerkey_vod.html

Video Encryption

The Cisco cBR-8 provides encryption for Video On Demand (VoD) sessions to address security concerns. The encrypted sessions can be created on any QAM carriers on a linecard.

The following commands were introduced:

- **encryption**

- **ca-system**
- **scrambler**
- **encrypt**
- **show cable video encryption linecard**
- **pme vodsid**
- **pme cem**
- **pme mgmt-ip**
- **show cable video encryption pme status**
- **show cable video encryption pme version**
- **show cable video encryption pme linecard**

For more information on this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/encryption.html

Table Based Configuration

The Table-based video session configurations can be performed for a range or an individual session under each Quadrature Amplitude Modulation (QAM) carrier that is being assigned to a table-based Logical Edge Device (LED).

The following commands were introduced:

- **table based**
- **session**
- **start-udp-port**
- **num-sessions-per-qam**
- **processing-type**
- **start-program**
- **bitrate**
- **jitter**
- **show cable video logical-edge-device**
- **show cable video vei-bundle all**

For more information on this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/table_based_configuration.html

PacketCable and PacketCable Multimedia Multicast

The PacketCable and PacketCable Multimedia feature provides support for multicast transmission.

The following command is implemented on Cisco cBR Series Converged Broadband Routers:

- **cable multicast source**

For more information, see the cable multicast source command at the following URL:
http://www.cisco.com/c/en/us/td/docs/cable/cmts/cmd_ref/b_cmts_cable_cmd_ref/b_cmts_cable_cmd_ref_chapter_0101.html#wp1998501503

Physical to Virtual Binding

The Virtual Carrier Group (VCG) is bound to a Service Distribution Group (SDG) using a bind command (bind-vcg). This connects the virtual carriers to the physical ports listed in the SDG.

The following command was introduced:

- **bind-vcg**

For more information about this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/physical_to_virtual_binding.html

Online Offline Diagnostics

Online Offline Diagnostics (OOD) Field Diagnostics feature allows the customer to test and verify hardware-related issues on a line card deployed in the field. The test results can be used to verify whether a line card is fault and troubleshoot network issues.

The following commands were introduced:

- **request platform hardware diagnostic load**
- **request platform hardware diagnostic unload**
- **show platform hardware diagnostic status**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cisco_cmts_networkmgmt_trblshting_cbr/online_offline_diagnostics.html

Voice over IPv6

Effective with Cisco IOS-XE release 3.18.0S, Voice over IPv6 is supported on Cisco cBR-8 routers. PacketCable Multimedia needs to be enabled before using this feature.

The following commands were supported:

- **show cable modem ipv6**
- **show packetcable gate ipv6**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer3_config/ipv6_on_cable.html

Cable Line Card Process Restart on Crash

The SNMP Background Synchronization features provides periodic background synchronization of DOCSIS MIB data from line card to Supervisor in order to improve the performance of the SNMP polling of these MIB tables.

The following commands were introduced:

- show platform software ios socket statistics
- show cable bgsync sync-info cable

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cisco_cmts_networkmgmt_trblshting_cbr/snmp_background_synchronization.html

BSoD VLAN Redundancy

BSod VLAN redundancy feature is introduced to configure a backup Network System Interface (NSI) interface and a default primary interface for dot1q L2VPN. When the primary NSI interface goes down, the backup NSI interface takes over and the traffic flows through the second interface.

The following commands were introduced:

- **cable l2-vpn dot1q-nsi-redundancy force-switchover**
- **show cable l2-vpn dot1q-nsi-redundancy**

For more information about this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_layer2_layer3_vpn/l2vpn_support_on_cable.html

To configure dot1q L2VPN backup WAN interface for TLS, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cmts/feature/tls-cmts.html#wp1075949

L2VPN Over Port-Channel

The Layer 2 VPN (L2VPN) over port-channel feature supports IEEE 802.1Q (dot1q) L2VPN WAN interface port-channel. Using this feature, you can configure the dot1q L2VPN traffic to pass through port-channel uplink.

The following commands were introduced:

- **cable l2-vpn-service xconnect nsi dot1q interface port-channel**
- **cable dot1q-vc-map port-channel**

For more information, see the L2VPN Over Port-Channel chapter at the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_layer2_layer3_vpn.html

Energy Management

Data-over-Cable Service Interface Specifications (DOCSIS) cable modems (CM) and CMTS support a low power energy mode referred to as the Energy Management (EM) 1x1 mode. During idle times, when the data rate demand of a user is met by the available capacity on a single upstream and downstream channel pair to which it is assigned, the CM switches to the Energy Management 1x1 mode. When the CM requires a higher data rate than that can be reliably provided on the single channel pair, the CMTS instructs the CM to return to the larger transmit and receive channel set.

The following commands were introduced:

- **cable reduction-mode energy-management enable**
- **cable reduction-mode energy-management dynamic-channel-percent**
- **cable reduction-mode energy-management process-queue-size**
- **cable reduction-mode energy-management ranging-init-technique**
- **show cable modem reduction-mode energy-management-param**
- **show cable modem reduction-mode energy-management-mode**
- **show cable modem reduction-mode energy-management-status**

For more information, see the Energy Management Mode chapter at the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer2_docsis30.html

Show Command to display SF Counts

Displays system level service flow and downstream classifier summary and detailed information per line card basis.

The following commands were introduced:

- **show cable service-flow summary**
- **show cable service-flow summary detail**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cmts/cmd_ref/b_cmts_cable_cmd_ref/b_cmts_cable_cmd_ref_chapter_01111.html

Service Distribution Group

The Service Distribution Group (SDG) is a collection of one or more RF ports and defines the physical slot/bay/port to be used in a video service.

The following commands were introduced:

- **service-distribution-group**
- **show cable video service-distribution-group all**
- **psi-interval**
- **onid**

For more information about this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/service_distribution_group.html

Video QAM Carriers

For video provisioning, the carriers must be of type “video” in the controller integrated-cable configuration.

The following commands were introduced:

- **rf-channel**
- **type**
- **start-frequency**
- **rf-output**
- **power-adjust**
- **qam-profile**

For more information about this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/video_qam_carriers.html

Management IP Interface

The management interface is used for the video control plane messages, such as session creation and deletion, between the LED and the external Edge Resource Manager (ERM) server.

The following commands were introduced:

- **interface VirtualPortGroup**
- **show run interface VirtualPortGroup**
- **mgmt-interface VirtualPortGroup**
- **show run | in mgmt-intf**
- **show interfaces VirtualPortGroup**
- **show ip interface brief | in VirtualPortGroup**
- **show ip route | in**
- **sh run | begin logical-edge-device test**
- **show arp | in VirtualPortGroup**

For more information about this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/management_ip_interface.html

Logical Edge Devices

A Logical Edge Device (LED) is a virtual edge device within the cBR-8 and can be provisioned for static or dynamic sessions.

The following commands were introduced:

- **logical-edge-device**
- **virtual-edge-input input-port-number**
- **vcg**
- **keepalive retry interval**
- **reset interval**
- **show cable video logical-edge-device id**

For more information about this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/logical_edge_devices.html

Global Video Configuration

For provisioning video services you can perform some global configurations. These configurations have some default values. If you do not choose to change those, the default values are used. The following sections describe the procedures for global configurations.

The following commands were introduced:

- **default-onid**
- **default-psi-interval**
- **timeout init-session**
- **timeout idle-session**
- **timeout off-session**

For more information about this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/global_video_configuration.html

D6 Discovery Protocol

The D6 discovery protocol is part of the Comcast Next Generation on Demand (NGOD) specification. This protocol helps in advertising the video QAM carrier information like frequency, modulation mode, annex, and edge input for the video traffic such as IP address, group name, maximum bandwidth, and so on, to an Edge Resource Manager (ERM). The D6 discovery protocol also sends unique structured names (topological location information) for each edge input or carrier output. From these structured names, and input and RF port numbers, the ERM can infer the topological network location of both the QAM streaming input port (IP) and RF output port (MPEG).

For more information about this feature, see the following URL:

https://wwwcisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_video_features/d6_discovery_protocol.html

Cisco Smart Licensing for Video

The Cisco Smart Licensing for Video on the Cisco cBR router leverages existing Cisco cBR Smart Licensing framework that includes Call Home and SLA capabilities. For more information, see the *Cisco Smart Licensing for Video* guide at:
http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_config_prov_construct/cisco_smart_licensing_for_video.html

New Software Features in Cisco IOS-XE Release 3.17.1S

There are no new software features in Cisco IOS-XE Release 3.17.1S

New Software Features in Cisco IOS-XE Release 3.16.2S

There are no new software features in Cisco IOS-XE Release 3.16.2S.

New Software Features in Cisco IOS-XE Release 3.17.0S

MPLS QoS via TLV for non-L2VPN

The MPLS QoS via TLV for non-L2VPN Service Flow feature allows to mark TC bits for MPLS L3VPN imposition packets and classify downstream packets based on TC bits of MPLS disposition packets, using vendor-specific TLVs.

The following commands were introduced:

- **show platform hardware qfp active feature docsis mpls tc-precfy db**
- **show platform hardware qfp active cable us-mpls-tc**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_layer2_layer3_vpn/mpls_qos_tlv_non_l2vpn_service_flow.html

Service Flow Priority in Downstream Extended Header

The service flow priority in downstream extended header feature is supported on Cisco cBR-8 Converged Broadband Router. The purpose of the feature is to be able to reflect the traffic priority of downstream packets into the DOCSIS extended header.

The following commands were introduced or modified:

- **cable service flow priority**
- **show cable modem**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer2_docsis/docsis_3_downstream_bonding.html

Configuring UCSB Required Attribute

If the CM configuration file has TLV 43.9.3 (CM upstream required attribute mask) configured and bonded bit is set to 1, then the modem comes UB-online on a MAC domain basis. If the CM configuration file has no TLV 43.9.3 or the bonded bit is not set to 1, then the modem comes online with a single upstream channel on a MAC domain basis.

You can configure the required CM attribute on UCSB using the following command:

- **cable mtc-mode required-attribute**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cmts/config_guide/b_cmts_ds_us_features/b_cmts_ds_us_features_chapter_010010.html

IPDR CM-STATUS-2008

The IPDR CM-STATUS 2008 version is introduced for forward compatibility to support old IPDR collectors. In the IPDR CM-STATUS 2008 version, the CmtsRcsId and CmtsTcsId objects are 16 bits in length whereas in the CM-STATUS version both these objects are 32 bits in length. The CmtsRcsId object in the CM-STATUS-2008 version returns the lower 16 bits of value from the CM-STATUS version. But, the CmtsTcsId object returns the same value for both the CM-STATUS-2008 and CM-STATUS version since the value does not exceed 16 bits in both the schemas.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cisco_cmts_networkmgmt_trblshting_cbr.html

Service Group Profile Based Configuration

To simplify and speed up the process of configuring the physical and logical interfaces required to deploy the Cisco cBR router quickly, a service group (SG) profile based approach is adopted.

To configure the interfaces and quickly operationalize the Cisco cBR router, a set of common profiles are created and configured into global service group profiles. These global service group profiles may be applied to fiber node interfaces along with a mapping of the service group interfaces to the physical interfaces.

The following commands were introduced or modified:

- **cable profile service-group**
- **cable fiber-node**
- **Show cable fiber-node**
- **Show cable modem fiber-node mac-domain**
- **Show cable mac-domain fiber-node**
- **Show cable profile**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer2_docsis30.html

Subscriber Traffic Management

The Subscriber Traffic Management (STM) feature allows a service provider to configure a maximum bandwidth threshold over a fixed period for a specific service class (or quality of service [QoS] profile). The subscribers who exceed this configured threshold can then be identified and allocated reduced QoS. STM works as a low-CPU alternative to Network-Based Application Recognition (NBAR) and access control lists (ACLs). You can configure the STM feature on the Cisco CMTS routers using the following command:

- **cable qos enforce-rule**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cmts/config_guide/b_cmts_Quality_Service_Features.html

New Software Features in Cisco IOS-XE Release 3.16.1S

There are no new Software features in Cisco IOS-XE Release 3.16.1S.

New Software Features in Cisco IOS-XE Release 3.16.0S

Battery Backup 1x1 Mode

Cisco CMTS supports downgrading the channel bonding for cable modems and media terminal adapters (MTAs) in battery backup mode. When this feature is enabled and the cable modem enters the battery backup mode, channel bonding is downgraded to one downstream and one upstream channels (battery backup 1x1 mode). This feature reduces the power usage when the cable modem is running on battery backup. When the cable modem returns to the AC power mode, the channel bonding is returned to its original configuration.

The following commands were introduced:

- **cable reduction-mode mta-battery**
- **show cable modem reduction-mode mta-battery**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer2_docsis/downgrading_ch_bonding_battery_mode.html

Downstream and Upstream JIB Partial Reset

The fatal interrupts received from the hardware components on the line cards result in reset and reload of the line cards, which triggers switchover and partial system downtime. The Downstream and Upstream JIB Partial Reset feature significantly reduces this recovery time.

N+1 Line Card Redundancy

The line cards support high availability with redundancy schemes. Line card redundancy can help limit customer premises equipment (CPE) downtime by enabling robust automatic switchover and recovery in the event that there is a localized system failure. The Cisco cBR-8 router supports N+1 redundancy scheme for line cards. A single RF Protect PIC can be configured as a secondary card for multiple RF Through PICs (primary cards).

The following commands were introduced or modified:

- **class**
- **description**
- **linecard-group**
- **member slot**
- **redundancy**
- **redundancy linecard-group switchover from slot**
- **revertive**
- **show lcha logging level**
- **show lcha rfsw**
- **show redundancy linecard**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_sw_config_features/line_card_redundancy.html

Cable IOSd Restart

When an upgrade is done to a package or sub-package, the RF line card must be rebooted. The time taken for the package upgrade on N number of active RF line cards, the total number of reboots would be 2xN. This is time-consuming and may affect services on the rebooting RF line cards. The Cable IOSd Restart feature or Line Card Process Restart (LCPR) supports the restart of specific processes without service disruption and simplified package upgrade without LCHA based reboot.

The following command was introduced:

- **request platform software process restart**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_sw_config_features/consolidated_packages_and_subpackages_management.html

US Channel Scaling from 64 to 96 channels

Effective with Cisco IOS-XE Release 3.16.0S, 96 upstream channels are supported on each line card in the Cisco cBR-8 routers.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer2_docsis/docsis_interface_fn_configuration.html

RP only ISSU

Effective with Cisco IOS-XE Release 3.16.0S, Cisco cBR-8 Routers support In-Service Software Upgrades (ISSU) for redundant platforms. The ISSU process allows software to be updated or otherwise modified while packet forwarding continues with minimal interruption.

The following commands were introduced:

- **request platform software package install rp**
- **request platform software package install node**
- **request platform software package expand**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cmts_ha_features_cbr/cisco_ios_xe_in_service_software_upgrade_process.html

Service Group Admission Control

Service Group Admission Control (SGAC) is a mechanism that gracefully manages service group based admission requests when one or more resources are not available to process and support the incoming service request.

The following commands were introduced:

- **admission-control application-type**
- **cable application-type**
- **show cable admission-control**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cmts_quality_of_services/Service_Group_Admission_Control.html

New Software Features in Cisco IOS-XE Release 3.15.1S

There are no new Software features in Cisco IOS-XE Release 3.15.1S.

New Software Features in Cisco IOS-XE Release 3.15.0S

The following table lists the features supported on Cisco cBR Series Converged Broadband Routers in Cisco IOS-XE Release 3.15.0S.

Table 11: Supported Features

Cisco IOS-XE Release	Supported Features
3.15.0S	• 16x4 CM support • 4293 IP-MIB (IPv6 only) and RFC 4292 IP-FORWARD-MIB (IPv6 only) • ACL IPV4 for cBR • ACL IPV6 for cBR • Adaptive CIR and Fair EIR • Add Channel Interface for physical RF channel • Advanced Mode DSG with MIB Support • Alarm Filtering Support in the Cisco Entity Alarm MIB • Allow Dynamic SF For L2VPN Provisioned Modems • ARP Filter for CBR • ATOM on CBR • Automatic Initial Ranging Insertion Interval for CBR8 • Basic cBR-8 Sup HA • Bundle Flood for cBR (Infrastructure) • Cable Duplicate-MAC Reject • Cable Lease Query IPV6 and IPV4 for cBR • cable logging layer2events • cable modem remote-query enhancements • Cable Source Verify and Source Address Verification IPV6 and IPV6 for cBR • CBR8 DTI Client • CBR8 Platform (Infrastructure) • cbr8 ROMMON field Upgrade • Cisco Express Forwarding - SNMP CEF-MIB Support • Cisco Extension to the Interfaces MIB (CISCO-IF-EXTENTION-MIB) • Cisco Memory Pool Mib • Cisco SYSLOG Mib • CISCO-BULK-FILE-MIB enhancements • CISCO-CABLE-AVAILABILITY-MIB • CISCO-CABLE-SPECTRUM-MIB for CBR • CISCO-CABLE-WIDEBAND-MIB • CISCO-CDP-MIB

Cisco IOS-XE Release	Supported Features
3.15.0S	• CISCO-CONFIG-COPY-MIB: FTP and RCP support • CISCO-CONFIG-COPY-MIB: Secure Copy Support • CISCO-DOCS-EXT-MIB for CBR • CISCO-DOCS-REMOTE-QUERY-MIB for CBR • CISCO-ENHANCED-MEMPOOL-MIB • CISCO-ENTITY-EXT-MIB test for cBR • CISCO-ENTITY-FRU-CONTROL-MIB enhancement for • CISCO-ENTITY-SENSOR-MIB Enhancement • CISCO-IP-URPF-MIB Support • CISCO-PROCESS-MIB on CBR Line Cards • CISCO-QINQ-VLAN-MIB • CISCO-RF-MIB (REVISION • CLAB-TOPO-MIB • CM VRF Steering • CMTS static CPE • Configurable DFO Retry Count • Control Point Discovery • D3.0 Load Balancing • Database Library for Converged Broadband Router cBR (Infrastructure) • Default DOCSIS 1.0 ToS Overwrite • DHCPv6 Relay - MPLS VPN Support • Differential DHCP GiAddr Assignment per device type • DOCS-CABLE-DEVICE-MIB for CBR8 • DOCS-DIAG-MIB for CBR • DOCS-DRF-MIB For CBR • DOCS-IF3-MIB for CBR • DOCS-IFEXT-MIB for CBR8 • DOCS-IF-MIB for CBR • DOCSIS 1.0 CM Concatonation Disable • DOCSIS 2.0 • DOCSIS 2.0 Load Balancing • DOCSIS 3.0 BPI+ policy enforcement • DOCSIS 3.0 CM Registration (Infrastructure) • DOCSIS 3.0 Downstream Bonding Protocol

Cisco IOS-XE Release	Supported Features
3.15.0S	• DOCSIS 3.0 Downstream Bonding Protocol • DOCSIS 3.0 Downstream Channel Bonding • DOCSIS Admission Control • DOCSIS Baseline Privacy • DOCSIS Classifiers • DOCSIS DSX Support (Infrastructure) • DOCSIS High Power USCB CM Capability • DOCSIS MAP Replication • DOCSIS Packet Filtering • DOCSIS Service Class Feature • DOCS-MCAST-MIB • DOCS-MCAST-MIB • DOCS-QOS3-MIB for CBR • DOCS-SUBMGT3-MIB • DOCS-SUBMGT-MIB • Downstream Channel Management Module • Dynamic Bandwidth Sharing • Dynamic Bonding Change • Dynamic Cable Helper Address Selection • Dynamic Channel Change • Dynamic Message Intergity Check (DMIC) • EIGRP MIB • Embedded Event Manager (EEM) 4.0 • Entity MIB for cBR • Environment Monitoring Daemon for cBR8 (Infrastructure) • EtherChannel Support on CBR8 • Event MIB and Expression MIB Enhancements • Extended Message Intergity Check (EMIC) • Facility-Alarm Command • FileType support in CISCO-FLASH-MIB • FN-SG(fibre node and SG management) • Fully supported L3-mobility solution for CBR • Generic Routing Encapsulation (GRE) • GRE IPv6 Tunnels • High Speed Data QOS for cBR

Cisco IOS-XE Release	Supported Features
3.15.0S	• HotIce CLI • IGMP MIB Support Enhancements for SNMP • Ingress noise cancellation for CBR8 • Input MQC on cable interfaces • Inter-area MPLS TE Tunnel Support On CMTS • Interfaces MIB: SNMP context based access • IPDR for CBR8 • IPSLA for CBR • IP-TUNNEL-MIB • IPv6 Device Class Identification • IPv6 eRouter Support • IPv6 Policy-Based Routing • IPv6 Prefix Delegation Support on CMTS • IPv6 QoS: (Quality of Service) • IPv6 SISF (Internet Protocol Version 6) • IPv6/IPv4/Dual stack CPE for cBR • IPv6: 6PE & 6VPE • L2VPN PW redundancy on CMTS • Map Advance for CBR8 • MD(Mac-Domain interface func) • Modular Ranging (Infrastructure) • MPLS P2P L2VPN support over DOCSIS, on cBR-8 • MPLS VPLS support over DOCSIS, on cBR • Multicast on CBR • Multicast VPN and DOCSIS 3.0 Multicast QoS support • Netflow on CBR8 • NTP MIB • OIR for Cable Line cards on cBR8 • Onboard Failure Logging • OSPF MIB Support of RFC 1850 and Latest Extensions • OSPFv3 MIB • Packetcable Multimedia for cbr • PacketCable Support on cBR • Per Downstream Static Multicast • PING MIB

Cisco IOS-XE Release	Supported Features
3.15.0S	• Policy Based Routing • PROCESS-MIB for CBR • Punt-Path Rate Limiting • RCC Template • SAMIS Inactive service flow, and Channel Utilization Interval CLI • SAMIS Source Address Management • Secure Boot Support • Security Features For CBR8 • Service Class Relay Agent Option • SII - Service Independent Intercept • SII Routed CPE Support • Smart Call Home for CBR • SMART license for cBR • Smart Licensing PRE-HA • SNMP Notification Logging • SNMP support for virtual interface for CBR8 • SNMPv2C • SNMPv3 Community MIB Support • Source Specific Multicast (SSM) • Sub Packaging • Subinterfaces for CBR8 • Subscriber management for cBR • TCP MIB for RFC4022 support • TLV63 Support • Upstream Buffer Control • Upstream Channel Bonding • Upstream drop classifier • Upstream Peak Rate • US WFQ • VDOC scaling and advanced feature support • VDOC: Robustness, Scalability & Debugability • Voice MGPI support • Voice support over D3.0 MTA • Voltage table support for CISCO-ENVMON-MIB • Wideband Modem Resiliency

Modified Software Features in Cisco IOS-XE Release 3.18.3aSP

There are no modified software features in Cisco IOS-XE Release 3.18.3aSP.

Modified Software Features in Cisco IOS-XE Release 3.18.2aSP

There are no modified software features in Cisco IOS-XE Release 3.18.2aSP.

Modified Software Features in Cisco IOS-XE Release 3.18.1aSP

There are no modified software features in Cisco IOS-XE Release 3.18.1aSP.

Modified Software Features in Cisco IOS-XE Release 3.18.1SP

DOCSIS 3.1 Downstream OFDM Graceful Profile Assignment

This feature dynamically adjusts downstream data profile for each cable modem.

For more information, see:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer2_docsis31/docsis_31_downstream_profile_selection.html

Usage-Based Billing

This feature enables IPDR to automatically generate sflogs during a line card switchover or a line card process restart.

For more information, see Usage-Based Billing (SAMIS) guide at:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cisco_cmts_networkmgmt_trblshting_cbr/usage_based_billing_samis.html

show cable modem summary scn

The feature enables the user to get the details of the total number of users on each node using the **show cable modem summary** command on the Cisco cBR-8 router.

For more information, see the Cisco CMTS Cable Command Reference:

http://www.cisco.com/c/en/us/td/docs/cable/cmts/cmd_ref/b_cmts_cable_cmd_ref/b_cmts_cable_cmd_ref_chapter_01111.html

show cable modem service-flow

The feature enables the user to get more details of the active cable filter group for the cable modem using the **show cable modem service-flow verbose** command on the Cisco cBR-8 router.

For more information, see the Cisco CMTS Cable Command Reference:

http://www.cisco.com/c/en/us/td/docs/cable/cmts/cmd_ref/b_cmts_cable_cmd_ref/b_cmts_cable_cmd_ref_chapter_01111.html

Enhanced Cable modem provisioning

The following commands were introduced for enhancing cable modem provisioning:

- **clear cable modem device-class**
- **show cable modem wideband**
- **show cable modem docsis device-class**
- **show cable modem wideband**

Modified Software Features in Cisco IOS-XE Release 3.18.0SP

There are no modified software features in Cisco IOS-XE Release 3.18.0SP.

Modified Software Features in Cisco IOS-XE Release 3.18.1S

There are no modified software features in Cisco IOS-XE Release 3.18.1S.

Modified Software Features in Cisco IOS-XE Release 3.18.0Sa

There are no modified software features in Cisco IOS-XE Release 3.18.0Sa.

Modified Software Features in Cisco IOS-XE Release 3.18.0S

16 US per MAC Domain

Starting from Cisco IOS-XE 3.18.0S release, maximum of 16 upstream channels can be configured for each MAC Domain, which are divided into two groups:

- Group 1: upstream channel 0-7
- Group 2: upstream channel 8-15

An upstream bonding-group should include all the upstream channels either from Group 1 or Group 2 only.

For more information about this feature, see the following URL:

https://www.cisco.com/c/en/us/td/docs/cable/cmts/cmd_ref/b_cmts_cable_cmd_ref/b_cmts_cable_cmd_ref_chapter_01001.html#wp2533370910

SNMP Cache Engine Enhancement

Cisco IOS-XE Release 3.18.0S introduces SNMP multiple buffer which can improve the SNMP performance under multiple SNMP sessions.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cisco_cmts_networkmgmt_trblshting_cbr/snmp_engine_enhancement.html

Configurable Burst mode MER

The configurable data-burst mode feature provides support to loop all the upstream bonding modems for global time interval.

The following command is modified on Cisco cBR Series Converged Broadband Routers:

- **cable upstream resiliency**

For more information about this feature, see the Configuring Cable Upstream Resiliency section at the following URL:
http://www.cisco.com/c/en/us/td/docs/cable/cmts/config_guide/b_cmts_ds_us_features/b_cmts_ds_us_features_chapter_010010.html#task_1182573

Three Step Dynamic Modulation

The criteria for switching modulation profiles is modified to determine whether it should switch from the primary modulation to the secondary modulation profile or to the tertiary modulation profile.

For more information about this feature, see the Spectrum Management and Advanced Spectrum Management for the Cisco CMTS chapter at the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cmts/config_guide/b_cmts_ds_us_features/b_cmts_ds_us_features_chapter_01111.html

Modified Software Features in Cisco IOS-XE Release 3.17.1S

There are no modified software features in Cisco IOS-XE Release 3.17.1S

Modified Software Features in Cisco IOS-XE Release 3.16.2S

There are no modified software features in Cisco IOS-XE Release 3.16.2S.

Modified Software Features in Cisco IOS-XE Release 3.17.0S

Smart Licensing Enforcement

If the Cisco products stop communicating with the Cisco Cloud License Service for 90 days, the cable interfaces in the Cisco products will be locked, which means you can no longer enable/disable the cable interfaces.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_sw_config_features/cisco_smart_licensing.html

Adaptive CIR, Fair EIR

When multiple bonding groups sharing the RF-channel bandwidth and the current bonding group's guaranteed bandwidth is insufficient, On-demand CIR Acquisition feature can “borrow” neighbor bonding group's non-reserved guaranteed bandwidth for current bonding group's CIR. Fairness Across DOCSIS Interfaces feature use the weight value of the aggregated active flow count, that is EIR demand, to periodically re-balance the reservable bandwidth. So that the service flows with the same weight in different bonding groups will have roughly the same throughput.

The following commands were modified:

- **show cable acfe summary**
- **show controllers integrated-cable acfe cluster**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cmts_quality_of_services/fairness_across_docsis_interfaces.html

ISSU with N+1

Cisco cBR-8 Routers support the In-Service Software Upgrades (ISSU) for redundant platforms. The ISSS process allows software to be updated or otherwise modified while packet forwarding continues with the benefit of LCHA. ISSU supports two different software upgrade modes: Consolidated package mode and Subpackages mode.

The following commands were modified:

- **request platform software package install rp**
- **request platform software package install node**
- **request platform software package expand**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cmts_ha_features_cbr/cisco_ios_xe_in_service_software_upgrade_process.html

Upstream Bonding Support for D-PON

Upstream bonding support for D-PON is enabled on a MAC domain basis on the Cisco cBR Series Converged Broadband Routers. By default, upstream bonding support for D-PON is disabled. In addition, the USCB can support a maximum of 4 US channels in RFOG MAC domain in the following combination:

- US0
- US0, US1
- US0, US1, US2
- US0, US1, US2, US3

You can configure upstream bonding support for D-PON using the following command:

- **cable upstream dpon**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cmts/config_guide/b_cisco_cmts_scg/b_cisco_cmts_scg_chapter_011000.html

Dynamic Downstream DOCSIS 3.0 Load Balancing

The existing load balancing (LB) feature is enhanced to cope with the increase in the number of downstream and upstream channels by multi service operators (MSO) and wider deployment of 16-channel, 24-channel and multiple downstream channel cable modems (CMs). The enhancements include:

- Utilization based dynamic downstream LB for DOCSIS 3.0
- Support for DOCSIS 3.0 LB statistics
- Enable or disable DOCSIS 3.0 LB feature

The following commands were introduced:

- **cable load-balance docsis30-enable dynamic downstream**
- **cable load-balance docsis20-enable**
- **cable load-balance docsis30-enable static**
- **show cable load-balance docsis-group rfch-util**
- **show cable load-balance docsis-group load wideband**
- **show cable load-balance docsis-group modem-list wideband**
- **show cable load-balance docsis-group statistics wideband**
- **show cable load-balance docsis-group target wideband**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_layer2_docsis/docsis_load_balancing_movement.html

Priority Queues

All low latency flows on a DOCSIS downstream are aggregated to the single priority queue.

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cmts_quality_of_services/docsis_wfq_scheduler.html

Flexible Bandwidth Allocation

To address the issue of restricted bandwidth allocation for different application types, admission control can be applied for both normal priority and emergency voice flows. This is done by extending the threshold and assigning a group of application types in a fiber node. Each downstream service flow continues to be categorized to a single application type. However, the one-to-one mapping between an application type and a threshold no longer exists. Each configured threshold and its associated group of application types can thus be treated as a constraint. A service flow categorized to a certain application type must pass all the constraints associated with that application type.

The following command was modified:

- **admission-control application-type**

For more information, see the *Service Group Admission Control* feature guide at:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cmts_quality_of_services/Service_Group_Admission_Control.html

Cable Line Card Upstream Scheduler Process Restart

The Cable Line Card process restart feature eliminates service disruption, loss of modem configuration data, and time consumption in rebooting the line cards and other components.

For more information, see the *Consolidated Packages and SubPackages Management* feature guide at:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_basic_sw_config_features/consolidated_packages_and_subpackages_management.html

Modified Software Features in Cisco IOS-XE Release 3.16.1S

There are no modified Software features in Cisco IOS-XE Release 3.16.1S.

Modified Software Features in Cisco IOS-XE Release 3.16.0S

Downstream DOCSIS 3.1 PHY Module Upgrade

The Downstream DOCSIS 3.1 PHY module on the RF line card may be upgraded from downstream DOCSIS 3.0 module to downstream DOCSIS 3.1 module. Alternatively, the installed RF line card in the Cisco cBR chassis may be replaced with another RF line card that has the downstream DOCSIS 3.1 modules already installed. The upgrade is required to provide DOCSIS 3.1 readiness to the Cisco cBR router. This hardware upgrade requires that the RF line card, on which the downstream PHY module was upgraded, be reloaded using the following command:

- **hw-module slot reload**

For more information about this feature, see the following URL:

http://www.cisco.com/c/en/us/td/doc/cable/cbr/Cisco-cBR/index.html

MIBs

To locate and download MIBs for selected platforms, Cisco IOS-XE releases, and feature sets, use Cisco MIB Locator found at the following URL:

http://tools.cisco.com/ITDIT/MIBS/servlet/index

To access Cisco MIB Locator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check verifies that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password is e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions found at this URL:

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

New and Changed MIB Information in Cisco IOS-XE Release 3.18.3aSP

There are no new and changed MIB information in Cisco IOS-XE Release 3.18.3aSP

New and Changed MIB Information in Cisco IOS-XE Release 3.18.2aSP

There are no new or changed MIB information in Cisco IOS-XE Release 3.18.2aSP.

New and Changed MIB Information in Cisco IOS-XE Release 3.18.1aSP

There are no new or changed MIB information in Cisco IOS-XE Release 3.18.1aSP.

New and Changed MIB Information in Cisco IOS-XE Release 3.18.1SP

There are no new or changed MIB information in Cisco IOS-XE Release 3.18.1SP.

New and Changed MIB Information in Cisco IOS-XE Release 3.18.0SP

The following MIB was added in Cisco IOS-XE Release 3.18.0SP:

- DOCS-IF31-MIB

New and Changed MIB Information in Cisco IOS-XE Release 3.18.1S

There are no new and changed MIB information in Cisco IOS-XE Release 3.18.1S.

New and Changed MIB Information in Cisco IOS-XE Release 3.18.0Sa

There are no new and changed MIB information in Cisco IOS-XE Release 3.18.0Sa.

New and Changed MIB Information in Cisco IOS-XE Release 3.18.0S

The following MIBs were added in Cisco IOS-XE Release 3.18.0S:

- SCTE-HMS-MPEG-MIB
- SCTE-HMS-QAM-MIB

New and Changed MIB Information in Cisco IOS-XE Release 3.17.1S

There are no new and changed MIB information in Cisco IOS-XE Release 3.17.1S.

New and Changed MIB Information in Cisco IOS-XE Release 3.16.2S

There are no new and changed MIB information in Cisco IOS-XE Release 3.16.2S.

New and Changed MIB Information in Cisco IOS-XE Release 3.17.0S

The following MIBs were changed in Cisco IOS-XE Release 3.17.0S:

- get the whole table-MIB
- get each entry-MIB
- CISCO-CABLE-QOS-MONITOR-MIB
- DOSCIS-QOS-MIB

New and Changed MIB Information in Cisco IOS-XE Release 3.16.0S

The following MIB was changed in Cisco IOS-XE Release 3.16.0S:

- Entity-MIB

Important Notes for Cisco IOS-XE Release 3S

Important Notes for Cisco IOS-XE Release 3.18.0SP

- Load Balancing is not supported on DOCSIS 3.1 cable modems.
- It is recommended to use only technique zero to move cable modem from one MAC domain to the other. Avoid using DCC to move cable modem with non-zero ranging technique within a MAC-domain.

Important Notes for Cisco IOS-XE Release 3.18.0S

- Effective with Cisco IOS-XE Release 3.18.0S, a warning message is displayed when you configure a value greater than the maximum value specified by the DRFI in the **base-channel-power** *value* command.
- Effective with Cisco IOS-XE Release 3.18.0S, the **ARP-filter drops** field is also displayed as output for the **show plat hard qfp active infra punt summary** command.

Important Notes for Cisco IOS-XE Release 3.16.0S

- Effective with Cisco IOS-XE Release 3.16.0S, do not configure the **logging event link-status** command until the system is in the stable state.

Important Notes for Cisco IOS-XE Release 3.15.0S

- Effective with Cisco IOS-XE Release 3.15.0S, **cable l2-vpn xconnect backup force-switchover** command is modified as **xconnect backup force-switchover**.
- Effective with Cisco IOS-XE Release 3.15.0S, to turn *fragment-threshold* to default value (2,000 bytes), use **no** form of the **cable upstream** *n* **fragment-force [fragment-threshold [number-of-fragments]]** command.
- Effective with Cisco IOS-XE Release 3,15.0S, for **cable service flow activity-timeout** command, the default timeout length for a DOCSIS 1.0+ cable service flow is 0 seconds.
- Effective with Cisco IOS-XE Release 3.15.0S, the **show interface cable { slot /subslot /cable-interface-index } modem** command displays the number of **Active Modems** and **Total active devices** also**.**
- Effective with Cisco IOS-XE Release 3.15.0S, the s**how cable modem vendor** command does not display **Timing Offset** column.
- Effective with Cisco IOS-XE Release 3.15.0S, the **show cable load-balance docsis-group** command does not display the **Flows** column (number of service flows currently active on the cable interface).

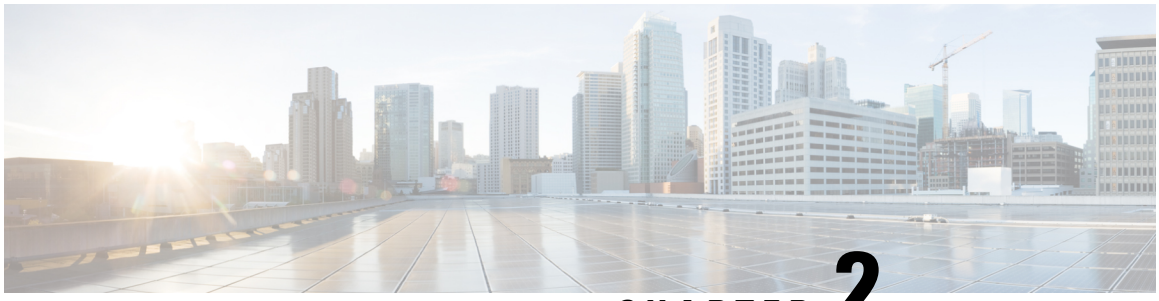
Cisco IOS-XE Release 3S Image Upgrade Best Practice Manual of Procedure

See the Upgrading the Cisco cBR Series Converged Broadband Routers for Cisco IOS XE Release 3.18SP guide.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see What's New in Cisco Product Documentation .

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the What's New in Cisco Product Documentation RSS feed . The RSS feeds are a free service.



CHAPTER 2

Caveat List

This chapter describes open severity 1 and 2 caveats and select severity 3 caveats:

- The "Open Caveats" sections list open caveats that apply to the current release and may apply to previous releases. A caveat that is open for a prior release and is still unresolved applies to all future releases until it is resolved.

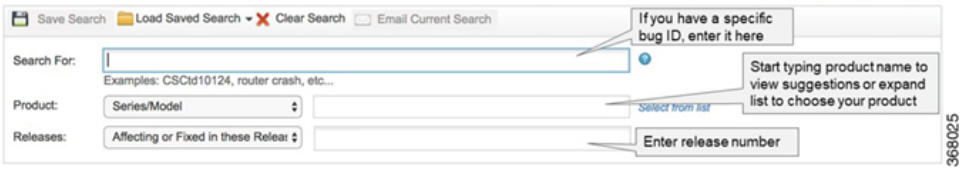
The bug IDs are sorted alphanumerically.

Note The Caveats section includes the bug ID and a short description of the bug. For details on the symptoms, conditions, and workaround for a specific caveat you must use the Bug Search Tool.

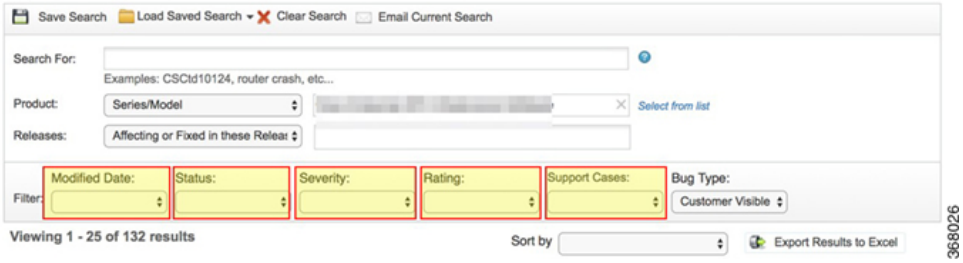
Cisco Bug Search

Use the Cisco Bug Search Tool to access open and resolved bugs for a release.

The tool allows you to search for a specific bug ID, or for all bugs specific to a product and a release.



You can filter the search results by last modified date, bug status (open, resolved), severity, rating, and support cases.



Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see What's New in Cisco Product Documentation.

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the What's New in Cisco Product Documentation RSS feed. The RSS feeds are a free service.

Important Software Upgrade

Problem	Condition	Solution
CSCux46368- Modems offline on CLC after CDMINFRA CDM_PT_FPA_TEST SANITY TEST FAILED	A Cisco cBR-8 router running one of the following releases: • Cisco IOS-XE Release 3.16.1S / Cisco IOS Release 15.5(3)S1 • Cisco IOS-XE Release 3.17.0S / Cisco IOS Release 15.6(1)S	Upgrade to one of the following releases: • Cisco IOS-XE Release 3.16.2S / Cisco IOS Release 15.5(3)S2 • Cisco IOS-XE Release 3.17.1S / Cisco IOS Release 15.6(1)S1 • Cisco IOS-XE Release 3.18.0S / Cisco IOS Release 15.6(2)S and later releases If the problem persists, perform the workaround provided at: https://tools.cisco.com/bugsearch/bug/CSCux46368/

Open Caveats - Cisco IOS-XE Release 3.18.3bSP

Caveat ID Number	Description
CSCva18706	cBR-8: show cable calls skips Cable0/0/0
CSCvb85260	CM reset does not clear tag after config is modified
CSCvd19728	EM modem offline and DBG doesn't free after SUP switch over from Standby to Active card.
CSCvd29978	Many Tracebacks of Duplicated DSID detected.
CSCvb97854	CBR-4-BADTXOFFSET: Bad timing offset 20548 detected for cable modem
CSCvd94426	cBR8 CDM_RT crashed @ ubr_ump_rtt_handle_dev_event after shut the mac-domain
CSCvd25745	CGD association is incorrect after default MD & LCSW
CSCux28031	CNR decreased a lot after sent traffic
CSCva77731	D31: OFDM down with width as 148Mhz with user picked PLC
CSCva48237	D31: OFDM wideband status down if OFDM channel width x(ex: 103-Mhz)
CSCvb68603	DS-JIB Non-Critical [PHY0_XFI01:High-Pri:xfi1 lost block lock tdiff
CSCva52480	Incorrect DS License consumed count after SUP SO
CSCvb98095	Shut/no shut Controller followed by shut/no shut ofdm causes OFDM to be down in scm wideband rcs
CSCvc66320	Threshold configuration under upstream controller is partially duplicated.

Caveat ID Number	Description
CSCvb50464	IPv6 echo request packets go into l3 inject and get skipped for address resolution
CSCvd28724	03.18.00a.S - Wideband interfaces not added in RCC list
CSCvb54886	cdxCmtsMtcCmTotal uses incorrect TCS id/ cdxCmtsUscbSfPri not accounting single channel CMs
CSCuv30942	CM offline after A/C power up, if use cross-controller RBG enter 1x1 battery mode
CSCvb32272	DOCS-LOADBAL3-MIB showing wrong value for D2.0 modems
CSCva25857	docsIf31CmtsCmRegStatusDsProfileIdList value become empty after LCHA
CSCvc71104	Primary channel MDD is not transmitted under rare condition
CSCut58615	Ranging Status showing STA when the modem is offline
CSCvb03115	ubr_ucm_get_registered_card() Err and traceback
CSCvc06297	Patch upgrade with LCHA method didn't support rollback
CSCva94951	Cable modem IPv6 address out-of-sync between SUP and CLC
CSCuv25680	SUP crashed @ ubr_subdb_display_subscriber_db
CSCve73353	"hw-module slot r1 start" does not work.
CSCvc88451	CBR-LC-8D31-16U31 linecard crashed due to corrupted pointer to Packet buffer,memory corruption
CSCvf27415	cBR8 "show harddisk: all:" command output incomplete/cut-off before displaying all files
CSCvd02176	CmtsMdIfIndex field not match with CmtsMdIfName after LCSO
CSCuz98369	Incorrect "Power Not Enough" alarm
CSCvc93861	New active LC was reset after LC revert back 1 minute later
CSCva39199	no msg after LC crash due to several continous IOS/IOSDB restart
CSCva32978	Secondary LC version incorrect after doing ISSU rollback
CSCvd10399	ServiceFlowChSet field in STOP record of US SF changed after clc-iosd restart or lcso.
CSCvc10140	show platform diag not display Power-Supply version
CSCuz83612	standby SUP's protection LC's OPF stay in drain mode after remove LCRED
CSCva37561	TenGigabit ports under SUP association is missing in EntityAliasmib.
CSCvf33535	PSIT:Session create configs with vei_bundle getting removed on reloading cbr-8 with inactive LED

Caveat ID Number	Description
CSCvf06562	Input version mismatch occurs during source switch

Resolved Caveats—Cisco IOS-XE Release 3.18.3bSP

Caveat ID Number	Description
CSCub50530	OSPF session is taking ~20mins to come up on SVI
CSCve75818	ASR1k crashes due to SNMP polling
CSCvg07169	D6 Update attribute Total Bandwidth = 37901kbps is incorrect.
CSCvg01774	OSPF SSPF: when seg area is disabled and enabled, mapping server EPL entries not re-generated.

Open Caveats—Cisco IOS-XE Release 3.18.3aSP

Caveat ID Number	Description
CSCva18706	cBR-8: show cable calls skips Cable0/0/0
CSCvb85260	CM reset does not clear tag after config is modified
CSCvd19728	EM modem offline and DBG doesn't free after SUP switch over from Standby to Active card.
CSCvd29978	Many Tracebacks of Duplicated DSID detected.
CSCvb97854	CBR-4-BADTXOFFSET: Bad timing offset 20548 detected for cable modem
CSCvf51151	cbr8 - LC reload upon SUP failover due to "card is not fully ready"
CSCvd94426	cBR8 CDM_RT crashed @ ubr_ump_rtt_handle_dev_event after shut the mac-domain
CSCvd25745	CGD association is incorrect after default MD & LCSW
CSCux28031	CNR decreased a lot after sent traffic
CSCva77731	D31: OFDM down with width as 148Mhz with user picked PLC
CSCva48237	D31: OFDM wideband status down if OFDM channel width x(ex: 103-Mhz)
CSCvb68603	DS-JIB Non-Critical [PHY0_XFI01:High-Pri:xfi1 lost block lock tdiff
CSCva52480	Incorrect DS License consumed count after SUP SO
CSCvb98095	Shut/no shut Controller followed by shut/no shut ofdm causes OFDM to be down in scm wideband rcs

Caveat ID Number	Description
CSCvc66320	Threshold configuration under upstream controller is partially duplicated.
CSCvb50464	IPv6 echo request packets go into l3 inject and get skipped for address resolution
CSCvd28724	03.18.00a.S - Wideband interfaces not added in RCC list
CSCvb54886	cdxCmtsMtcCmTotal uses incorrect TCS id/ cdxCmtsUscbSfPri not accounting single channel CMs
CSCuv30942	CM offline after A/C power up, if use cross-controller RBG enter 1x1 battery mode
CSCvb32272	DOCS-LOADBAL3-MIB showing wrong value for D2.0 modems
CSCva25857	docsIf31CmtsCmRegStatusDsProfileIdList value become empty after LCHA
CSCvc71104	Primary channel MDD is not transmitted under rare condition
CSCut58615	Ranging Status showing STA when the modem is offline
CSCvb03115	ubr_ucm_get_registered_card() Err and traceback
CSCvc06297	Patch upgrade with LCHA method didn't support rollback
CSCva94951	Cable modem IPv6 address out-of-sync between SUP and CLC
CSCuv25680	SUP crashed @ ubr_subdb_display_subscriber_db
CSCve73353	"hw-module slot r1 start" does not work.
CSCvc88451	CBR-LC-8D31-16U31 linecard crashed due to corrupted pointer to Packet buffer,memory corruption
CSCvf27415	cBR8 "show harddisk: all:" command output incomplete/cut-off before displaying all files
CSCvd02176	CmtsMdIfIndex field not match with CmtsMdIfName after LCSO
CSCuz98369	Incorrect "Power Not Enough" alarm
CSCvc93861	New active LC was reset after LC revert back 1 minute later
CSCva39199	no msg after LC crash due to several continous IOS/IOSDB restart
CSCva32978	Secondary LC version incorrect after doing ISSU rollback
CSCvd10399	ServiceFlowChSet field in STOP record of US SF changed after clc-iosd restart or lcso.
CSCvc10140	show platform diag not display Power-Supply version
CSCuz83612	standby SUP's protection LC's OPF stay in drain mode after remove LCRED
CSCva37561	TenGigabit ports under SUP association is missing in EntityAliasmib.

Caveat ID Number	Description
CSCve00370	Multicast Source-Switch skipping some Active Sources
CSCvf33535	PSIT:Session create configs with vei_bundle getting removed on reloading cbr-8 with inactive LED
CSCvf40730	cBR-8 line card reloads in sleep system call
CSCvf06562	Input version mismatch occurs during source switch

Resolved Caveats—Cisco IOS-XE Release 3.18.3aSP

Caveat ID Number	Description
CSCve17659	CLC reset @ cmts_lb_cm_us_chans_in_group when shut the US channel
CSCve54739	when LB trigger DFO on D1.0 QoS provision modems, the target is "/0"
CSCva84690	"Failed to find free freq block!" message on standby RP
CSCve09340	cBR8 linecard cdman restart @ ubrcce_cdm_infra_handle_hwevent
CSCve28505	cdman: US-PHY PHY6 ch:1 rx intUsProcbFlow isr
CSCve38317	show cable hop missed poll percent and average% showing incorrect values in adv spectrum management
CSCvf42321	cBR: cpp crash due to DPE0_CPE_CSR32_DPE_CPE_ERR_LEAF_INT__INT_CPE_M40A_ACC_ERR
CSCuy48322	Could not set value for mib ccqmEnfRuleViolateNotifEnable with OpsConfig
CSCvd98223	"cable upstream balance-scheduling" is configured, but "us_balance:OFF"
CSCva21658	cbr8 - service flow state are pro for certain modems
CSCve58503	Mismatch with CM primary wideband interface and CM DS SF forwarding interface
CSCve19262	Modems unpingable with Invalid HWflow ID after DS Resiliency events
CSCve55144	RNG-RSP status cancel send to quickly with pre-eq active
CSCve72030	VOIP Jitter is bigger than 5ms when configure 43 UGS with modulation profile 24
CSCve05401	BPI index mismatch causing CM L3 fail after LCHA
CSCvc84902	cBR-8 supervisor reloads due to a freed chunk access during glean processing
CSCve77989	cBR8 - Downstream L2VPN Dot1Q packets dropped
CSCve08617	CBR8 line card CBR-LC-8D31-16U30 crash at process_tek_req_attribute

Caveat ID Number	Description
CSCvf10719	cBR8 linecard reload caused by show cable privacy hotlist cm command
CSCvf28887	CBR8 Misreports In/Out Octet Counters on Etherchannel Subinterfaces
CSCvf96094	Modem stuck in init(io). Some DHCP packets are encrypted when sent from CBR8 to CM
CSCve39863	Rogue NA messages are corrupting ipv6 neighbor table.
CSCve49908	SNMP get cdxCmtsCmMaxCpeNumber return wrong value
CSCve95162	SUP crash while copying file via tftp
CSCve77132	Cisco IOS XE Software for cBR-8 Routers Line Card Console Access Vulnerability
CSCve32926	Unable to get cempMemPoolEntry after SUP switchover
CSCvc06362	cBR8 - 3.18.0SP - Add show cable video session all and summary commands
CSCve24538	multicast video ASM delay upto 60 sec
CSCvf57004	PSIT:Bulk sync failure due to PRC mismatch after changing the slot from primary to secondary
CSCvf70287	Secondary GQI conncetion failure msg floods LED log
CSCve87567	SUP reload while deleting session when LED debug enabled
CSCve15082	VSRM Zone Config causes LED & VSRM out-of-sync issue
CSCvg07169	D6 Update attribute Total Bandwidth = 37901kbps is incorrect
CSCvd34382	PSIT:Invalid video operation ADD_SES Session error message after doing LCPR
CSCve02766	Some sessions go to off state after vidman LCPR
CSCve67523	VOD UDP sessions corruption

Open Caveats—Cisco IOS-XE Release 3.18.2aSP

Caveat ID Number	Description
CSCva18706	Cisco cBR-8: show cable calls skips Cable0/0/0.
CSCvd91139	Cisco cBR-8: BitTorrent packet getting stuck in the bundle interface.
CSCvb85260	CM reset does not clear tag after config is modified.
CSCvd19728	EM modem offline and DBG do not free after SUP switch over from Standby to Active card.

Caveat ID Number	Description
CSCvd29978	Many Tracebacks of Duplicated DSID detected.
CSCvb97854	CBR-4-BADTXOFFSET: Bad timing offset 20548 detected for cable modem.
CSCvd25745	CGD association is incorrect after default MD & LCSW.
CSCux28031	CNR decreased a lot after sent traffic.
CSCva77731	D31: OFDM down with width as 148MHz with user picked PLC.
CSCva48237	D31: OFDM wideband status down if OFDM channel width x(ex: 103-Mhz).
CSCvb68603	DS-JIB Non-Critical [PHY0_XFI01:High-Pri:xfi1 lost block lock tdiff.
CSCva10909	Failure case is not handled properly due to missing fw in the pkg.
CSCva52480	Incorrect DS License consumed count after SUP SO.
CSCvc82872	OFDM Channel unable to send low-prio traffic after ofdm config change.
CSCvb98095	Shut or no shut Controller followed by shut or no shut ofdm causes OFDM to be down in scm wideband rcs.
CSCvc66320	Threshold configuration under upstream controller is partially duplicated.
CSCvd32726	Cisco cBR8/3.18.1SP: Burst of modems causing stuck objects on given LC.
CSCvb50464	IPv6 echo request packets go into l3 inject and get skipped for address resolution.
CSCvd28724	Cisco IOS XE 03.18.00a.S - Wideband interfaces not added in RCC list.
CSCvd98496	Cable modem went p-online after LCHA.
CSCvb54886	cdxCmtsMtcCmTotal uses incorrect TCS id/ cdxCmtsUscbSfPri not accounting single channel CMs.
CSCuv30942	CM offline after A/C power-up, if use cross-controller DBG, enter 1x1.
CSCvb32272	DOCS-LOADBAL3-MIB showing wrong value for D2.0 modems.

Caveat ID Number	Description
CSCvc71104	Primary Channel MDD is Not Transmitted.
CSCut58615	Ranging Status showing STA when the modem is offline.
CSCvc06297	Patch upgrade with LCHA method did not support rollback.
CSCva94951	Cisco cBR-8: Cable modem IPv6 address out-of-sync between SUP and CLC.
CSCvc84902	Cisco cBR-8 supervisor crash due to freed chunk access during glean processing.
CSCvd67080	L2VPN dot1q traffic sometimes will loss after LCHA.
CSCuv25680	SUP crashed @ ubr_subdb_display_subscriber_db.
CSCvd17185	With 64k modems, standby SUP fails to bootup after reload.
CSCvc88451	CBR-LC-8D31-16U31 linecard crashed due to corrupted pointer to Packet buffer, memory corruption.
CSCvd02176	CmtsMdIfIndex field does not match with CmtsMdIfName after LCSO.
CSCuz98369	Incorrect "Power Not Enough" alarm.
CSCvc93861	New active LC was reset after LC revert 1 minute later.
CSCva39199	No msg after LC crash due to several continuous IOS/IOSDB restarts.
CSCva32978	Secondary LC version incorrect after doing ISSU rollback.
CSCvc10140	Show platform diag not display Power-Supply version.
CSCuz83612	Standby SUP's protection LC's OPF stay in drain mode after remove LCRED.
CSCva37561	TenGigabit ports under SUP association are missing in EntityAliasmib.
CSCve02766	Some sessions go to off state after vidman LCPR.
CSCve06350	Smart licensing traps are not generated on Cisco IOS XE Everest 16.5.1 and Cisco IOS XE 3.18.2aSP.

Resolved Caveats—Cisco IOS-XE Release 3.18.2aSP

Caveat ID Number	Description
CSCvc81242	10K and Cisco cBR-8 behave differently for IPDR Code.
CSCvc51364	'Logging event link-status global' config will ignore 'no loggin event link-status' on WB interfaces.
CSCvc59793	Cisco IOS XE 3.18SP - All the modems connected to one line card of a Cisco cBR-8 dropped offline.
CSCvc12937	Cisco cBR-8 Upstream Spectrum reporting is not accurate and displays artifacts from aliasing.
CSCvc27210	Cisco cBR-8: CLC crash on CMTS MAC Parser process.
CSCvd29099	Cisco cBR-8 shows increased jitter on UGS.
CSCvd02953	Cisco cBR-8 shows increased latency for traffic on UGS.
CSCvc09109	D31: Ranging Deadlock due to Pwr Adj Request Beyond Upper Limit.
CSCvc06802	DSJIB BG has wrong JIB channels after multiple controller shut/no shut with video config changes.
CSCvb39445	Gemini1 DSJIB-3-CRIT_REC_INT; replication chan is invalid after upgrade.
CSCva16840	OFDM configuration rejected on G2 after upgrade from G1.
CSCvc09005	OFDM down with subcarrier spacing 25Khz and roll-off as 256.
CSCva62309	Tracebacks@dmp resource pool BG-Pool 32-Chan tmp_ptr not in pool [0 512].
CSCvc36914	Wrong US Channel utilization in "show controllers cx/y/z upstream".
CSCvd42561	%CPPOSLIB-3-ERROR_NOTIFY: CLC4: cpp_cp: cpp_cp encountered an error.
CSCva13481	fman object download failure; lots of tracebacks and error messages.
CSCvb67308	Traceback@cpp_vbuginf_flags_error after show pl ha qf ac infra punt st.

Caveat ID Number	Description
CSCvb38611	UNIX-EXT-SIGNAL: Segmentation fault(11), Process = CMTS submgmt process.
CSCva19771	Cisco cable/cBR-8 docsIfCmtsCmStatusInetAddress is returning wrong value.
CSCvb71506	Cisco cBR-8 Error Message observed during Cable LC switchover.
CSCvc98395	Cisco cBR-8: cable cm-status not working after reload.
CSCvc32010	Cisco cBR-8 does not do ofdm profile recommendation for channel widths less than 79 MHz.
CSCvd30132	Cisco cBR-8: Traffic counters are not increasing in wideband interfaces.
CSCvc08946	Cisco cBR-8: CABLE_IPCCL_LIB-5-SVC_LOW_WATERMARK.
CSCvc35190	Cisco cBR-8: some DS channels are marked as impaired during DS path selection.
CSCvd48695	cdxCmtsUscbSfPri should return "0" if no service flows exist on USCB.
CSCvc55488	DOCS-IF31-MIB docsIf31CmtsCmRegStatusDsProfileIdList not reporting all 3.1 Profiles.
CSCvc19665	Downstream RF-Channel utilization flatlines at 94% - ccwbRFChannelUtilization.
CSCvc65483	OFDM profiles in DBC-REQ are the same profiles that were sent in REG-RSP-MP.
CSCvb59310	Seeing levels 10 db hot after adding patch.
CSCvc62294	Secondary LC cannot bootup after reset under 7+1 with over 60K CM.
CSCvc85324	Cisco cBR-8 not passing COS for L2VPN dot1q.
CSCvb14695	Interface bundle showing negative input queue "Input queue: -735".
CSCvc35255	Losing startup-config after writing the nvram:/docsBpi2_mib via SNMP set.
CSCvc32015	SUP Crashed due to IPv6 list freed during v6list removing.

Caveat ID Number	Description
CSCvc84996	Cisco cBR-8 Line Card reloads when Broadcast MPTS session becomes active.
CSCvc81434	Cisco cBR-8 loses audio for live Switched Digital Video (SDV) session.
CSCvc30168	CDMAN-0-LOW_FPA_FATAL LC reset - free buffers low, video top user.
CSCva87804	PSIT:cdman DS-JIB Non-Critical"Double encryption error on pipe" on boot.
CSCva25240	Modems reboot after configure init-tech 2 under mac-domain.

Open Caveats—Cisco IOS-XE Release 3.18.1aSP

Caveat ID Number	Description
CSCva18706	cBR-8: show cable calls skips Cable0/0/0
CSCvb21924	D3.0 static LB not balanced when threshold is 1
CSCvc12772	Smart Licensing - dropping registration
CSCvb47794	with 21056 multicast sessions configured, reload TB, fman_fp_image crash
CSCvb97854	CBR-4-BADTXOFFSET: Bad timing offset 20548 detected for cable modem
CSCvc12937	cbr-8 Upstream Spectrum reporting is not accurate and displays artifacts from aliasing
CSCvc27210	cBR-8:CLC crash on CMTS MAC Parser process
CSCvc09109	D31: Ranging Deadlock due to Pwr Adj Request Beyond Upper Limit
CSCva77731	D31: OFDM down with width as 148Mhz with user picked PLC
CSCva48237	D31: OFDM wideband status down if OFDM channel width x(ex: 103-Mhz)
CSCvb68603	DS-JIB Non-Critical [PHY0_XFI01:High-Pri:xfi1 lost block lock tdiff
CSCva10909	failure case is not handled properly due to missing fw in the pkg
CSCvb39445	Gemini1 DSJIB-3-CRIT_REC_INT;replication chan is invalid after upgrade
CSCva52480	Incorrect DS License consumed count after SUP SO
CSCva16840	OFDM configuration rejected on G2 after upgrade from G1
CSCvc09005	OFDM down with subcarrier spacing 25Khz and roll-off as 256

Caveat ID Number	Description
CSCvb98095	Shut/no shut Controller followed by shut/no shut ofdm causes OFDM to be down in scm wideband rcs
CSCva62309	Tracebacks@dmp resource pool BG-Pool 32-Chan tmp_ptr not in pool [0 512]
CSCva50633	CFD: Cylons Watch Dog Timeout Failure detected on multiple customer
CSCvc22184	BQS Interrupt QSM_CSR32_QSM_LOGIC_ERR_LEAF_INT__INT_INCORRECT_POP_STATUS_ERR1
CSCvc21981	One-way Audio - Dead Air for voice calls on the cbr8
CSCvb67308	Traceback@cpp_vbuginf_flags_error after show pl ha qf ac infra punt st
CSCva19771	cable/cBR8 docsIfCmtsCmStatusInetAddress is returning wrong value
CSCvb71506	CBR-8 Error Message observed during Cable LC switchover
CSCvc32010	cbr8 does not do ofdm profile recommendation for channel widths less than 79 MHz
CSCvc08946	CBR8: CABLE_IPCCL_LIB-5-SVC_LOW_WATERMARK:
CSCvc35190	cbr8: some DS channels are marked as impaired during DS path selection
CSCvb54886	cdxCmtsMtcCmTotal uses incorrect TCS id/ cdxCmtsUscbSfPri not accounting single channel CMs
CSCuv30942	CM offline after A/C power up, if use cross-controller DBG enter 1x1
CSCvb32272	DOCS-LOADBAL3-MIB showing wrong value for D2.0 modems
CSCvb79025	OFDM channel goes missing from RCC resulting in low D3.1 speeds
CSCut58615	Ranging Status showing STA when the modem is offline
CSCvb59310	Seeing levels 10 db hot after adding patch:
CSCvc06297	Patch upgrade with LCHA method didn't support rollback
CSCva94951	Battlestar: Cable modem IPv6 address out-of-sync between SUP and CLC
CSCvb14695	Interface bundle showing negative input queue "Input queue: -735"
CSCvb50464	IPv6 echo request packets go into l3 inject and get skipped for address resolution
CSCvc35255	Losing startup-config after writing the nvram:/docsBpi2_mib via SNMP set
CSCuu48273	%EVENTLIB-3-TIMEHOG and traceback when boot up
CSCuz98369	Incorrect "Power Not Enough" alarm
CSCva39199	no msg after LC crash due to several continous IOS/IOSDB restart
CSCvc17049	Redundancy- Standby Console Lock

Caveat ID Number	Description
CSCva32978	Secondary LC version incorrect after doing ISSU rollback
CSCvc10140	show platform diag not display Power-Supply version
CSCuz83612	standby SUP's protection LC's OPF stay in drain mode after remove LCRED
CSCva37561	TenGigabit ports under SUP association is missing in EntityAliasmib.

Resolved Caveats—Cisco IOS-XE Release 3.18.1aSP

Caveat ID Number	Description
CSCvc31986	after repeatedly shut/shut OFDM channel without proper delay, scm prof-mgmt crashes the CLC
CSCvc31899	CLC Crash During IOSd Cmd Pwr Neq Calculation
CSCvb84601	BPI encryption missing after LCHA

Open Caveats—Cisco IOS-XE Release 3.18.1SP

Caveat ID Number	Description
CSCva18706	cBR-8: show cable calls skips Cable0/0/0
CSCvb21924	D3.0 static LB not balanced when threshold is 1
CSCvc12772	Smart Licensing - dropping registration
CSCvb47794	with 21056 multicast sessions configured, reload TB, fman_fp_image crash
CSCvb97854	CBR-4-BADTXOFFSET: Bad timing offset 20548 detected for cable modem
CSCvc12937	cbr-8 Upstream Spectrum reporting is not accurate and displays artifacts from aliasing
CSCvb92900	cBR8 LC After Uncorrectable ECC Errors in Gemini RLDRAM no Auto Restart / Failover: CMs Offline
CSCva77731	D31: OFDM down with width as 148Mhz with user picked PLC
CSCva48237	D31: OFDM wideband status down if OFDM channel width x(ex: 103-Mhz)
CSCvb68603	DS-JIB Non-Critical [PHY0_XFI01:High-Pri:xfi1 lost block lock tdiff
CSCvb39445	Gemini1 DSJIB-3-CRIT_REC_INT;replication chan is invalid after upgrade
CSCva52480	Incorrect DS License consumed count after SUP SO
CSCva16840	OFDM configuration rejected on G2 after upgrade from G1

Caveat ID Number	Description
CSCva62309	Tracebacks@dmp resource pool BG-Pool 32-Chan tmp_ptr not in pool [0 512]
CSCvc22184	BQS Interrupt QSM_CSR32_QSM_LOGIC_ERR_LEAF_INT__INT_INCORRECT_POP_STATUS_ERR1
CSCvc21981	One-way Audio - Dead Air for voice calls on the cbr8
CSCvb67308	Traceback@cpp_vbuginf_flags_error after show pl ha qf ac infra punt st
CSCvc31986	after repeatedly shut/shut OFDM channel without proper delay, scm prof-mgmt crashes the CLC
CSCva19771	cable/cBR8 docsIfCmtsCmStatusInetAddress is returning wrong value
CSCvb71506	CBR-8 Error Message observed during Cable LC switchover
CSCvc08946	CBR8: CABLE_IPCCL_LIB-5-SVC_LOW_WATERMARK:
CSCvb54886	cdxCmtsMtcCmTotal uses incorrect TCS id/ cdxCmtsUscbSfPri not accounting single channel CMs
CSCvc31899	CLC Crash During IOSd Cmd Pwr Neq Calculation
CSCuv30942	CM offline after A/C power up, if use cross-controller DBG enter 1x1
CSCvb32272	DOCS-LOADBAL3-MIB showing wrong value for D2.0 modems
CSCvb79025	OFDM channel goes missing from RCC resulting in low D3.1 speeds
CSCvb59310	Seeing levels 10 db hot after adding patch:
CSCvb84601	BPI encryption missing after LCHA
CSCvc06297	Patch upgrade with LCHA method didn't support rollback
CSCva94951	Battlestar: Cable modem IPv6 address out-of-sync between SUP and CLC
CSCvb14695	Interface bundle showing negative input queue "Input queue: -735"
CSCvb50464	IPv6 echo request packets go into l3 inject and get skipped for address resolution
CSCuu48273	%EVENTLIB-3-TIMEHOG and traceback when boot up
CSCuz98369	Incorrect "Power Not Enough" alarm
CSCva39199	no msg after LC crash due to several continous IOS/IOSDB restart
CSCva32978	Secondary LC version incorrect after doing ISSU rollback
CSCuz83612	standby SUP's protection LC's OPF stay in drain mode after remove LCRED
CSCva37561	TenGigabit ports under SUP association is missing in EntityAliasmib.

Resolved Caveats—Cisco IOS-XE Release 3.18.1SP

Caveat ID Number	Description
CSCva42614	LCHA license disappears with pre-provisioned line card
CSCva07373	LCHA reporting wrong license information
CSCva42580	US licenses consumed with pre-provisioned LC
CSCva58505	Cable Monitor config that is applied does not match the cli config.
CSCva61353	cBR8: show cable card x/y us-mac config not returning correct value
CSCva60391	CLC crash @ Process=cBR CLI Transfer IPC Show Process during "show tech"
CSCva58205	D3.1 CMs p-online post LCHA after ofdm chan-prof change on all ctrlrs
CSCva02675	D3.1 modem p-online on hybrid WB interface and ping fail
CSCvb79058	D3.1 modems show N/A for current data profile resulting in low speeds
CSCvb66487	D31 CM goes to p-online due to OFDM down after LCSO with BW change above 96MHz
CSCva82604	DS jib partial reset and cdman crash during AnnexB and AnnexC testing
CSCvb07277	JIB4US Partial Reset and recovery modems not pingable
CSCva63833	Line card crash after repeated LCPR stress test
CSCva97648	Modems transmitting 2dB higher on Leoben3
CSCvb78656	OFDM channel not function after sub package installs and LC SO
CSCvb98465	SIGALARM found on infra_stats_cache_enc_ack during ISSU from 318SP ES to 318.1SP
CSCva38424	CBR-8 SUP Modems offline due to %FMFP-3-OBJ_DWNLD_TO_CPP_FAILED: qos hqf:
CSCuz98057	MLACP interface flap test at peer resulted in CPP_STUCK
CSCva47433	1x1 BM doesn't work due to wrong cm-status flag in MDD after LCPR
CSCva82119	cbr8 3.18SP CMTS should not allow to configure OFDM channels as primary
CSCvb05507	D31: Add 1002MHZ To DS Upper Band Edge Support Mask
CSCuz62815	line vty are added automatically
CSCvb92235	Mismatched WB RCC detection and recovering after LCHA/LCPR
CSCva63910	scm vendor does not include vendor info for all CMs

Caveat ID Number	Description
CSCvb19276	US Bonded Modem does not recover from partial mode after LCSO and revert
CSCva57001	cbr8_ISSU: consolidated mode can't work properly.
CSCva90326	BSOD: MPLS PW CktID assignment overlap causing VCs to be down
CSCvb40290	CBR8 - ucode crash with cable_output_qos_prepare
CSCva58284	CBR8 input queue stuck on tengig, Triggered by IPv6 nd queue packet
CSCva58124	D31: exempt subcarrier config does not affect the profile order
CSCva84605	EROUTER appears as MTA
CSCva87095	One way voice issue occurs while doing on-net call
CSCvb17352	sup crash when doing IPv4 DHCP transaction for CPE
CSCvb69550	[cBR] DHCP renew failed if "giaddr-as-server-id" flag enabled on server
CSCvb37852	3.18.0SP ipdr sflog sup ha support
CSCva77912	3.18.0SP snmp-server enable traps hccp-failover rfswitch-polling
CSCvb45600	Bad RF PIC result in SNMP-3-INPUT_QFULL_ERR on LC after revert back
CSCvb31704	Caprica top interrupt disabled after multiple cdman restart
CSCvb73491	cBR-8 May See "SUP_dSUM" Alerts w/ Value of 190-199. Threshold Needs to be Adjusted to >200.
CSCvb14655	cBR8 CLC Crashinfo Thread ID: CDM_PKTIO_08 Exception:Segmentation Fault
CSCva18734	cBR8 Show Tech Missing show logging onboard uptime latest for slots 6-9
CSCva62789	cBR8 showing up as cBR1013
CSCuz89734	cylons line card i2c communication lost after bootup
CSCva65152	IPC memory may be double freed
CSCvb81157	ISSU upgrade error after patch upgrade w/o SUP reload
CSCva76742	Patch upgrade failed due to LCSO cmd rejected
CSCvb82866	Patch with ISSU LCHA way will fail with DOCSIS_CFG_DNLD
CSCvb17509	queue stuck, CM not pingable or can't online after LCHA
CSCuy84933	sh hw-module subslot x/y transceiver 0 status has no output
CSCva41315	Software crash brought down CLC on CBR8
CSCvb77445	The cdman crash is happened immediately after patch upgrade trigger cdman restart.

Caveat ID Number	Description
CSCva58189	2nd Sup flooded w/ASSERT:"Unable to allocate memory" w/extended src loss
CSCva84873	Add encryption support for H.265 Ultra HD video and data components
CSCva18487	Database mismatch Btwn LC & SUP on creating cloned sessions on 2nd LED
CSCuz23330	Delay in getting PAT in the Output
CSCux90140	DS-JIB Non-Critical Pktp Video P0-0:Low-Pri:Video sync byte err
CSCvb95374	mpegInputProgNo table returns no value

Open Caveats—Cisco ISO-XE Release 3.18.0SP

Identifier	Description
CSCuz83612	standby SUP's protection LC's OPF stay in drain mode after remove LCRED
CSCva31952	SUP crashed due to stack is exhausted
CSCva37561	TenGigabit ports under SUP association is missing in EntityAliasmib.
CSCva58189	2nd Sup flooded w/ASSERT:"Unable to allocate memory" w/extended src loss
CSCva18487	Database mismatch Btwn LC & SUP on creating cloned sessions on 2nd LED
CSCva30314	PSIT:All the multicast sessions removed after removal of VEI from LED
CSCva32796	Traceback observed after multiple line card high availability (LCHAs)
CSCva58725	Dynamic changes to IP bundle may cause some sess goes off at max scale
CSCva25240	Modems reboot after configure init-tech 2 under mac-domain
CSCva18706	cBR-8: show cable calls skips Cable0/0/0
CSCuz91599	D3.0 CMs r not load balanced as expected when D3.1 CMs are on same MDs
CSCva42614	LCHA license disappears with pre-provisioned line card
CSCva32064	Base-Power-Level not changing on the LC of the CBR8
CSCva58505	Cable Monitor config that is applied does not match the cli config.
CSCux28031	CNR decreased a lot after sent traffic
CSCuy88599	D3 modems on a CBR cannot be pinged via IPv6 after adding 4 DS Channels
CSCva58205	D3.1 CMs p-online post LCHA after ofdm chan-prof change on all ctrlrs
CSCuy91688	Gemini1 DSJIB-3-CRIT_REC_INT;replication chan is invalid after upgrade

Identifier	Description
CSCva16840	OFDM configuration rejected on G2 after upgrade from G1
CSCva36353	cpp traceback like "CST: %CPPOSLIB-3-ERROR_NOTIFY: "
CSCva25646	Multicast DP queue length is fixed as 64, bad tolerance for burst
CSCva47433	1x1 BM doesn't work due to wrong cm-status flag in MDD after LCPR
CSCva19771	cable/cBR8 docsIfCmtsCmStatusInetAddress is returning wrong value
CSCva21658	cbr8 - 3.17.1 IP Ping loss for certain modems
CSCuv30942	CM offline after A/C power up, if use cross-controller DBG enter 1x1
CSCva57001	cbr8_ISSU: consolidated mode can't work properly.
CSCva58284	CBR8 input queue stuck
CSCuv53754	cBR ROMON - Read access failing on 2GB USB drives
CSCva04729	CBR-8: Te4/1/6's output counter value is wrong
CSCuz98369	Incorrect "Power Not Enough" alarm
CSCva39199	no msg after LC crash due to several continous IOS/IOSDB restart
CSCva32978	Secondary LC version incorrect after doing ISSU rollback
CSCva41315	Software crash brought down CLC on CBR8
CSCva48237	D31: OFDM wideband status down if OFDM channel width x(ex: 103-Mhz)

Resolved Caveats—Cisco IOS-XE Release 3.18.0SP

Identifier	Description
CSCux98336	apps_pktcbl_delete_gate_ie() disables interrupts for too long
CSCux23893	cBR8 - DHCP circuit-id field is empty Option 82 Suboption 1
CSCuy60207	CBR8 sec LC crash at Pktcbl LCHA process
CSCuz48578	DQoS-lite DS traffic forwarding and low latency queuing
CSCuy67782	DSG IGMP Static Group Mroute Missing on new Bundle Activation
CSCva13034	EDVA device classification breaks filter group functionality
CSCuy46851	EM:CLI cannot clear energy mode events correctly.
CSCuz55251	Error message CBR-3-DYN_SRV_IPC_SEND_FAILURE happens during LCHA

Identifier	Description
CSCuy52701	traceback & static route missed after SSO with QRG modification
CSCuz53661	LB weight incorrect after LCSO
CSCuz60069	LC crash@ lb_get_us_pending for policy us-across-ds
CSCuz71261	observed DSG_INFO_DB_LOOKUP_FAILURE error message after config replace.
CSCux83175	PRE_REG_DSID null cause CM reject(na)
CSCuy82052	show cable modem commands display incorrectly after modem enter EM mode.
CSCuz00215	SUP card crash at Process = SVC_0 RX IOSD-CC-6
CSCuz42461	SUP IOSd crash with multicast leave
CSCuz63886	when CM recover from p-online to WB, the SF does not recover to WB
CSCuy22380	"Failed to find free freq block!" message on standby RP
CSCva21576	cBR8 - 3.17.1 - LC crash on ubr_specsvl_get_cm_cnr
CSCuy36957	cBR:Unconfigured RF ports not configureable after Gemini 2 module upg
CSCuy59360	cm can be seen on offline status @md shutdown @supha
CSCuz05968	cmtsChannelUtilization for DS is not consistent with util-interval value
CSCux24459	DS-JIB 2 Enq:High-Pri:detect if BG has channel greater than 383
CSCuz50518	DS-JIB Non-Critical [Enq:Low-Pri:one interrupt signal for both pipes
CSCuv04305	Enq:Low-Pri:one interrupt signal for both pipes, when IPH header says BG
CSCuz57637	fix frequency shown wrong when show cable spect-group on cylon
CSCuz43219	Getting parser error if removing unconfigured rf-ch from controller
CSCuy94845	HW-ID and BG Pool details missing from show command post LCHA
CSCux55969	Incorrect "MPEG Mbps" in "show controller <ds-controller> counters"
CSCuw89169	Interface keep in down status after shut & no shut controller then supha
CSCuy85297	Leoben VGAs: CM went offline on an entire MD after LCSO or Revert
CSCuy40470	Leoben3 "Failed to read ACT2, USPHY OFDMA cap on slot 3" on standby SUP
CSCuy94430	mixed PHY info 'show cable card' & bundled ver cleanup & XFI dump
CSCuy61540	Modem IP ping fail due to zero US hw-flow after LCRP and CDMAN PR
CSCuy34498	Multiple US channels went down after the SUP SO (Reason: UMP Failure)
CSCuy10043	NET-Claro CM connectivity issues, CPP queue stuck/Raider2.x.10

Identifier	Description
CSCuz63420	RAPTOR_MAC_INGRESS_QOS_LO_INTERRUPT: pb_if_err after unshut TenG in PC
CSCuy51863	Shut Controller, SUP-HA, unshut controller - several DS in DOWN State
CSCva17171	Statistics on US port incorrect when using Leoben 3
CSCuz72187	SUP and LC out of sync if Gemini on the protect card goes into bad state
CSCuz55482	Symbol Rate is not correct after shut/no shut us-channel
CSCuy14893	The output of cable monitor CLI is confusing after LCSO
CSCux78899	Traceback@ubr_dmp_flow_releas when clear cable modem
CSCuz51129	CBR SUP crash on ubr_dp_cm_qos_match_test
CSCuz77441	CBR8 sbrl drops showing on the protect card when in STBY state
CSCuy31792	cBR8 Subscribers are not able to get the IP address through DHCP relay
CSCuz17361	cBR8: ping from console to subscriber-side device must bypass SBRL
CSCux93745	cBR8: support more DS flows per-CM for ubr10k parity
CSCuy37158	Detect stuck CPP client on cbr8
CSCuy77823	DS queue count failed to decrement after DSC
CSCuz48100	Flex920: nile_efp_db_iterate_all Continuous Crash on latest
CSCuz56738	IPv6 3.0 modems and STB not pingable after sup switchover
CSCuy47771	PPRL: change cBR8 default punt-policer settings
CSCux08040	queue stuck after DS resiliency/recover, cause CM in init(o)/init(t)
CSCuy81512	3.0 modems are in p-online(pt) after LCSO on CBR8
CSCuy95431	cBR - rf-chans wrongly marked as unsuable prevent CM to go W-Online
CSCuy39767	cBR8 cable modem counters remain at zero SUPHA
CSCuy47866	cBR8 D3.0 WB Cable Modems reject(na)
CSCuz14807	CBR8 support for separate cm-onoff notification traps and informs.
CSCuz87223	cBR8/3.16.1 : LC crash in cmts_print_modem_verbose_ds
CSCuy33796	CBR8: "cable rcp-control verbose" no longer active after LCHA or SUP SO
CSCuz45964	CBR8: docsIf3DsChSetChList incomplete for first MAC domain (Cable 0/0/0)
CSCva51691	cbr8: protect card mem leak on "docsis cm chunk"
CSCuz11642	cBR8: US Equalizer is Not Set to 8 taps Using TDMA-ATDMA Mixed Mode

Identifier	Description
CSCuy42258	cdxCmtsMtcCmTable: mib get value is defferent with ubr10k
CSCuy73578	cm offline after LCHA when there are two WB interface with same rf-chan
CSCuz29867	CM-STAUS TLVs are missing in MDD after LCPR
CSCuy50690	DSC failed and CIR value not recovered to previous value
CSCuv29290	FN failed to generate interface when adding and removing mac domain
CSCux78524	For MGPI of 2, the UGS throughput is low when using Arris CM820 CM's
CSCuy70127	MDD stops sending when DS removed from MD
CSCuy85188	modems become offline after deleting the service flow then iosd restart
CSCuu16786	Non-zero Queue-indicator bit statistics reported for non-UGS flows
CSCuz75271	Some modems from vendor Netgear and Moto cannot 8-ch w-online
CSCva26768	Stale RCC with the outdate info stayed on LC when RP generate new RCC
CSCuz83132	Stale RCC wrongly marks all channels primary capable
CSCuy50511	SUP crash@be_ubr_mbrgrp_rfids_count
CSCva05701	SUP crashed @ SVC_0 RX IOSD-CC-9 process during sh/no shut of mac-domain
CSCuy90274	Supervisor Reload After Executing 'show cable l2-vpn dot1q-vc-map vpn #'
CSCux05429	Battlestar: CBR-8 ARP entries timed out and deleted on standby SUP
CSCuy96787	CBR8 3.17.0S Zero MAC address for x.x.x.x in ARP cache
CSCuz38651	CBR8 : IPv6 CPE become unpingable after ND resolution fails
CSCuy33886	CBR8: SNMP query returns wrong value for BPI encryption
CSCuy06815	cm can't be online with ipv4 in vrf when leak cnr grt to vrf
CSCuz46011	CMTS submgmt process crash
CSCuz34011	CPE overlap IP issue when in VRF using TLV 43 option
CSCur82415	CPP traceback and unable to setup dot1q L2VPN after LI configured
CSCuy57024	DHCP packets not being relayed on dot1q encap subinterfaces
CSCuy54004	Dual stack provisioning mode orphans IP address
CSCuy78428	ipv6 l3 ds inject not trriger v6 lq
CSCuw93287	lla address not released after GUA lease timeout in hostdb
CSCuy33093	MIB value in docsSubMgtCpeControlTable is not update

Identifier	Description
CSCuy99888	no output with sh cable l2-vpn xcon dot1q customer +second vpnid
CSCux43524	snmp performance is low for cdxCmtsCmStatusDMICEntry
CSCuz61514	"clc-pic 1/1" disappear in " show inventory" when OIR slot 0/1
CSCuz49046	%CBR_SPA-7-RAPTOR_INTERRUPT_ENABLE: CLC4: iomd: ipv4_hdr_checksum_err
CSCuy97233	Bad RF PIC causing other PIC cards could not up
CSCva10588	cable/cBR8 Upstream SNR value is not reported after IOS upgrade
CSCuy88230	Caprica FPGA isr stop working after LCHA
CSCuv87705	CBR-8 : 'show software authenticity' should indicate Secure Boot
CSCuz87007	CBR-8-CCAP-CHASS/cBR-CCAP-LC-40G/"facility alarm "clear fail
CSCuy73678	CMRP-3-WANPLL_SETUP errmsg prints when cbr boot up
CSCuy54609	CST: The PEM/FM idprom could be read, but is corrupt in slot P10
CSCuz51334	Intermittent bcm3142 init failed with R2 image at high temperature
CSCuy00928	IPDR generates double records on SF schema scaling testing
CSCux41734	LC bootup after soft reload in dispite of in-sufficient power
CSCuy72534	lcpr config: "default lcha-preferred" results in "no lcha-preferred"
CSCuz55239	Protected LC all modems re-online after supha
CSCux11278	RAPTOR_ESI_PCIE_LO_INTERRUPT: LOCAL RAPTOR, LOCAL PCIE IF, tx_terr_drp
CSCuy42577	snmp cache: polling docsIf3CmtsCmRegStatusEntry.16 error
CSCux46066	stby SUP got reset and cmand core file generated after SUP SO
CSCuz55436	SUP/RF PIC is out of service after chassis power down and up
CSCuz88537	WAN interfaces became admin shutdown after 2 times SUP-HA via OIR
CSCuz41142	parse error log observed when type "mgmt-intf VirtualPortGroup 0" twice
CSCuy64215	PSIT: adding vei in one LED makes session active in another LED
CSCuy43167	Changing Default ONID , moves some of the active sessions to Pending
CSCuz34817	Identical Session names on the same QAM is not disallowed
CSCuz48205	PME Sessions go pending for successive remove/add of LED or Sessions
CSCuz78277	Sessions not getting created with vcg name of 32 characters
CSCuz57812	Bad checksum of UDP stream w/ vei-bundle configured

Identifier	Description
CSCux88801	Input Session Discontinuity Error goes up with HA test cases
CSCuy41562	Some sessions go OFF state after removing vei-bundle for 8064 sessions.
CSCuy55789	Some sessions going OFF on adding bundle in 8960/8064 session
CSCuy30325	US DOCSIS packet outage after restart vidman process
CSCva49171	Video QAM consumes DOCSIS 3.0 Downstream License
CSCuy11118	dsgIfDownVendorParamId configuration not synced to protect LC
CSCuy61879	Some STB can't receive dsg traffic after upgrade 3gspa to 6gsap
CSCuy97717	LC may crash when CM flaps during 'show interface cable X/X/X modem'
CSCux57314	Online CM marked CM offline in remote-query and not polled
CSCuy99728	Pegasus TCAM core voltage adjustment

Open Caveats—Cisco IOS-XE Release 3.18.1S

Identifier	Description
CSCva31072	Static Route copied to Startup Config
CSCva21576	cBR8 - 3.17.1 - LC crash on ubr_specsvl_get_cm_cnr
CSCuy31792	cBR8 Subscribers are not able to get the IP address through DHCP relay
CSCva21658	cbr8 - 3.17.1 IP Ping loss for certain modems
CSCuz83132	Stale RCC wrongly marks all channels primary capable
CSCuz92412	vcms_proxy process starts before cdman process causing linecard crash

Resolved Caveats—Cisco IOS-XE Release 3.18.1S

Identifier	Description
CSCuy60207	CBR8 sec LC crash at Pktcbl LCHA process
CSCva13034	EDVA device classification breaks filter group functionality
CSCuz53661	LB weight incorrect after LCSO
CSCux83175	PRE_REG_DSID null cause CM reject(na)
CSCuz00215	SUP crash @ Process = SVC_0 RX IOSD-CC-6

Identifier	Description
CSCuz42461	SUP IOSd crash with multicast leave
CSCuy36957	cBR:Unconfigured RF ports not configureable after Gemini 2 module upg
CSCuy59360	cm can be seen on offline status @md shutdown @supha
CSCuv04305	Enq:Low-Pri:one interrupt signal for both pipes, when IPH header says BG
CSCuw89169	Interface keep in down status after shut & no shut controller then supha
CSCuz58751	Mixed Annex LCSO port resulting in loss of Annex C video carriers
CSCuy61540	Modem IP ping fail due to zero US hw-flow after LCRP and CDMAN PR
CSCuy10043	NET-Claro CM connectivity issues, CPP queue stuck/Raider2.x.10
CSCva17171	Statistics on US port incorrect when using Leoben 3
CSCuz51129	CBR SUP crash on ubr_dp_cm_qos_match_test
CSCuz17361	cBR8: ping from console to subscriber-side device must bypass SBRL
CSCuy77823	DS queue count failed to decrement after DSC
CSCuz56738	IPv6 3.0 modems and STB not pingable after sup switchover
CSCuy48185	memory leak @CMTS Multicast MQC: POLICYMAP_MODULE
CSCuy38028	RBG fail to be deleted due to incorrect AC check
CSCuy81512	3.0 modems are in p-online(pt) after LCSO on CBR8
CSCuy95431	cBR - rf-chans wrongly marked as unsuable prevent CM to go W-Online
CSCuy39767	cBR8 cable modem counters remain at zero SUPHA
CSCuv61269	cbr8 set CM to 1 ch USCB when power exceeds threshold for 2 ch
CSCuz45964	CBR8: docsIf3DsChSetChList incomplete for first MAC domain (Cable 0/0/0)
CSCuz11642	cBR8: US Equalizer is Not Set to 8 taps Using TDMA-ATDMA Mixed Mode
CSCuy42258	cdxCmtsMtcCmTable: mib get value is defferent with ubr10k
CSCuy73578	cm offline after LCHA when there are two WB interface with same rf-chan
CSCuy70127	MDD stops sending when DS removed from MD
CSCuu16786	Non-zero Queue-indicator bit statistics reported for non-UGS flows
CSCuy90274	Supervisor Reload After Executing 'show cable l2-vpn dot1q-vc-map vpn #'
CSCuz38651	CBR8 : IPv6 CPE become unpingable after ND resolution fails
CSCuz46011	CMTS submgmt process crash

Identifier	Description
CSCuz34011	CPE overlap IP issue when in VRF using TLV 43 option
CSCuy57024	DHCP packets not being relayed on dot1q encap subinterfaces
CSCuy54004	Dual stack provisioning mode orphans IP address
CSCuy78428	ipv6 l3 ds inject not trriger v6 lq
CSCuy88230	Caprica FPGA isr stop working after LCHA
CSCuz87007	CBR-8-CCAP-CHASS/cBR-CCAP-LC-40G/"facility alarm "clear fail
CSCuz12272	Change fan replace error message
CSCuy73678	CMRP-3-WANPLL_SETUP errmsg prints when cbr boot up
CSCuy54609	CST: The PEM/FM idprom could be read, but is corrupt in slot P10
CSCuz51334	Manufacture test, bcm3142 init failed with R2 release image
CSCuy64215	PSIT: adding vei in one LED makes session active in another LED
CSCuz13015	Remove Video interfaces from Global Routing Table
CSCuz34817	Identical Session names on the same QAM is not disallowed
CSCuz78277	Sessions not getting created with vcg name of 32 characters
CSCuz92510	Video sessions goes down after SSO
CSCuz57812	Bad checksum of UDP stream w/ vei-bundle configured
CSCuy41562	Some sessions go OFF state after removing vei-bundle for 8064 sessions.
CSCuy30325	US DOCSIS packet outage after restart vidman process
CSCuy61879	Some STB can't receive dsg traffic after upgrade 3gspa to 6gsap
CSCuy97717	LC may crash when CM flaps during 'show interface cable X/X/X modem'

Open Caveats—Cisco IOS-XE Release 3.18.0Sa

There are no open caveats in Cisco IOS-XE Release 3.18.0Sa.

Resolved Caveats—Cisco IOS-XE Release 3.18.0Sa

Bug ID	Description
CSCuz13015	Remove Video interfaces from Global Routing Table

Open Caveats—Cisco ISO-XE Release 3.18.0S

Identifier	Description
CSCuy41562	Some sessions go OFF state after removing vei-bundle for 8064 sessions.
CSCux88101	admission control max-reserve in bonding group issue
CSCuy48322	Could not set value for mib ccqmEnfRuleViolateNotifEnable with OpsConfig
CSCuy40674	sup 0 kept on restart after supha and can't recover
CSCux72453	Shutdown threshold action by Physical OIR Cylon test failed
CSCux96966	Lots of CAUSE_OCE_COUNTER_EXCEED_STACK tracebacks in NG-MVPN testing
CSCuy36957	cBR:Unconfigured RF ports not configureable after Gemini 2 module upg
CSCuy59360	cm can be seen on offline status @md shutdown @supha
CSCux88101	admission control max-reserve in bonding group issue
CSCuy44159	Can't debug platform software mpls in xe318
CSCuy42258	cdxCmtsMtcCmTable: mib get value is defferent with ubr10k
CSCuy73578	cm offline after LCHA when there are two WB interface with same rf-chan
CSCux81933	TDL memory leak, tdl_epoch_data, detected after LCPR hitless upgrade
CSCux66218	AC failure on other LC seen after reset target LC with PCMM mcast
CSCux98336	apps_pktcbl_delete_gate_ie() disables interrupts for too long
CSCuy46851	EM:CLI cannot clear energy mode events correctly.
CSCuy48185	memory leak @CMTS Multicast MQC: POLICYMAP_MODULE
CSCuy06837	NG-MVPN multicast traffic stop forwarded after SUP-HA
CSCuy22380	"Failed to find free freq block!" message on standby RP
CSCuy52378	LC crashed at dsphy_callout
CSCuy40470	Leoben3 "Failed to read ACT2, USPHY OFDMA cap on slot 3" on standby SUP
CSCux76908	no syslog when upgr hw-prog cmd for dsphy is run on active protect CLC
CSCuy14893	The output of cable monitor CLI is confusing after LCSO
CSCuy00822	Errmsg @ubr_map_get_supported_intvl prints on LC when remove US from MD
CSCuy10043	NET-Claro CM connectivity issues, CPP queue stuck
CSCuy38028	RBG fail to be deleted due to incorrect AC check

Identifier	Description
CSCuy53119	cdxCmtsMtcCmEntry/docsIfCmtsStatusEntry/docsIfCmtsMacEntry getone issue
CSCuy02224	DQoS SF Setup Failures when LC CPU is high.
CSCuy73678	CMRP-3-WANPLL_SETUP errmsg prints when cbr boot up
CSCuy54609	CST: The PEM/FM idprom could be read, but is corrupt in slot P10
CSCuy45596	ISSU: LC hung during Waiting LCHA group back to final state
CSCuy42577	snmp cache: polling docsIf3CmtsCmRegStatusEntry.16 error
CSCuy43167	Changing Default ONID , moves some of the active sessions to Pending
CSCuy51195	No error message on configuring sessions with same udp using vei/bundle
CSCuy23944	PME: few sessions goes PENDING state after associating vei-bundle in LED
CSCuy64215	PSIT: adding vei in one LED makes session active in another LED
CSCuy38312	PSIT:D6 takes longer time to establish conn after shut/unshut core int
CSCuy55789	Some sessions going OFF on adding bundle in 8960/8064 session
CSCuy52701	traceback & static route missed after SSO with QRG modification
CSCuy78532	cc errors are noted in video show stat after doing LCPR
CSCux88801	Input Session Discontinuity Error goes up with HA test cases
CSCuy41562	Some sessions go OFF state after removing vei-bundle for 8064 sessions.
CSCuy30325	US DOCSIS packet outage after restart vidman process

Resolved Caveats—Cisco IOS-XE Release 3.18.0S

Identifier	Description
CSCux16537	"admin-control Cir total" of "cpp cir" un-consistent after ds-resiliency
CSCuw95308	"sh cable multicast probe" display a very large value
CSCux74172	aDefault mcast SF w/ CIR created/deleted on RBG, triggering ACFE
CSCux23422	AdmittedQosParamSet of US not change when CM enter EM mode with CIR
CSCux15646	After cdmanpr, in CDMAN, modem's US service flow are rebuilt twice
CSCuv62752	CBR-4-MCAST_ADMISSION_CONTROL_FAILURE seen when do resiliency & LCPR
CSCux48343	cBR-8 cops listener access-list lost on reload

Identifier	Description
CSCux23893	cBR8 - DHCP circuit-id field is empty Option 82 Suboption 1
CSCuw37519	cBR8 : Load Balancing - channel In0/0/6:1 in incorrectly initial state
CSCux98929	LB DCC failure for high US frequency, always being counted on "Retries"
CSCux41796	cdman crash in memset when sending ucd
CSCuy11987	CLAB-TOPO-MIB with 32 DS channels configured only reports 24
CSCux24459	DS-JIB 2 Enq:High-Pri:detect if BG has channel greater than 383
CSCux95623	"!" not displayed next to RXPWR in CBR8 when CM transmit with max power
CSCux78524	For MGPI of 2, the UGS throughput is low when using Arris CM820 CM's
CSCux86092	Ubr keep printing message Dyn-Chan_Chg is ongoing, forcing to re-range
CSCuy33886	CBR8: SNMP query returns wrong value for BPI encryption
CSCux93762	FAN modules fail and no SNMP trap

Open Caveats—Cisco IOS-XE Release 3.17.1S

Identifier	Description
CSCuy37736	Modems did not come online after sh/no shut of DS controller in all LC's
CSCuy79419	Modems got stuck in different states after shut the DS controller
CSCux98929	LB DCC failure for high US frequency, always being counted on "Retries"
CSCux83175	PRE_REG_DSID null cause CM reject(na)
CSCux41796	cdman crash in memset when sending ucd
CSCuy11987	CLAB-TOPO-MIB with 32 DS channels configured only reports 24
CSCux28031	CNR decreased a lot after sent traffic
CSCux24459	DS-JIB 2 Enq:High-Pri:detect if BG has channel greater than 383
CSCux47349	map advance buffer leak
CSCuy31792	cBR8 Subscribers are not able to get the IP address through DHCP relay
CSCux85682	CPP: traceback in cpp_fm_op_ctx_create
CSCuy37158	Stuck CPP client on cbr8
CSCux52080	traceback cpp_docsis_ea_dyn_precfy_bind

Identifier	Description
CSCux95623	"!" not displayed next to RXPWR in CBR8 when CM transmit with max power
CSCuy39767	cBR8 cable modem counters remain at zero
CSCuy33796	CBR8: "cable rcp-control verbose" no longer active after LCHA or SUP SO
CSCux78524	For MGPI of 2, the UGS throughput is low when using Arris CM820 CM's
CSCux28111	RTPS flow traffic issue after LCHA with RequestOrTxPolicy 0x1CF
CSCux86092	Ubr keep printing message Dyn-Chan_Chg is ongoing, forcing to re-range
CSCuy33886	CBR8: SNMP query returns wrong value for BPI encryption
CSCuy06815	cm can't be online with ipv4 in vrf when leak cnr grt to vrf
CSCuv53754	cBR ROMON - Read access failing on 2GB USB drives
CSCux93762	FAN modules don't provide alarm or SNMP trap when internal fans fail
CSCuy40970	Inconsistent behavior of docsIfCmtsCmStatusDownChannelIfIndex on cBR8
CSCux79465	MCP:LC can't bootup when system boot from USB subpkg
CSCuy12281	CBR8 Changing ip on Primary Bundle Address not pingable.
CSCux51300	Smart license turns to EVAL EXPIRED after reload from SUP1

Resolved Caveats—Cisco IOS-XE Release 3.17.1S

Identifier	Description
CSCuy41989	CLC crashed @ INFRA FN SG IPC CLC dispatch task process
CSCux93762	FAN modules fail and no SNMP trap
CSCux15646	After cdmanpr, in CDMAN, modem's US service flow are rebuilt twice
CSCux23893	cBR8 - DHCP circuit-id field is empty Option 82 Suboption 1
CSCuw37519	cBR8 : Load Balancing - channel In0/0/6:1 in incorrectly initial state
CSCux36763	CPU 100% when exporting SAMIS full record
CSCux75638	Default mcast SF cannot be established since cBR boot up
CSCux67665	Modem exit EM mode,do cdman restart,modem is offline.
CSCuw59863	Number of license on US_License not counting slot 9 consistently
CSCux94601	static mcast sf lost after supha

Identifier	Description
CSCuv27870	support config igmp static-group first, then ip address on bundle
CSCuw93063	The ref-count of qos templates mismatch
CSCux50879	ccsSNRRequestSNR is not right after cm re-online
CSCux17937	us 2db hotter fix for XE317/318 based images
CSCux13023	After SUPHA, can see ACFE error msg: trying to deduct xxxx out of 0
CSCuw18724	Standby Linecard may crash during ISSU or after SUPHA and LCHA
CSCux68016	CBR-CCAP-LC-40G linecard stuck with ubr_buffer_print not in MT! message
CSCux60028	cBR8 T4 Multiplier Configuration Not Re-synced to LC After LC Restart
CSCuv68479	Ranging Status stuck at cnt when do dbc followed by LCPR
CSCux55975	Battlestar: IPv6 modem address out-of-sync between SUP and CLC
CSCux49572	cmcc TIMEHOG seen after Cylons and RF-PIC OIR
CSCux67670	Commit raptor ESI v1.58 and enable partial reset to fix lockup issue
CSCux20034	ISSU fail due to lack of required file on Sup
CSCux11278	RAPTOR_ESI_PCIE_LO_INTERRUPT: LOCAL RAPTOR, LOCAL PCIE IF, tx_terr_drp

Open Caveats—Cisco IOS-XE Release 3.16.7S

Caveat ID Number	Description
CSCux67012	cBR-8-PSIT-Perf: SFP not present or SFP IDPROM read error after SUP SO
CSCuy84933	sh hw-module subslot x/y transceiver 0 status has no output

Resolved Caveats—Cisco IOS-XE Release 3.16.7S

Caveat ID Number	Description
CSCve77132	Cisco IOS XE Software for cBR-8 Routers Line Card Console Access Vulnerability

Open Caveats—Cisco IOS-XE Release 3.16.2S

Identifier	Description
CSCux67737	CM offline after US DBC if move to a US which not have CM SF on it
CSCux36763	CPU 100% when exporting SAMIS full record
CSCux83175	PRE_REG_DSID null cause CM reject(na)
CSCux12682	resiliency, no rbg mode, create some rbg wb, some wont free ever
CSCux62891	SERVICE-FLOW template not record US SF when CM enter/exit EM mode
CSCux66081	SF FrwdIF wrong after DBC if target WB same as original WB
CSCux74021	SUP crash @__be_cmts_mqos_validate_session_replication
CSCuw93063	The ref-count of qos templates mismatch
CSCux41796	cdman crash in memset when sending ucd
CSCux28031	CNR decreased a lot after sent traffic
CSCux24459	DS-JIB 2 Enq:High-Pri:detect if BG has channel greater than 383
CSCuw89169	Interface keep in down status after shut & no shut controller then supha
CSCuw89175	LC high CPU utilization when shutdown & no shutdown DS controller
CSCux47349	map advance buffer leak
CSCux68482	no need data range@default cable specsvl error-adaptive profile X X
CSCux68486	snmp getone slow response for docsLoadbal3GrpStatusEntry
CSCux55305	snmp walk docsIfCmtsDownChannelCounterEntry get slow response
CSCux70534	ubr_specmgmt_compute_timer_interval err msg observed after LCHA
CSCux53102	ubr_ucd_proxy_handle_req_timeout observed after shut/unshut MD/us-chnl
CSCux16233	upstream resiliency modems become UB online after LCPR
CSCux38068	Us flow entry not cleared during reconciliation for cdman only modem
CSCuw28196	Instant Jib4DS Error for PKTP when CM with data-traffic moved by LB
CSCux18027	RP high CPU utilization when shutdown & no shutdown DS controller
CSCux31628	the existed service flow should not be deleted after no acfe
CSCux52080	traceback cpp_docsis_ea_dyn_precfy_bind
CSCuv60730	"mta-battery enable" config inconsistent between LC&SUP after LCHA/LCPR

Identifier	Description
CSCuv88937	"show cable modem tcs summary" output behaviour need align with ubr10k
CSCux63568	%CABLE_IPCCL_LIB-4-SVC_EAGAIN error msg after ccm all delete
CSCuu93599	CBR-8: suddenly changed Upstream Channel for offlined modem
CSCux60028	cBR8 T4 Multiplier Configuration Not Re-synced to LC After LC Restart
CSCuv41477	LC crash with debug cable battery/dbc/mac-add ver, Process = Battery CLC
CSCuw59379	modems in upstream resiliency status drop offline after LCHA or cdman pr
CSCuv02125	no md_ds_sg output after config the fiber-node
CSCux55243	Refix: No lcha config, SF different before and after testcrash lc.
CSCux28111	RTPS flow traffic issue after LCHA with RequestOrTxPolicy 0x1CF
CSCux14062	set value failed for mib cdxCmtsCmChOverTable
CSCux19486	SKB upgrade to R1.1: CPE IP Ping failure
CSCux68465	snmp getone slow response for cdxQosCtrlUpEntry
CSCux68467	snmp getone slow response for cdxQosIfRateLimitEntry
CSCux55098	snmp walk cdxCmtsMtcCmEntry / cdxCmtsUscbSflowEntry get slow response
CSCuv88846	USSF-SUMM-RSP Err msg printed out when show cable up service-flow sum
CSCux48979	"DOCSIS 3.1 Root certificate already learnt" continuously print on LC
CSCux55975	Battlestar: IPv6 modem address out-of-sync between SUP and CLC
CSCux50900	docsBpi2CmtsAuthEntry performance is low on cbr8
CSCux32896	sup crash@__intel_security_check_cookie observed
CSCux62901	%IOSXE_RP_SPA-4-INCR_CFG_SYNC_FAIL:ASR1000 running-config sync failed
CSCux19576	bypass Viper upgrade if the existing version is the same
CSCuv87705	CBR-8 : 'show software authenticity' should indicate Secure Boot
CSCux25053	CLC iosdb process crashed with DS resiliency
CSCux49572	cmcc TIMEHOG seen after Cylons and RF-PIC OIR
CSCux11278	RAPTOR_ESI_PCIE_LO_INTERRUPT: LOCAL RAPTOR, LOCAL PCIE IF, tx_terr_drp
CSCux46066	stby SUP got reset and cmand core file generated after SUP SO

Resolved Caveats—Cisco IOS-XE Release 3.16.2S

Identifier	Description
CSCuw95308	"sh cable multicast probe" display a very large value
CSCux23422	AdmittedQosParamSet of US not change when CM enter EM mode with CIR
CSCuv62752	CBR-4-MCAST_ADMISSION_CONTROL_FAILURE seen when do resiliency & LCPR
CSCux20193	cBR8 - packetcable - unexpected GATE-CLOSE event for PSTN-Modem calls
CSCux42560	cBR8 IPDR issue with CMQosVersion on SAMIS-type-1
CSCux11547	CPP QoS queue resources leak for MQoS
CSCuv83140	D30 LB modem-list still shows "M" even after mcast session stopped
CSCuw61460	DSG modem could not get online after shut/no shut MD and reload LC
CSCuv79196	DSG service flow throughput decrease after perform LCPR and LCHA
CSCux21841	Failure counter is failed to record for cm instance when dcc failed.
CSCuw82921	LC crashed on CBR during LB/DCC
CSCux10154	Mcast traffic block after multiple supha
CSCuv62168	multicast qos share is not same weight as unicast qos share
CSCux36653	PCMM mcast session-range cfg. reject on CLC
CSCux03600	REG-RSP-MP has 0 DSID for multicast TLV
CSCux10099	service flow between lc and sup mismatch after lcha
CSCuv43362	standby sup crash@__be_ubr_mc_dsg_static_group_change
CSCuv52587	sup crash @__be_ubr_dsg_mfib_pltf_upd_entry
CSCuw99298	SUPHA leads pcmm mcast ssm traffic mapping wrong sf with same des group
CSCuv68556	Traceback@ubr_ucm_get_registered_card + 136 (self) after LCHA
CSCuv82889	traffic flow is blocked after change bundle
CSCuu62223	Unfinished show etdb cause crash of sup.
CSCuv39795	add cpu suspend when process queue in cmts_topology_ipdr_process
CSCuu88096	cannot get freq from time schedule specmgmt group after issu N+1
CSCuw79424	cbr8 - ifStackStatus entry returns "0" for mac domain interface cable
CSCuw88436	CBR8 map advance time is incorrectly capped by max_plant_delay config

Identifier	Description
CSCuw27666	cdman crash @do_lookup_x
CSCuv37141	CLC crash@dcm_qam_mgr.c:4963: "res_grp->routing_port[0][port % 4]
CSCuw07551	Configured upstream channel frequency been changed with noise injection
CSCux16564	Data SNR abnormal when non-BE US SF on this channel
CSCux17430	DS Controller missing config after chassis reload
CSCuw02861	entAliasMappingEntry doesn't reflect physical to logical intf mapping
CSCuw20717	frequency assign failed when do no us x spec y & config us x spec y
CSCuv07129	ISSU: Interface status up after ISSU.
CSCuv47253	JIB channel groups are invalid after LCHA/CDMAN restart
CSCuu59028	LC cdman crash during LCHA
CSCuw96643	Modulation changes are not shown in show log
CSCuv34379	Output wrong in "show cable fiber-node" on Cylon
CSCux53222	should calculate allocated_bw for dcm_rf_chan_config_lcha or lcpr
CSCuw23415	SNMP performance low for cdxDownstreamObjects
CSCuw47483	SNMP random get performance low for docsIfCmtsUpChannelCounterEntry
CSCuv04852	Some channels configuraion were lost and not synced
CSCuv12997	Some us failed to assign frequency by spectrum mgmt at startup
CSCuv45490	Specmgmt freq cannot be assigned with snmpset docsIfUpChannelFrequency
CSCuv72788	SPECMGMT: ubr_specmgmt_clc_request_cand_freq_band() error during bootup
CSCuw23097	Specsvl error adaptive syslog need to be polished
CSCuw69676	specsvl error-adaptive profile cfec&ufec incorrect default value
CSCuw85335	Spectrum group time schedule info is incorrect in Stby LC
CSCuw25665	standby sup crash@be_cfg_cable_fn_cmd
CSCuw33549	sup crash@__be_ubr_specmgmt_cfg_ctrlr_specgrp_num_command observed
CSCuw86844	SUP crashes when polling ifMib by snmp getnext contiunously
CSCux11438	The rf-channel config were not synced between active and standby SUP
CSCux10697	Traceback: CPU hog with SNMP ENGINE after power cycle
CSCux46445	us 2db hotter for R1 (XE316 based) image

Identifier	Description
CSCuw59436	US DATA MER is being limited to 36.12 dB on BRCM chip 3142
CSCux83317	CBR cored on processing punted packet header
CSCux27435	cBR router ucode cored
CSCuv62124	CPU 100% for 2.5 minutes during SUPHA on fully loaded TB
CSCuw26754	Make MTU behavior for BSoD traffic on cBR-8 the same as on the uBR10K
CSCuu79998	MQOS consumed all CPP QoS queue resources
CSCuv50596	MQOS consumed all CPP QoS queue resources
CSCuw77985	multicast shadow and traffic lost after some config and supha
CSCux40637	SUP crash after running data and pcmm traffic
CSCux45484	"no cable diaglog active" can't sync to LC0
CSCuv92449	%UBR_INFRA_LCHA-4-RECONCIL_UMP_MISMATCH, Reason: US SF mis-match
CSCux39498	'show interface cab x/y/z sid' type should be stat or dync
CSCuv87036	AC:reservable BW not clear to 0 after shutown all rf chans in controller
CSCux32920	Cable modem can be online on the wideband which line protocol is down.
CSCuw22948	cBR8 CLC Crash IOSXE-WATCHDOG: Process = CMTS CLC PKTCBL
CSCux57918	CDMAN buffer free in us-sched error handling code
CSCux56306	CDMAN buffer leak fix in Ranging and MMM packet allocation/Deallocation
CSCux67389	CDMAN buffer pool 1 leak caused by feature 23 "CDM_BUF_CSMPI_POW_DR"
CSCuv62241	CLC crash @ local_get_docsQos3ServiceFlowSidClusterEntry
CSCuv55913	CLC crash @ubr_ucm_get_us_chan_inst after iosd restart
CSCuw85765	CLC crash at cmts_activate_cfr_deferred in dynamic service flow handling
CSCuv53607	CM attribute-mask not match after LC switchover and reset CM
CSCuw24657	CM dropping offline due to timing offset difference during LCHA
CSCux22625	docsis_sup_sid_mgmt_proc_new_cm_state: ubr_sup_ha_dyn_sync_new_cm ERROR
CSCuv88932	IPDR SERVICE_FLOW Template not consistent with SAMIS after SUPHA
CSCuv80915	LCHA: Ranging MD US table save in interdb and recover for LCHA
CSCuv88874	modems in upstream resiliency status drop offline after LCHA
CSCuu16786	Non-zero Queue-indicator bit statistics reported for non-UGS flows

Identifier	Description
CSCuw47726	SNMP performance low for docsQosCmtsMacToSrvFlowEntry
CSCuw41264	Some objects for docsIfCmtsCmStatusEntry takes long time to response
CSCuv18991	static SF in prov mode after US channel impaired & US resil triggered
CSCux01304	The cm status from "UB w-online(pt)" to "U4 online(pt)" after clean cm
CSCuw47453	The value of docsIfCmtsCmStatusTimingOffset is incorrect
CSCuu54112	The wrong VPN RD when cm online with sf mapping to one vrf
CSCuw18313	US Frequency Range Capability not reporting 5-65Mhz as Standard for EU
CSCuw50274	[cbr8] Cable qos pre-reg us priority feature not working after reload
CSCux05397	CBR8 Cable Arp Filter punts not being handled in IOSD
CSCuu79528	CST: %SYS-3-CPUHOG: process = privacy_process
CSCux36214	PseudoWire status show wrong status information
CSCuv76854	Add a "test lcha toggle show" cli cmd
CSCuu85386	always prints interrupt logs
CSCuu85608	Always see SupCpReset during bootup after supha
CSCuw29570	BPI tek/kek lifetime for iosd-restart support
CSCux32996	CBR-8 : FRU removal trap does not contain "name" "description" field
CSCuw91640	CBR-8: TenG port with SFP-10G-ZR can not up
CSCux47562	cBR-8:Line card reloaded due to caprica watchdog timeout
CSCuu59350	CDMAN buffer low with traffic
CSCuw95354	CDMAN buffer pool exhausted after shut/unshut MD with large traffic
CSCup21820	Change the Octeon inline assemble from "pref" to "pref 28"
CSCuw89185	CLC kept crashing@UBRCCE_CLI_XFER_PARSER
CSCuu80289	CLC2 lost connection at cBR startup
CSCuw44672	cmcc process crashed during SSO
CSCux40053	dcm qam res record count should be not 0 on stby sup
CSCuv43640	Disable RPR mode CLI for CBR
CSCux74171	Dump feature stats when fpa buffer low is detected
CSCuw09272	EDVT: Fault log seen on r1 sup

Identifier	Description
CSCuw91071	FAN PSOC failed using latest CLI after executing old CLI
CSCuv09082	Found CMCC traceback and timehog when upgrading Fan or RFSW-PIC FPD.
CSCuv89524	High counts of input errors on TenGig interface of CBR8
CSCux46368	Modems offline on CLC after CDMINFRA CDM_PT_FPA_TEST SANITY TEST FAILED
CSCuv75857	Physical entity doesn't have Port PhysicalClass err with SUP HA
CSCuv04502	plim default config has to implicitly config to take effect
CSCux27497	Power Budget listed incorrectly
CSCuv61095	Protect LC got reset due to lcha client UBRCCE_INFRA_CLIENT failed
CSCuv66421	set & get docsIf3CmtsSpectrumAnalysisMeasTable fail after test crash
CSCux34556	show redundancy linecard history is null in tech-support
CSCuw74058	SSO: Significant outage on DOCSIS and VIDEO during SSO event
CSCuw97886	Standby Sup crash, Process = Standby service handler process
CSCuu64802	Traceback@timer_in_stdby_transient
CSCux28967	update "show patch info" version for R1.2 throttle

Open Caveats—Cisco IOS-XE Release 3.17.0S

Identifier	Description
CSCuw37519	cBR8 : Load Balancing - channel In0/0/6:1 in incorrectly initial state
CSCuw15163	D30 Static LB not balanced with no CM with NB service flow can move
CSCuw59863	Number of license on US_License not counting slot 9 consistently
CSCuw18780	console log displays error message like "FMFP-3-OBJ_DWNLD_TO_CPP_FAILED"
CSCuw26754	Make MTU behavior for BSoD traffic on cBR-8 the same as on the uBR10K
CSCuw91640	CBR-8: TenG port with SFP-10G-ZR can not up
CSCux07657	cBR8 never advances past first boot statement on failure
CSCuw91071	FAN PSOC failed using latest CLI after executing old CLI
CSCuw18724	Standby Linecard may crash during ISSU or after SUPHA and LCHA
CSCuw29595	Op Simp: Lots of CMs (~80 out of 300) come NB online !

Identifier	Description
CSCux13023	After SUPHA, can see ACFE error msg: trying to deduct xxxx out of 0
CSCux17430	Qam profile order inconsistent with spacing change from default
CSCuv15062	US traffic takes 5 seconds to recover after cdman restart
CSCuw42202	IOSD-CLC process restart info status show No with "disable auto-restart"
CSCuw64478	D3.0 Dynamic cross-MD LB failed if config same US controller in 2 MDs
CSCux08225	entAliasMappingEntry doesn't reflect physical to logical intf mapping
CSCuw31319	dynamic-flow vrf not be removed if no vrf definition
CSCux10697	Traceback: CPU hog with SNMP ENGINE after power cycle
CSCuv53607	CM attribute-mask not match after LC switchover and reset CM
CSCux20034	ISSU fail due to lack of required file on Sup

Resolved Caveats—Cisco IOS-XE Release 3.17.0S

Identifier	Description
CSCus61818	rommon reload when booting system with 2GB Cisco USB stick in USB0 slot
CSCuu44979	SUP hang when 'reset' in ROMMON or 'reload' in IOS is issued
CSCuu15634	SUP rommon needs to print a correct amount of DIMM memory installed
CSCuw56857	DSG traffic not passing any data on cards greater than LC Zero.
CSCuw77985	multicast shadow and traffic lost after some config and supha
CSCuw77979	modems stuck in init(io) due to DSNB flow lost after SUPHA
CSCuv26850	cBR8: allow enable/disable cable forwarding interfaces in CPP
CSCuw80390	Multicast related hw-flows are deleted by reconciliation after SUPHA
CSCuv41285	CST: All linecards crashed after configuring application-type w 16 char
CSCuv15036	CST: Linecard crashing w XE316 image after adding service-type-id config
CSCuv83140	D30 LB modem-list still shows "M" even after mcast session stopped
CSCuu07635	dis/enable multicast-routing will cause some dsg group traffic blocked
CSCuv80275	docsis30-voice calls not mapped to Primary Ch with authorize-vanilla-mta
CSCuw61460	DSG modem could not get online after shut/no shut MD and reload LC

Identifier	Description
CSCus72227	DSG-3-DSG_DA_TO_DSID_DUPLICATED
CSCuu90562	dsid allocated number mismatch with wb modem number
CSCuv43086	Feature Request: Add cm failure for D30 static load balance on cBR8
CSCuv37247	Group QOS and dsg session mismatch at the border
CSCuu30509	LB doesn't check CM attribute-mask for WBCM
CSCuw82921	LC crashed on CBR during LB/DCC
CSCuw80390	Multicast related hw-flows are deleted by reconciliation after SUPHA
CSCuv29453	Polling docsLoadBalChannelEntry return circular output
CSCuv60591	ServiceTimeCreated value changes slightly with each IPDR export
CSCuv13003	SF created Time in SAMIS & docsQosServiceFlowTimeCreated mismatch
CSCuu66373	show cable LB docsis-group output can't be terminated by any key combo
CSCuw41098	some default multicast sf deleted after sup switchover
CSCuw71840	SR 636678539 : Active SUP crash when replicating GATE-ALLOC
CSCuv43841	SUP crash when add/remove vrf of Bundle with static multicast group
CSCuv82889	traffic flow is blocked after change bundle
CSCuu07661	wrong CmtsMdIfIndex and ServiceTimeCreated in sflog
CSCuw79424	cbr8 - ifStackStatus entry returns "0" for mac domain interface cable
CSCuv92857	CDMAN crashed w/ Assertion failed after system boot up with D31 image
CSCuw07551	Configured upstream channel frequency been changed with noise injection
CSCuw03535	docsIfSignalQualityEntry slow SNMP response CBR8
CSCuw02861	entAliasMappingEntry doesn't reflect physical to logical intf mapping
CSCuv69637	Erroneous bkt_gap caused by curr_time update
CSCuu41357	fail to ping to some modems after "clear cable modem <md>" command
CSCuw05792	frequce still can be shown @us-channel shutdown after SUPHA
CSCuu28934	Gemini 2: FW for PSOC, Apollo and Micro on G2
CSCuu40043	Gemini FW: release micro 1.8 that fixes QAM output power level issue
CSCuu06192	Gemini FW: release PSOC FW 3.7 that fixes gemini slow booting issue
CSCuu71095	Gemini: Apollo FW that fixes control plane slowness

Identifier	Description
CSCuu16301	Gemini: PSOC FW 3.9 that fixes gemini power lost and slow booting issue
CSCuv35546	Handling of small packets fragments can cause Jib4US lockups
CSCuv47253	JIB channel groups are invalid after LCHA/CDMAN restart
CSCuv77341	Modem offline after remove another FN's service-group profile
CSCus30096	New active CLC crash after LCSO, @ubr_dsbg_ipc_linestate_save_db
CSCut08459	no cable upstream 0 equalization-error-recovery applied
CSCuv88545	pkt_drp due to channel pkt Q full on new active LC after LCSO
CSCuw30927	snmp mib docsIfUpstreamChannelEntry performance enhancement
CSCuv78726	Some CMs cannot receive traffic for about 2-5 minutes after LCHA
CSCuv72788	SPECMGMT: ubr_specmgmt_clc_request_cand_freq_band() error during bootup
CSCuw23097	Specsvl error adaptive syslog need to be polished
CSCuw33549	sup crash@__be_ubr_specmgmt_cfg_ctrlr_specgrp_num_command observed
CSCuv30479	Traffic drop count increment after SUP HA
CSCuu93276	ubr_ucm_get_registered_card() Err seen when boots up cBR-8
CSCuv07062	US channel stats not working for us bonding
CSCuu79511	US MER is being limited to 36.12 dB on BRCM chip 3142
CSCuv26850	cBR8: allow enable/disable cable forwarding interfaces in CPP
CSCuw30681	CPP Tracebacks @ cpp_qm_obj_reparent in R2 image after ccm all reset
CSCut40424	CPPOSLIB-3-ERROR_NOTIFY traceback and cpp download fail
CSCuv62124	CPU 100% for 2.5 minutes during SUPHA on fully loaded TB
CSCuv64536	CPUHOG @UBR DSBG CFG Process, ubr_dsbg_intf_bw_update_dp
CSCuv90214	DS L2vpn packets match the normal L3 classifiers
CSCuu35431	ifIndex entries in the system log.
CSCuu82050	IGMP report with combined leave/join can't be correctly handled
CSCuv59604	Modem mac assigned to bundle is not moving from hotlist
CSCuw77985	multicast shadow and traffic lost after some config and supha
CSCux08040	queue stuck after DS resiliency/recover, cause CM in init(o)/init(t)
CSCuu94819	SUP crash @ cmts_arp_filter_show_interface_detail during arp-filter show

Identifier	Description
CSCuv88988	SUP crash @mcprp_ubr_punt_process_platform_header
CSCuu87253	Two l2vpn DS classifiers weren't supported to use the same service flow
CSCuv45795	UBRCCE-3-UBR_DP_LOCK_ERR: Failed to lock semaphore when cbr boot
CSCuv53746	WB qos min-rate can't be guaranteed .
CSCuv79699	WB rf-channel remove check add
CSCut35411	%UBR_INFRA-3-NORES: Extra free of element into DMP pool_id: 393625 5
CSCuv92449	%UBR_INFRA_LCHA-4-RECONCIL_UMP_MISMATCH, Reason: US SF mis-match
CSCuu52044	'scm mac summary total' displays one upstream channel for UB online CM
CSCuv87036	AC:reservable BW not clear to 0 after shutown all rf chans in controller
CSCuw18344	Cable qos pre-reg us priority feature not working after LC revert back
CSCuv50796	cbr8 - power-adjust continue does not work for USCB modems
CSCuw22948	cBR8 CLC Crash IOSXE-WATCHDOG: Process = CMTS CLC PKTCBL
CSCuw33127	cdxCmtsUscbDescr returns wrong value
CSCuu05200	CM flap w/ EQ coefficient enabled & relatively tough RF condition
CSCuu19039	DBG failed to be freed and flap between "Free" and "In Delete"
CSCuu91697	dsx service flow deleted after sup ha
CSCuu67034	Duplicated records in scm partial-service
CSCuv97944	Expand fwd_lookup_table size and correct D3.0 fragment size
CSCuu63314	Incorrect wideband interface status when bonding entries are altered
CSCuu13802	IOSd memory leak in iosd_2_iosd
CSCuv04776	ipdr generates unexpected records with 2 CM status session & ad-hoc type
CSCuv88932	IPDR SERVICE_FLOW Template not consistent with SAMIS after SUPHA
CSCuu90781	LC crash @ decode_partial_service when AC fails during DBC transaction
CSCuv80915	LCHA: Ranging MD US table save in interdb and recover for LCHA
CSCuv38946	Linecard crash after issuing scm <mac> verbose with D3.1 modem present
CSCuv68516	modem become unpingable due to DSID inconsistent between CMTS and CM
CSCuv88874	modems in upstream resiliency status drop offline after LCHA
CSCuv84808	mrc-only CM count doesn't show in "show cable mac-domain rcc" after DCC

Identifier	Description
CSCuw19075	PCMM voice call does not work if "cable docsis30-voice ..." configured
CSCuv71055	ping docsis partially fail after cdman restart
CSCuu07757	Port uBR10k Battery mode large scale code to cBR8
CSCut50612	SNMP access of equalization coefficients returns incorrect values
CSCuv77809	snmp performance enhancement
CSCuw39347	Some mibs response time too long if no CM on chassis
CSCuv18991	static SF in prov mode after US channel impaired & US resil triggered
CSCuv41419	Sup crash after reload
CSCuu84966	SUP crash following SO due to packetcable timer
CSCuu83105	sup crash when show cable modem service ds during cm online/offline
CSCut94404	Supervisor crash due to Segmentation fault in Virtual Exec process
CSCuv98908	US channel shouldn't recover on-fail-disable-chnl after LCHA
CSCuv51334	US flows with fragmentation disabled incorrectly drops packets
CSCuw18313	US Frequency Range Capability not reporting 5-65Mhz as Standard for EU
CSCuv46043	US packet drop issue during longevity / aging testing
CSCuv43385	WB attribute mask doesn't work after lcha
CSCuw50274	[cbr8] Cable qos pre-reg us priority feature not working after reload
CSCuw02254	BPI Tek/Kek lifetime changed while clock set
CSCuw23100	cBR8 cable IPv6 nd timeout triggered by wrong ND state change
CSCuv49471	CBR8 High CPU due to ARP Input.
CSCut97497	CMTS L2VPN ADJ search method change
CSCuv65477	Complete cbr8 CMTS code to pass CALEA testing using test CLI
CSCuu79528	CST: %SYS-3-CPUHOG: process = privacy_process
CSCuv35791	Dot1q L2VPN traffic go to default DS SF due to wrong priority set in cpp
CSCuv22783	IPv6 DMIC implementation of cBR-8 differs from UBR10K
CSCuv86667	L2vpn DS/US drop after SUPHA for sometimes on port-channel sub-interface
CSCuu75854	L2vpn modem failed to get online with expected packet tag
CSCuw47406	the second modem with PW redundancy failed to get online

Identifier	Description
CSCuu59111	"wrong table id 8 or nominator 52, get failed" when poll 50+ nominators
CSCuv18216	%SYS-NOBLOCK:may_suspend w/block disabled;Process lcha fast ipc process
CSCuu39764	Active SUP crash with standby ASTRO Interlaken error
CSCuu46760	Active SUP kernel crash at free_msi_irqs() when standby SUP OIR
CSCuu46622	Active SUP kernel crash when OIR remove and insert standby SUP
CSCuv05660	add show platform software patch info in show tech
CSCuu64222	Battlestar: Daggits firmware commit V33 to X315 and later branch
CSCuw41912	cBR RP - Checkin new Viper image with Y0_VID change
CSCuw21214	CBR-8: TenG port with SFP-10G-ER can not up
CSCuv93779	cBR8 ROMMON: Vulnerability in package codesign validation
CSCuw27500	CBR8 SUP crash due to double free
CSCuu03010	cBR8: TSS PLL not lock count 1 causes CDMAN crash
CSCuv16776	config snmp entity-diag & entity-red, show wrong.
CSCuv45445	create all in one pkg for r1 rebuild
CSCuv82421	dblib replication: tx and rx counters don't match
CSCuv71464	do sh run | i snmp not consistent with config ,5 items
CSCuu66240	Failure to read RSA Key pair from the digital mid plane ACT2
CSCuu54374	FPD:cylon cannot bootup after finish upgrading daggit with new UBOOT
CSCuw22791	hman Err in btrace log
CSCuu11915	iosdb process stuck after run resiliency longevity
CSCuu47817	Kernel: INFO: task sync:13074 blocked when expanding subpkg to usb
CSCuu29363	LCPR IOSD: increase timeout period for lcpr sm timer
CSCut68417	Need to add CBR-8 USB Disk in "sh inven"
CSCuu44982	No Core File is Generated for Astro Serdes FATAL Interrupts
CSCuv02216	No IOS cmd for CBR8 SFP+ module diagnostic data
CSCuv40038	OID returns wrong from SNMP & CLI for CBR-8 daughter cards
CSCuu08432	plim default config has to implicitly config to take effect
CSCuv04502	plim default config has to implicitly config to take effect

Identifier	Description
CSCuv61095	Protect LC got reset due to lcha client UBRCCE_INFRA_CLIENT failed
CSCuv44566	remove bootup log in lcpr_sup_infra_init()
CSCuv36564	remove disable-full-core option under process-restart config commands
CSCuv60251	Remove fno-omit-frame-pointer for mips64 on mcp_dev
CSCuv12964	Remove the LTC3882 accesses to fix the HW issue on cylons board
CSCuu51731	RFSW PIC: there is no RFSW PIC inserted in slot 1 after SUPHA
CSCuw30958	Seen many qstat_rx_error/channel_not_found_err when perform LCHA and SWO
CSCuu91382	show platform software ios <slot> restart info not in show tech
CSCuv30481	Stby-SUP crash at "Process = REDUNDANCY FSM" when reload whole chassis
CSCuv69062	Sup 5 crash after OIR of Sup 4 in R1
CSCuu45356	TDL mem leak @cm_env_monitor after overnight lc power-cycle
CSCuw20643	To monitor and recover from lost of connection to /harddisk on line card
CSCut98756	Rogue IP using port 4737 and IPDR stop working
CSCur45520	SCI1: stby pre can't boot up caused by Bulk-sync failure after PRE SO
CSCuv32475	MTA lost after ARP timeout

Open Caveats—Cisco IOS-XE Release 3.16.1S

Bug ID	Description
CSCuu89785	CBR-8 show interface cable modem command - Priv bit value is not correct
CSCuw37519	cBR8 : Load Balancing - channel In0/0/6:1 in incorrectly initial state
CSCuw15163	D30 Static LB not balanced
CSCuu07635	dis/enable multicast-routing will cause some dsg group traffic blocked
CSCuw61460	DSG modem could not get online after shut/no shut MD and reload LC
CSCuv43086	Feature Request: Add cm failure for D30 static load balance on cBR8
CSCuw33092	IPC take too long time during SUPHA under 7+1 LCHA
CSCuu30509	LB doesn't check CM attribute-mask for WBCM
CSCuw55080	LC crash on test cable load-balance set-stats upstream

Bug ID	Description
CSCuw82921	LC crashed on CBR during LB/DCC
CSCuw59863	Number of license on US_License feature is not correct
CSCuv29453	Polling docsLoadBalChannelEntry return circular output
CSCuv13003	SF created Time in SAMIS & docsQosServiceFlowTimeCreated mismatch
CSCuu66373	show cable LB docsis-group output can't be terminated by any key combo
CSCuv85628	Show interface Integrated-Cable Downstream Large Reported Service Flows
CSCuw23348	SNMP performance low for docsMcastCmtsReplSessEntry
CSCuw88436	CBR8 map advance time is incorrectly capped by max_plant_delay config
CSCuw02861	entAliasMappingEntry doesn't reflect physical to logical intf mapping
CSCuw20717	frequency assign failed when do no us x spec y & config us x spec y
CSCuw89175	high CPU utilization when shutdown & no shutdown DS controller
CSCuw89169	Interface keep in down status after shut & no shut controller then supha
CSCuv94596	Modem unpingable after docsis-mode change
CSCuw47483	SNMP random get performance low for docsIfCmtsUpChannelCounterEntry
CSCuu79511	US MER is being limited to 36.12 dB on BRCM chip 3142
CSCuv90214	DS L2vpn packets match the normal L3 classifiers
CSCuw40874	DS L2vpn packets matched to higher priority mac_precfy classifers
CSCuu95682	High CPU utilization will last 3 minutes after starting ARP-attack
CSCuw28196	Instant Jib4DS Error for PKTP when CM with data-traffic moved by LB
CSCuw26754	Make MTU behavior for BSoD traffic on cBR-8 the same as on the uBR10K
CSCuu87253	Two l2vpn DS classifiers weren't supported to use the same service flow
CSCuv60730	"mta-battery enable" config inconsistent between LC&SUP after LCHA/LCPR
CSCuw37428	"no cable upstream fragment-force" turn fragment-threshold to default
CSCut35411	%UBR_INFRA-3-NORES: Extra free of element into DMP pool_id: 393625 5
CSCuu52044	'scm mac summary total' displays one upstream channel for UB online CM
CSCuv87036	AC:reservable BW not clear to 0 after shutown all rf chans in controller
CSCuw59240	cBR-8 "show cable throttle-modem" output is incorrect
CSCuu93599	CBR-8: suddenly changed Upstream Channel for offlined modem

Bug ID	Description
CSCuw91656	cBR8 : Delayed maps causing voice quality issues
CSCuw22948	cBR8 CLC Crash IOSXE-WATCHDOG: Process = CMTS CLC PKTCBL
CSCuw33127	cdxCmtsUscbDescr returns wrong value
CSCuw85765	CLC crash at cmts_activate_cfr_deferred in dynamic service flow handling
CSCuv53607	CM attribute-mask not match after LC switchover and reset CM
CSCuw24657	CM dropping offline on NSI slot during LCHA
CSCuv30942	CM offline after A/C power up, if use cross-controller DBG enter 1x1
CSCuu67034	Duplicated records in scm partial-service
CSCuw85321	getone fail in docsQos3ParamSetEntry when modem offline
CSCuu63314	Incorrect wideband interface status when bonding entries are altered
CSCuv88932	IPDR SERVICE_FLOW Template not consistent with SAMIS after SUPHA
CSCuv41477	LC crash with debug cable battery/dbc/mac-add ver, Process = Battery CLC
CSCuv02125	no md_ds_sg output after config the fiber-node
CSCut50612	SNMP access of equalization coefficients returns incorrect values
CSCuw41253	SNMP performance low for ccsCmFlapEntry
CSCuw47726	SNMP performance low for docsQosCmtsMacToSrvFlowEntry
CSCuw41264	Some objects for docsIfCmtsCmStatusEntry takes long time to response
CSCuw18313	US Frequency Range Capability not reporting 5-65Mhz as Standard for EU
CSCuw50274	[cbr8] Cable qos pre-reg us priority feature not working after reload
CSCuw09703	802.1Q L2VPN not passing L2CP oam packets downstream
CSCuw02254	BPI Tek/Kek lifetime changed while clock set
CSCuw23100	cBR8 cable IPv6 nd timeout triggered by wrong ND state change
CSCuw83942	CBR8 High CPU seen after SUP SO
CSCuu79528	CST: %SYS-3-CPUHOG: process = privacy_process
CSCuv86667	L2vpn DS/US drop after SUPHA for sometimes on port-channel sub-interface
CSCuu75854	L2vpn modem failed to get online with expected packet tag
CSCuu44419	L2VPN MPLS PWs down after SUP HA
CSCuw64156	"show logging onboard uptime" didn't display full entries

Bug ID	Description
CSCuv18216	%SYS-NOBLOCK:may_suspend w/block disabled;Process lcha fast ipc process
CSCuw29570	BPI tek/kek lifetime for iosd-restart support
CSCuv87705	CBR-8 : 'show software authenticity' should indicate Secure Boot
CSCuw91640	CBR-8: TenG port with SFP-10G-ZR can not up
CSCuv51208	EDVT: sup-60 - Raptor errors seen during sup-60 testing
CSCuv58775	EDVT: SUP-HA: %CBR_SPA-3-ESI_PLL_CTRL_REG_WRITE_ERROR
CSCuu66240	Failure to read RSA Key pair from the digital mid plane ACT2
CSCuv91051	FPD:log of upgrading stby SUP psoc cannot be output
CSCuv89524	High counts of input errors on TenGig interface of CBR8
CSCuw22791	hman Err in btrace log
CSCuw62203	IPDR - Stop record with ServiceFlowChSet empty for Broadcast SF
CSCuu13826	itimer in cdman is inaccurate
CSCuw13629	OBFL log display is using "current" time rather than "Historical" time
CSCuu51731	RFSW PIC: there is no RFSW PIC inserted in slot 1 after SUPHA
CSCut37529	Several traceback @ intr_stat_snapshot_and_process about ACFE
CSCuv30481	Stby-SUP crash at "Process = REDUNDANCY FSM" when reload whole chassis
CSCuw20643	To monitor and recover from lost of connection to /harddisk on line card
CSCut98756	Rogue IP using port 4737 and IPDR stop working

Resolved Caveats—Cisco IOS-XE Release 3.16.1S

Bug ID	Description
CSCuw47406	the second modem with PW redundancy failed to get online
CSCuw78395	Clear modem cannot take affect after perform SUPHA
CSCuv41285	CST: All linecards crashed after configuring application-type w 16 char
CSCuv15036	CST: Linecard crashing w XE316 image after adding service-type-id config
CSCuv80275	docsis30-voice calls not mapped to Primary Ch with authorize-vanilla-mta
CSCuv60591	ServiceTimeCreated value changes slightly with each IPDR export

Bug ID	Description
CSCuw41098	some default multicast sf deleted after sup switchover
CSCuw71840	SR 636678539 : Active SUP crash when replicating GATE-ALLOC
CSCuv92857	CDMAN crashed w/ Assertion failed after system boot up with D31 image
CSCuw03535	docsIfSignalQualityEntry slow SNMP response CBR8
CSCuv69637	Erroneous bkt_gap caused by curr_time update
CSCuv35546	Handling of small packets fragments can cause Jib4US lockups
CSCus30096	New active CLC crash after LCSO, @ubr_dsbg_ipc_linestate_save_db
CSCuv88545	pkt_drp due to channel pkt Q full on new active LC after LCSO
CSCuv78726	Some CMs cannot receive traffic for about 2-5 minutes after LCHA
CSCuv30479	Traffic drop count increment after SUP HA
CSCuu93276	ubr_ucm_get_registered_card() Err seen when boots up cBR-8
CSCuv07062	US channel stats not working for us bonding
CSCuv26850	cBR8: allow enable/disable cable forwarding interfaces in CPP
CSCuw30681	CPP Tracebacks @ cpp_qm_obj_reparent in R2 image after ccm all reset
CSCuu35431	ifIndex entries in the system log.
CSCuv59604	Modem mac assigned to bundle is not moving from hotlist
CSCuv45795	UBRCCE-3-UBR_DP_LOCK_ERR: Failed to lock semaphore when cbr boot
CSCuv53746	WB qos min-rate can't be guaranteed .
CSCuw18344	Cable qos pre-reg us priority feature not working after LC revert back
CSCuv50796	cbr8 - power-adjust continue does not work for USCB modems
CSCuv97944	Expand fwd_lookup_table size and correct D3.0 fragment size
CSCuu90781	LC crash @ decode_partial_service when AC fails during DBC transaction
CSCuv38946	Linecard crash after issuing scm <mac> verbose with D3.1 modem present
CSCuw19075	PCMM voice call does not work if "cable docsis30-voice ..." configured
CSCuv71055	ping docsis partially fail after cdman restart
CSCuv77809	snmp performance enhancement
CSCuw39347	Some mibs response time too long if no CM on chassis
CSCuu84966	SUP crash following SO due to packetcable timer

Bug ID	Description
CSCuv51334	US flows with fragmentation disabled incorrectly drops packets
CSCuv46043	US packet drop issue during longevity / aging testing
CSCuv43385	WB attribute mask doesn't work after lcha
CSCuv49471	CBR8 High CPU due to ARP Input.
CSCuv35791	Dot1q L2VPN traffic go to default DS SF due to wrong priority set in cpp
CSCuv22783	IPv6 DMIC implementation of cBR-8 differs from UBR10K
CSCuv05660	add show platform software patch info in show tech
CSCuw41912	cBR RP - Checkin new Viper image with Y0_VID change
CSCuw21214	CBR-8: TenG port with SFP-10G-ER can not up
CSCuw27500	CBR8 SUP crash due to double free
CSCuv45445	create all in one pkg for r1 rebuild
CSCuv82421	dblib replication: tx and rx counters don't match
CSCuw85340	Fan's ramping up speed after a SUP reload
CSCuu54374	FPD:cylon cannot bootup after finish upgrading daggit with new UBOOT
CSCuw17057	Initialization becauseRP Serial Bridge ASIC has failed i No such file or
CSCuu11915	iosdb process stuck after run resiliency longevity
CSCuu29363	LCPR IOSD: increase timeout period for lcpr sm timer
CSCuv02216	No IOS cmd for CBR8 SFP+ module diagnostic data
CSCuv40038	OID returns wrong from SNMP & CLI for CBR-8 daughter cards
CSCuw50233	Re-launch automount on line card
CSCuv44566	remove bootup log in lcpr_sup_infra_init()
CSCuv73204	remove debug option for src-ubr in makefile
CSCuv60251	Remove fno-omit-frame-pointer for mips64 on mcp_dev
CSCuv12964	Remove the LTC3882 accesses to fix the HW issue on cylons board
CSCuu91382	show platform software ios <slot> restart info not in show tech
CSCuv69062	Sup 5 crash after OIR of Sup 4 in R1
CSCuu35089	UBR10k/cBR-8 crash with ExporterProtocol_DisconnectCallback
CSCur45520	SCI1: stby pre can't boot up caused by Bulk-sync failure after PRE SO

Bug ID	Description
CSCuv32475	MTA lost after ARP timeout

Open Caveats—Cisco IOS-XE Release 3.16.0S

Bug ID	Description
CSCuv15036	CST: Linecard crashing w XE316 image after adding service-type-id config
CSCuv23640	IPv6 Traffic Loss after SUP HA w/ CSV and default cable nd timeout
CSCuu90781	LC crash @ decode_partial_service when AC fails during DBC transaction
CSCuu84966	SUP crash following SO due to packetcable timer
CSCuv22783	IPv6 DMIC implementation of cBR-8 differs from UBR10K

Resolved Caveats—Cisco IOS-XE Release 3.16.0S

Bug ID	Description
CSCuu44979	SUP hang when 'reset' in ROMMON or 'reload' in IOS is issued
CSCus90250	ad-hoc ipdr topology record can't be generated after supha
CSCus72227	DSG-3-DSG_DA_TO_DSID_DUPLICATED
CSCuu90562	dsid allocated number mismatch with wb modem number
CSCut05231	FR: STBY SUP keep reloading due to Bulk-sync failure @D30 GLBG
CSCus91620	Mem Leak on SUP switchovers followed by bulk PCMM calls test.
CSCut15090	samistype1 export wrong gateId and appId after supha
CSCuu07661	wrong CmtsMdIfIndex and ServiceTimeCreated in sflog
CSCut68395	CBR8:RF output erratic if RF port not admin down before applying config
CSCut39282	DS-JIB reports packet drops for unused channels
CSCuu41357	fail to ping to some modems after "clear cable modem <md>" command
CSCuu28934	Gemini 2: FW for PSOC, Apollo and Micro on G2
CSCuu40043	Gemini FW: release micro 1.8 that fixes QAM output power level issue
CSCuu71095	Gemini: Apollo FW that fixes control plane slowness
CSCuu16301	Gemini: PSOC FW 3.9 that fixes gemini power lost and slow booting issue

Bug ID	Description
CSCut08459	no cable upstream 0 equalization-error-recovery applied
CSCus61568	DOCSIS counters is not 0 when all the MDs are shut
CSCuu94819	SUP crash @ cmts_arp_filter_show_interface_detail during arp-filter show
CSCut83396	cBR8: Certain CMs fail to range on US with extended freq range
CSCuu05200	CM flap w/ EQ coefficient enabled & relatively tough RF condition
CSCuu19039	DBG failed to be freed and flap between "Free" and "In Delete"
CSCut10577	R0:Modem got reset when controller upstream is shut/no shut
CSCut12791	Saved qos profile CLI cfg can't be applied after cbr8 reload
CSCuv41419	Sup crash after reload on Charter
CSCuu83105	sup crash when show cable modem service ds during cm online/offline
CSCut94404	Supervisor crash due to Segmentation fault in Virtual Exec process
CSCut22893	AtoM L2VPN DS traffic go to default SF after SUP-HA if EAE enabled
CSCut97497	CMTS L2VPN ADJ search method change
CSCut11068	CST: No output from "show cable tech-support" cmd
CSCut08826	CST: show cable modem <ipv6_address> primary-channel cmd missing
CSCus05400	Unable to "no cable l2-vpn-service xconnect nsi mpls"
CSCuu39764	Active SUP crash with standby ASTRO Interlaken error
CSCuu46760	Active SUP kernel crash at free_msi_irqs() when standby SUP OIR
CSCuu46622	Active SUP kernel crash when OIR remove and insert standby SUP
CSCuu64222	Battlestar: Daggits firmware commit V33 to X315 and later branch
CSCuu03010	cBR8: TSS PLL not lock count 1 causes CDMAN crash
CSCut70803	DSG CPUHOG cause iosd hung
CSCus98014	FR: CM fail to online after LC reload and SUPSO
CSCut04490	Incorrect description for new CBR DC power supply
CSCut68419	Lots of memory leak @__be_mcp_alloc_ipc_tx_msg_once during lcpr
CSCut68417	Need to add CBR-8 USB Disk in "sh inven"
CSCut47383	PID and Serial number to be fixed of CBR-8 Hard Disk in CLI/SNMP data
CSCus61818	rommon reload when booting system with 2GB Cisco USB stick in USB0 slot

Bug ID	Description
CSCut61935	SUP crashed @ IOSXE-WATCHDOG due to memory leak with acfe

Open Caveats—Cisco IOS-XE Release 3.15.1S

Bug ID	Description
CSCut13516	CPU HOG when del/add ip multicast-routing distribute
CSCuu90562	dsid allocated number mismatch with wb modem number
CSCuu79511	US MER is being limited to 36.12 dB on BRCM chip 3142
CSCuu72228	CM stuck in init(i) state
CSCuu94819	SUP crash @ cmts_arp_filter_show_interface_detail during arp-filter show
CSCuu93599	CBR-8: suddenly changed Upstream Channel for offlined modem
CSCuu16786	Non-zero Queue-indicator bit statistics reported for non-UGS flows
CSCuu84966	SUP crash following SO due to packetcable timer
CSCuu04002	cBR8: : cdman: USPHY: USPHY: Received PWM SRC CHG ISR
CSCuu98573	cBR8: [FTS][SKB]Unexpected CLC reset

Resolved Caveats—Cisco IOS-XE Release 3.15.1S

Bug ID	Description
CSCut05231	FR: STBY SUP keep reloading due to Bulk-sync failure @D30 GLBG
CSCut68395	CBR8:RF output erratic if RF port not admin down before applying config
CSCut83396	cBR8: Certain CMs fail to range on US with extended freq range
CSCuu05200	CM flap w/ EQ coefficient enabled & relatively tough RF condition
CSCut10577	R0:Modem got reset when controller upstream is shut/no shut
CSCut94404	Supervisor crash due to Segmentation fault in Virtual Exec process
CSCut97497	CMTS L2VPN ADJ search method change
CSCuu39764	Active SUP crash with standby ASTRO Interlaken error
CSCut61935	SUP crashed @ IOSXE-WATCHDOG due to memory leak with acfe

Open Caveats—Cisco IOS-XE Release 3.15.0S

Bug ID	Description
CSCuq27352	PFG tos-value is inconsistence from D3.0 spec. as ACL takes 6 bit MSB
CSCur22631	%UBR_INFRA-3-NORES: Extra free of element into DMP pool_id: 399345 4
CSCur76100	CDMAN error msg DS-JIB:Enq:Low-Pri:channel cfg table after ccm delete
CSCus05400	Unable to \"no cable l2-vpn-service xconnect nsi mpls\"
CSCus49401	EVENTLIB-3-CPUHOG no traceback
CSCus56715	FST: Fan Tray/Module Failure shown as CRITICAL ALERT when cbr boot
CSCus61568	DOCSIS counters is not 0 when all the MDs are shut
CSCus61818	rommon reload when booting system with 2GB Cisco USB stick in USB0 slot
CSCus67483	CDMAN CPUHOG doesn't generate correct traceback
CSCus68456	FST:some PC gates and sf's not deleted long after SUPHA due to IPC drops
CSCus72227	DSG-3-DSG_DA_TO_DSID_DUPLICATED
CSCus73398	Display for 'sh packet cable Gate Sum' on RPs keeps repeating, ok on CLC
CSCus75955	docsis_sup_sid_mgmt_proc_new_cm_state: ubr_sup_ha_dyn_sync_new_cm ERROR
CSCus78428	PMAN-3: pvp.sh: Empty executable used for process iosdb_disable
CSCus88577	remove alignment code from iosd-clc
CSCus90250	ad-hoc ipdr topology record can't be generated after supha
CSCus91620	Mem Leak on SUP switchovers followed by bulk PCMM calls test.
CSCus91643	In some scenario, after SUPHA, hanging PCMM gates without associated SFs
CSCus91967	PCMM pktcbl 2.0 - ACK drops observed on spirent during WB-CMs calls
CSCus92283	FST: WB AUTORESET impact MD that configured no cable mrc-mode
CSCus96436	FR: UBRCCE-6-CM_INCONSISTENCY shown w/ WB-AUTORESET feature take effect
CSCus97896	usr/binos/conf/hwutil.sh: line 422: lcoal: command not found\" Error msg
CSCus98014	FR: CM fail to online after LC reload and SUPSO
CSCus99770	Tracebacks @ %CMCC-3-IDPROM_ACCESS after RF-PIC OIR
CSCut02449	Modems can't get back to online after MD new mac address configured
CSCut04140	some sfid not apply in DSG tunnel after config srv-class for this tunnel

Bug ID	Description
CSCut04490	Incorrect description for new CBR DC power supply
CSCut05231	FR: STBY SUP keep reloading due to Bulk-sync failure @D30 GLBG
CSCut08819	J4US Interrupt Received: [CCFP][LoPri]:ses_disabled_err_int count
CSCut08826	CST: show cable modem < ipv6_address > primary-channel cmd missing
CSCut10577	R0:Modem got reset when controller upstream is shut/no shut
CSCut11068	CST: No output from \"show cable tech-support\" cmd
CSCut12791	Saved qos profile CLI cfg can't be applied after cbr8 reload
CSCut13516	CPU HOG when del/add ip multicast-routing distribute
CSCut14034	RecType in IPDR xml file is not as expected after changing the IPDR type
CSCut14573	CLC hungs after oir at stress longevity test
CSCut14756	show platform diag shows wrong version for LC's CPLD
CSCut15020	The mfgName of US and DS are diffrent
CSCut15090	samistype1 export wrong gateId and appId after supha
CSCut15134	snmp get qos fragment counter not equal to the one from cli cmd show
CSCut15670	FR: CBR reload fail after SUPHA
CSCut15703	unexpected linux crash(or reset) when sup boot up cause pciehp issue
CSCut17779	Change dsg tunnel service class,Multicast Group QOS info is not deleted
CSCut19780	cbr8: pfg not working when cpe device class from host to ePS
CSCut20410	Tengig interface peer down after SUPHA
CSCut21612	No alarm for AC cord removal from PEM
CSCut22197	docsLoadBalChannelStatus can't return US channel
CSCut22893	AtoM L2VPN DS traffic go to default SF after SUP-HA if EAE enabled
CSCut23138	cBR:Reload automatically cmcc core file genertaed
CSCut27399	Show env lists wrong Yoda die temperature
CSCut27817	PW L2VPN does not honor classifier rule priority
CSCut28839	One CM disappear on SUP but exist on LC after Resiliency & SUP-HA
CSCut37743	Registration reject confirmation 211 is not getting minimum buffer size
CSCut39781	UBR_SUP_Flow-ERROR seen while running md_scale script

Bug ID	Description
CSCut46752	%XCONNECT-3-ILLEGAL Invalid handle error message after resetting all CMs
CSCut48821	Call-home ip http-client has problems with source-interface
CSCut48846	LC crash at boot with llq configured, modem stuck in init(io) afterwards
CSCut52421	R0: CDM_RT crashed at rfid_bmarr_get_bitmap after SUP reload
CSCut54215	CBR8: RSA Key missing after reboot

Resolved Caveats—Cisco IOS-XE Release 3.15.0S

There is no resolved caveat in Cisco IOS-XE Release 3.15.0S.