Release Notes for Cisco cBR Series Converged Broadband Routers for Cisco IOS XE Gibraltar 16.10.x

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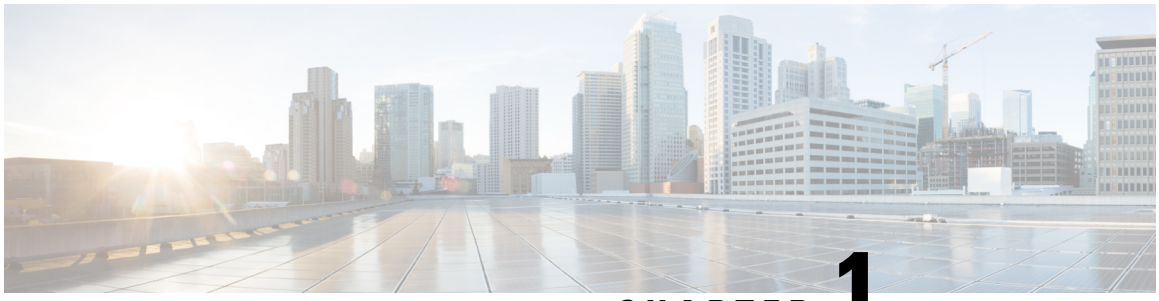
CONTENTS

CHAPTER 1



CHAPTER 1

Introduction

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This release notes contain information about downloading and installing Cisco IOS XE Gibraltar 16.10.x. It also provides new and changed information, hardware support, limitations and restrictions, and caveats for Cisco IOS XE Gibraltar 16.10.x.

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 .

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Note Cisco IOS XE Gibraltar 16.10.x is generally available for field deployment. However, we recommend that you validate and qualify Cisco IOS XE Gibraltar 16.10.x in a limited field trial with your specific network configuration requirements in order to ensure a smoother, faster, and successful field deployment.

Note Due to the performance impact, it is recommended to deploy Cisco IOS XE Gibraltar 16.10.1d or a release later than Cisco IOS XE Gibraltar 16.10.1f for RPHY applications.

This chapter includes the following sections:

System Requirements

These sections describe the system requirements for Cisco IOS XE Gibraltar 16.10.x:

Memory Requirements

The following table displays the memory recommendations for the Cisco cBR Series Converged Broadband Routers with Cisco IOS XE Gibraltar 16.10.1g feature sets.

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

Feature Set	Cisco cBR Route Processor	Software Image	Recommended Flash Memory	Recommended DRAM Memory	Runs From
CISCO IOS-XE universalk9	Cisco cBR8 (CBR) Processor	cbrsup-universalk9.16.10.01g.SPA.bin	8G	48G	Bootflash:
CISCO IOS-XE CLC K9	Cisco cBR8 (CYLONS) Processor	cbrsup-universalk9.16.10.01g.SPA.bin	8G	16G	Supervisor

The following table displays the memory recommendations for the Cisco cBR Series Converged Broadband Routers with Cisco IOS XE Gibraltar 16.10.1f feature sets.

Table 2: Memory Recommendations for the Cisco cBR Series Converged Broadband Routers

Feature Set	Cisco cBR Route Processor	Software Image	Recommended Flash Memory	Recommended DRAM Memory	Runs From
CISCO IOS-XE universalk9	Cisco cBR8 (CBR) Processor	cbrsup-universalk9.16.10.01f.SPA.bin	8G	48G	Bootflash:
CISCO IOS-XE CLC K9	Cisco cBR8 (CYLONS) Processor	cbrsup-universalk9.16.10.01f.SPA.bin	8G	16G	Supervisor

The following table displays the memory recommendations for the Cisco cBR Series Converged Broadband Routers with Cisco IOS XE Gibraltar 16.10.1d feature sets.

Table 3: Memory Recommendations for the Cisco cBR Series Converged Broadband Routers

Feature Set	Cisco cBR Route Processor	Software Image	Recommended Flash Memory	Recommended DRAM Memory	Runs From
CISCO IOS-XE universalk9	Cisco cBR8 (CBR) Processor	cbrsup-universalk9.16.10.01d.SPA.bin	8G	48G	Bootflash:
CISCO IOS-XE CLC K9	Cisco cBR8 (CYLONS) Processor	cbrsup-universalk9.16.10.01d.SPA.bin	8G	16G	Supervisor

The following table displays the memory recommendations for the Cisco cBR Series Converged Broadband Routers with Cisco IOS XE Gibraltar 16.10.1c feature sets.

Table 4: Memory Recommendations for the Cisco cBR Series Converged Broadband Routers

Feature Set	Cisco cBR Route Processor	Software Image	Recommended Flash Memory	Recommended DRAM Memory	Runs From
CISCO IOS-XE universalk9	Cisco cBR8 (CBR) Processor	cbrsup-universalk9.16.10.01c.SPA.bin	8G	48G	Bootflash:
CISCO IOS-XE CLC K9	Cisco cBR8 (CYLONS) Processor	cbrsup-universalk9.16.10.01c.SPA.bin	8G	16G	Supervisor

Hardware Supported

For detailed information about the hardware supported in Cisco IOS XE Release 16.10.x and its maintenance releases, 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 for Cisco IOS XE Gibraltar 16.10.1g

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

```
Router#show version
Load for five secs: 34%/3%; one minute: 83%; five minutes: 82%
Time source is NTP, 19:14:36.345 PDT Wed Aug 14 2019
Cisco IOS XE Software, Version 16.10.01g
Cisco IOS Software [Gibraltar], cBR  Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
16.10.1g, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
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Compiled Tue 13-Aug-19 15:23 by mcpre


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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

guam uptime is 13 minutes
Uptime for this control processor is 19 minutes
System returned to ROM by reload at 21:41:37 PDT Tue Aug 13 2019
System restarted at 19:01:06 PDT Wed Aug 14 2019
System image file is "harddisk:cbrsup-universalk9.16.10.01g.SPA.bin"
Last reload reason: Reload Command



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Smart Licensing Status: UNREGISTERED/EVAL MODE

Cisco cBR-8 (CBR) processor (revision CBRVE) with 13312575K/6147K bytes of memory.
Processor board ID FXS1849Q1FE
16 Ten Gigabit Ethernet interfaces
4 Hundred Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
50331648K bytes of physical memory.
7649279K bytes of eUSB flash at bootflash:.
```

```
234365527K bytes of SATA hard disk at harddisk:.
60718080K bytes of USB flash at usb1:.
0K bytes of WebUI ODM Files at webui:.

Configuration register is 0x2
```

Determining the Software Version for Cisco IOS XE Gibraltar 16.10.1f

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

```
Router#show version
Load for five secs: 21%/0%; one minute: 17%; five minutes: 18%
Time source is NTP, 12:46:14.081 PDT Fri May 31 2019
Cisco IOS XE Software, Version 16.10.01f
Cisco IOS Software [Gibraltar], cBR  Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
16.10.1f, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
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Compiled Thu 30-May-19 13:24 by mcpre


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or the applicable URL provided on the flyer accompanying the IOS-XE
software.


ROM: IOS-XE ROMMON

guam uptime is 15 hours, 12 minutes
Uptime for this control processor is 15 hours, 15 minutes
System returned to ROM by SSO Switchover at 21:27:24 PDT Thu May 30 2019
System restarted at 21:37:19 PDT Thu May 30 2019
System image file is "harddisk:cbrsup-universalk9.16.10.01f.SPA.bin"
Last reload reason: Reload Command



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Smart Licensing Status: UNREGISTERED - REGISTRATION FAILED/EVAL MODE

Cisco cBR-8 (CBR) processor (revision CBRVE) with 12336107K/6147K bytes of memory.
```

```
Processor board ID FXS1849Q1FE
16 Ten Gigabit Ethernet interfaces
4 Hundred Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
50331648K bytes of physical memory.
7739391K bytes of eUSB flash at bootflash:.
117155287K bytes of SATA hard disk at harddisk:.
3911744K bytes of USB flash at usb0:.
0K bytes of WebUI ODM Files at webui:.

Configuration register is 0x2102
```

Determining the Software Version for Cisco IOS XE Gibraltar 16.10.1d

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

```
Router#show version
Cisco IOS XE Software, Version 16.10.01d
Cisco IOS Software [Gibraltar], cBR  Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
16.10.1d, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
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Compiled Tue 26-Mar-19 22:26 by mcpre


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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

BXB-TB28 uptime is 18 hours, 53 minutes
Uptime for this control processor is 18 hours, 58 minutes
System returned to ROM by reload at 13:51:35 EDT Wed Mar 27 2019
System restarted at 16:49:04 EDT Wed Mar 27 2019
System image file is "harddisk:cbrsup-universalk9.16.10.01d.SPA.bin"
Last reload reason: BootRomUpgrade



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```

```
Smart Licensing Status: UNREGISTERED/EVAL MODE

Cisco cBR-8 (CBR) processor (revision CBR) with 4523766K/6147K bytes of memory.
Processor board ID FXS2038Q3GC
16 Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
50331648K bytes of physical memory.
7743487K bytes of eUSB flash at bootflash:.
97620247K bytes of SATA hard disk at harddisk:.
0K bytes of WebUI ODM Files at webui:.

Configuration register is 0x2102
```

Determining the Software Version for Cisco IOS XE Gibraltar 16.10.1c

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

```
Router#show version
Load for five secs: 6%/0%; one minute: 7%; five minutes: 7%
Time source is NTP, 18:19:34.308 CST Mon Jan 28 2019
Cisco IOS XE Software, Version 16.10.01c
Cisco IOS Software [Gibraltar], cBR  Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
16.10.1c, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
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Compiled Fri 25-Jan-19 03:21 by mcpre


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ROM: IOS-XE ROMMON

Router uptime is 2 days, 3 hours, 6 minutes
Uptime for this control processor is 2 days, 1 hour, 27 minutes
System returned to ROM by SSO Switchover at 16:48:38 CST Sat Jan 26 2019
System restarted at 16:56:16 CST Sat Jan 26 2019
System image file is "harddisk:cbrsup-universalk9.16.10.01c.SPA.bin"
Last reload reason: 4



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http://www.cisco.com/wwl/export/crypto/tool/stqrg.html
```

```
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Smart Licensing Status: REGISTERED/AUTHORIZED

Cisco cBR-8 (CBR) processor (revision CBR) with 5500542K/6147K bytes of memory.
Processor board ID FXS175106MQ
24 Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
50331648K bytes of physical memory.
7743487K bytes of eUSB flash at bootflash:.
97620247K bytes of SATA hard disk at harddisk:.
0K bytes of WebUI ODM Files at webui:.

Configuration register is 0x1822
```

Microcode Software

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

For more information, see Upgrading the Cisco cBR Series Converged Broadband Routers for Cisco IOS XE Gibraltar 16.10.x.

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.

Cisco cBR Series Converged Broadband Routers and Cisco Remote PHY Devices Version Compatibility

The versions of Cisco cBR Series Converged Broadband Routers (Cisco cBR-8) and Cisco Remote PHY Devices (RPD) must be compatible. If the versions are not compatible, the RPD remains in the init(gcp) state. The following list provides information on the compatible cBR-8 and RPD versions:

- Cisco IOS XE Everest 16.6.x works with RPD 2.x
- Cisco IOS XE Fuji 16.7.x works with RPD 3.x
- Cisco IOS XE Fuji 16.8.x works with RPD 4.x

- Cisco IOS XE Fuji 16.9.x works with RPD 5.x
- Cisco IOS XE Gibraltar 16.10.1c works with RPD 6.1, 6.2 and 6.3
- Cisco IOS XE Gibraltar 16.10.1d works with RPD 6.4, 6.5 and 6.7
- Cisco IOS XE Gibraltar 16.10.1f is not recommended for RPD deployment
- Cisco IOS XE Gibraltar 16.10.1g works with RPD 6.7.1, 7.1 and 7.2

New and Changed Information

The following section lists the new software and hardware features supported on the Cisco cBR Series Converged Broadband Routers in this release:

New Software Features in Cisco IOS XE Gibraltar 16.10.1g

RPHY ifIndex change

The new feature removes the Cisco private ifIndex for RPHY channels (ifIndex starting from 41,000) and reimplement CoreToRpdMap/RpdToCoreMap tables to keep them aligned with DOCS-RPHY-MIB-2018-07-26 definition.

CISCO-ENTITY-ALARM-MIB feature

Introduction of the new **cable snmp trap detailed-alarm** CLI, that is used to add entity name into alarm description text in alarm trap.

DS OOB 55-1 VOM Traffic Monitor

Cisco cBR Converged Broadband Router provides the VOM Traffic Monitor, which monitors the OOB 55-1 downstream traffic to the virtual-OM interface that is configured on the Cisco cBR-8 router for traffic loss. You must enable SNMP traps and monitoring in order to use this feature.

New Software Features in Cisco IOS XE Gibraltar 16.10.1f

Service Group Simplification (DSG)

The Cisco IOS XE Gibraltar 16.10.1f release supports Advanced-Mode DOCSIS Set-Top Gateway (A-DSG) configuration under MAC domain interface on a Cisco CMTS router with an OPS MD-profile. The method of configuring A-DSG by OPS MD-profile is in addition to the existing method of using legacy CLI to configure DSG TG.

View QAM Utilization Percentage

You can now view the QAM utilization percentage by using the **show controllers downstream-cable counter rf-channel** and the **show controller Integrated-cable counter rf-channel** commands.

dsgifMIB support per CM-SP-DSG-I12-080626 - dsgiftunnelsStats

The latest DSG specification defines a new MIB table—dsgIfTunnelDsStats in dsgIfMIB. This is supported from Cisco IOS XE Gibraltar 16.10.1f release.

New Software Features in Cisco IOS XE Gibraltar 16.10.1d

Load Balancing Groups with Operational Simplification

The Cisco IOS XE Gibraltar 16.10.1d release supports simplified Load Balancing configuration in the Operational Simplification service group profile. Currently, CMTS supports auto creation of D30 GLBGs based on the existing configuration. Load Balancing would now support creation of RLBGs and D20 GLBGs.

Proactive Network Management MAX-HOLD trigger mode

The Cisco IOS XE Gibraltar 16.10.1d release enables MAX-HOLD trigger mode support in PNM. The non-CCAP defined MAX-HOLD mode offers significant advantages over the existing FREE-RUN mode that was used earlier. With the MAX-HOLD trigger mode, the RPD sends samples much faster—one sample every 2ms, compared to the earlier rate of one sample per 100ms. The RPD also sends the sample to the server, instead of the line card.

DOM support for DPIC

To display information with regard to the Digital Physical Interface Card, you can now use the **show platform hardware dpic** command.

RPHY: 2 OFDM channels per SG

Starting from Cisco IOS XE Gibraltar 16.10.1d, the OFDM channel support in the remote PHY system includes two OFDM channels for each Remote PHY device (RPD) with a channel bandwidth up to 192 MHz and the modulation up to 4096 QAM.

Analog Tx/Rx modules alarm threshold adjustment CLI

Starting from Cisco IOS XE Gibraltar 16.10.1d, a new CLI is supported to adjust the alarm threshold of the analog Tx/Rx module in RPD node.

New Software Features in Cisco IOS XE Gibraltar 16.10.1c

Support for Guest Shell

Guest Shell is a decoupled execution space running within a Linux Container. From within the Guest Shell, the network-admin has these capabilities:

- Access to the network over Linux network interfaces.
- Access to bootflash.
- Access to IOS CLI.
- Ability to install and run python scripts.
- Ability to install and run Linux applications.

Upstream Triggered Spectrum Capture

The Cisco cBR 16.10.1c release supports Upstream Triggered Spectrum Capture for RPHY Core configurations. The upstream triggered spectrum analysis measurement provides a wideband spectrum analyzer function in the CCAP which can be triggered to examine desired upstream transmissions as well as underlying noise or interference during a quiet period.

Support for Two DOCSIS Upstream OFDMA Channels Per Controller for ICCAP Configurations

Starting from Cisco IOS XE Gibraltar 16.10.1c release, two OFDMA channels—us-channel 12 and us-channel 13 can be configured per controller.

OFDMA Line Card Process Restart

Linecard IOSd and linecard US-Scheduler (CDMAN) process restart (LCPR) is supported for modems that are assigned OFDMA upstream channels. If LCPR is enabled, remote phy devices remain active after process restarts.

OFDMA Line Card High Availability

N+1 Line Card High Availability (LCHA) is supported for modems that are assigned OFDMA upstream channels. If LCHA is enabled, the modems remain active after switchover and revert.

Support for Narrowband Digital Forward And Narrowband Digital Return

Narrowband Digital Forward (NDF) refers to the digitizing of an analog portion of the downstream spectrum at the headend, sending the digital samples as payload in [DEPI] packets to the RPD, and then re-creating the original analog stream at the RPD. NDF supports services such as FM Broadcast, DAB+ Broadcast, and OOB signals for Forward Sweep, DS Leakage, and Element management.

Narrowband Digital Return (NDR) refers to the digitizing of an analog portion of the upstream spectrum at the RPD, sending the digital samples as payload in [R-UEPI] packets to the CMTS, and then re-creating the original analog stream at the headend. NDR supports legacy OOB signals for Reverse Sweep, Return Path Monitoring, FSK based HMS, and other FSK based telemetry signals.

Modified Software Features in Cisco IOS XE Gibraltar 16.10.1g

There are no modified software features in Cisco IOS XE Gibraltar 16.10.1g.

Modified Software Features in Cisco IOS XE Gibraltar 16.10.1f

Modified the show cable video session logical-edge-device Command Output

Two columns—Encrypt Type and Encrypt Status are added in the **show cable video session logical-edge-device** command output. The Encrypt Type column displays the sessions that are encrypted at source as Pre-encrypted and Encrypt Status displays Encrypted.

Modified Software Features in Cisco IOS XE Gibraltar 16.10.1d

There are no modified software features in Cisco IOS XE Gibraltar 16.10.1d.

Modified Software Features in Cisco IOS XE Gibraltar 16.10.1c

10GE/100GE Mode Switch Process Update

Online insertion and removal of QSFP transceiver triggers 10GE/100GE mode switch instead of configuring mode switch using commands and then reloading the chassis.

Configuring max-burst value

Starting from 16.10.1c, you must manually configure the max-burst value in the Service Class Name (SCN) to the minimum required value in the MULPI specification for DOCSIS cable modems (4000) that supports extended packet length. Setting the max-burst value manually avoids the confusion about how the CMTS adjusts the max-burst value.

New Hardware Features in Cisco IOS XE Gibraltar 16.10.1g

There are no new hardware features in the Cisco IOS XE Gibraltar 16.10.1g release.

New Hardware Features in Cisco IOS XE Gibraltar 16.10.1f

There are no new hardware features in the Cisco IOS XE Gibraltar 16.10.1f release.

New Hardware Features in Cisco IOS XE Gibraltar 16.10.1d

New SFP module

Starting from Cisco IOS XE Gibraltar 16.10.1d, new SFP optical module SFP-10G-AOC3M= is supported on DPIC card cBR-DPIC-8X10G.

New Hardware Features in Cisco IOS XE Gibraltar 16.10.1c

There are no new hardware features in the Cisco IOS XE Gibraltar 16.10.1c release.

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:

https://mibs.cloudapps.cisco.com/ITDIT/MIBS/servlet/index

New and Changed MIB Information in Cisco IOS XE Gibraltar 16.10.1g

The following MIB tables are included in the Cisco IOS XE Gibraltar 16.10.1g release:

- docsRphyRpdDevExtSwImageSupportTable
  - docsRphyRpdDevExtSwImageSupportSwImageLastUpdate

- docsRphyRpdDevExtSwImageSupportSwImageName
- docsRphyRpdDevExtSwImageSupportSwImageDescr
- docsRphyRpdDevExtSwImageSupportSwImageServerType
- docsRphyRpdDevExtSwImageSupportSwImageServerAddress

- docsRphyRpdDevCandidateBackupCoresTable
  - docsRphyRpdDevCandidateBackupCoresBackupCoreIpAddrIndexdocsRphyRpdDevCandidateBackupCoresBackupCoreAddrType
  - docsRphyRpdDevCandidateBackupCoresBackupCoreAddr

The following MIBs are updated in the Cisco IOS XE Gibraltar 16.10.1g release:

- docsRphyRpdDevInfoPrincipalCoreStatus
- docsRphyRpdIfEnetConnectorPresent
- docsRphyRpdIfEnetNetworkAuthStatus
- docsRphyRpdDevCoresConnectedIndex
- docsRphyRpdDevCoresConnectedAuxCoreRpdState
- docsRphyRpdDevCoresConnectedResourceSetIndex
- docsRphyRpdDevCoresConnectedGcpBackupConnConfig
- docsRphyCtrlRpdCrashDataServerCtrlHttpFilenameKeyword

New and Changed MIB Information in Cisco IOS-XE Gibraltar 16.10.1f

The **DOCS-RPHY-STATS-MIB** is updated to include OFDM and OOB tables in the Cisco IOS XE Gibraltar 16.10.1f release.

New and Changed MIB Information in Cisco IOS-XE Gibraltar 16.10.1d

The following MIB tables are included in the Cisco IOS XE Gibraltar 16.10.1d release:

- docsRphyStatsRpdDsScQamPerfStatsTable
  - docsRphyStatsRpdDsScQamPerfStatsCoreIfInde
  - docsRphyStatsRpdDsScQamPerfStatsDsRfPortIndex
  - docsRphyStatsRpdDsScQamPerfStatsOutDiscards
  - docsRphyStatsRpdDsScQamPerfStatsOutErrors
  - docsRphyStatsRpdDsScQamPerfStatsOutPackets
  - docsRphyStatsRpdDsScQamPerfStatsRpdDsCounterDiscTime

- docsRphyStatsRpdUsScQamChanPerfStatsTable

- docsRphyStatsRpdUsScQamChanPerfStatsTable
- docsRphyStatsRpdUsScQamChanPerfStatsUsRfPortIndex
- docsRphyStatsRpdUsScQamChanPerfStatsChanSnr
- docsRphyStatsRpdUsScQamChanPerfStatsHcsErrors
- docsRphyStatsRpdUsScQamChanPerfStatsLateMaps
- docsRphyStatsRpdUsScQamChanPerfStatsIllegalMaps
- docsRphyStatsRpdUsScQamChanPerfStatsDiscardedRequests
- docsRphyStatsRpdUsScQamChanPerfStatsRpdUsCounterDiscTime

New and Changed MIB Information in Cisco IOS-XE Gibraltar 16.10.1c

In the Cisco IOS-XE Gibraltar 16.10.1c release, the **DOCS-RPHY-MIB** was changed to align with DOCS-RPHY-MIB 07/26/2018 version. Support for three new tables have been added.

For information about DOCS-RPHY-MIB 07/26/2018 version, see the CableLabs MIB definition.

Best Practice Manual of Procedure for Cisco IOS XE Gibraltar 16.10.x Upgrade

See Upgrading the Cisco cBR Series Converged Broadband Routers for Cisco IOS XE Gibraltar 16.10.x.

Cisco cBR Series Converged Broadband Routers Documentation References

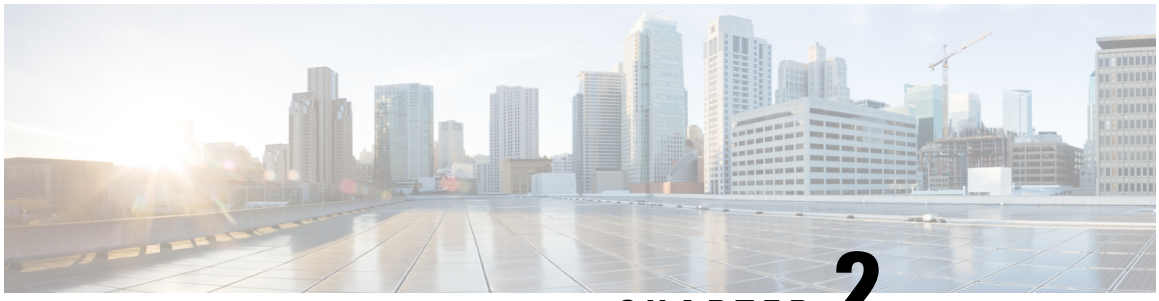
Go to the following link to access the technical documents:

http://www.cisco.com/c/en/us/support/video/cbr-series-converged-broadband-routers/tsd-products-support-series-home.html

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* section lists 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.

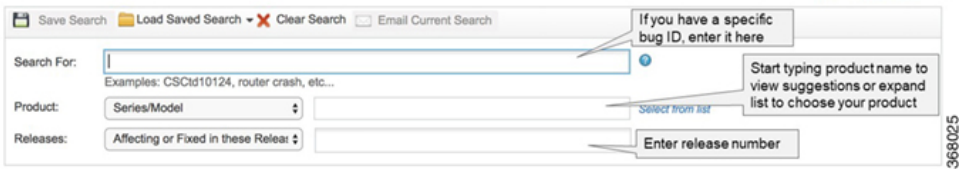
The bug IDs are sorted alphanumerically.

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.

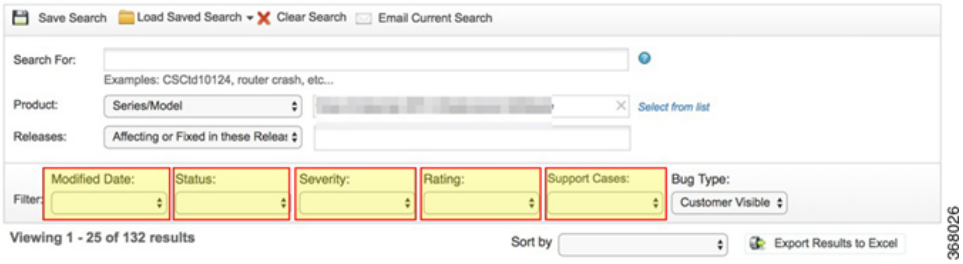
Cisco Bug Search

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.



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Open Caveats Cisco IOS XE Gibraltar 16.10.1g

Caveat ID Number	Description
CSCvn67318	CLC unable to communicate with SUP
CSCvo15430	PKO_ERROR, QAM oversubscribed on CBR-CCAP-LC-G2-R line card with more than 448 video QAMs
CSCvp68713	AUX core is getting flapped between "offline" and "init(l2tp)" when Aux with static PWs only
CSCvp95298	RPHY D31 - OFDM utilization goes over 100% in CLI output
CSCvq05825	Temperature increase when upgrading from 16.7.3 to 16.10.1d
CSCvq13279	CBR crashes on configuring DPIC interface with port-channel configuration and SUPHA
CSCvq14302	Physic interfaces keep re-adding/leaving to port-channel when sub-interface down
CSCvq38886	RPHY Speed Issues - Intel Based Modems
CSCvq40960	cbr8/VIDEO : ECM cache not flushed after last video session terminates
CSCvq47000	cBR8 - Active CLC Crash Due to CPUHOG and IPC Overload of Protect
CSCvq49963	Mismatch in serial numbers after linecard replacement
CSCvq65204	No traffic on non-primary channels
CSCvq83903	RBG interface missing AC record when using OPS and controller profiles
CSCvq86262	I-CCAP cBR-8 displays incorrect SCQAM utilization
CSCvq86980	Modems are parital online on OFMDMA upstream

Caveat ID Number	Description
CSCvq87493	cBR-8 unexpected reload while execution "subcarrier-spacing" command

Open Caveats Cisco IOS XE Gibraltar 16.10.1f

Caveat ID Number	Description
CSCvo15430	PKO_ERROR, QAM oversubscribed on CBR-CCAP-LC-G2-R line card heavily loaded with video traffic
CSCvp25270	LCHA BPI isidkey assign incorrect - similar to CSCvh00500 but not fixed in 16.7.3
CSCvp37177	Sup unexpected reload on show interface stats for interface VideoMON
CSCvp46033	docsRphyRpdDevCoresConnectedCoreFunction returns incorrect values
CSCvp95363	QAM oversubscribed message is disabled

Open Caveats Cisco IOS XE Gibraltar 16.10.1d

Caveat ID Number	Description
CSCvm81484	CRC error observed randomly on uplink router which connect to WAN interface
CSCvm88487	Vidman core immediately after LCPR
CSCvn53588	D31 OFDMA codewords stats is not as expected
CSCvn67318	CLC unable to communicate with SUP
CSCvn72716	LC switch to protect card and corefile generated
CSCvn75830	iomd reload @ iomd_ipc_send
CSCvn83854	D31 CMs fall offline with US traffic and OFDMA and symbols-per-frame 6 configured
CSCvo06478	Voice failure without reserved downstream bandwidth
CSCvo15430	RPHY core PKO_ERROR on CBR-CCAP-LC-G2-R line card with DVB
CSCvo19397	cBR8 - CLC Repeatedly Logging "kernel: set_reg_configuration: write max6654 register at 09 failed"
CSCvo40502	SUP unexpected reload when polling ifEntry
CSCvo41443	cBR8 PTP process causing CPUHOG
CSCvo45684	Unexpected reload when doing a SUPSO after an OIR and SUP replacement
CSCvo66208	SUP unexpected reload with MPLS enabled

Caveat ID Number	Description
CSCvo77695	D3.1 CM offline issue on OFDM primary channel when OFDMA configured
CSCvo85716	multiple RPDs using the same controller the CCAP reports the SNR from only the first RPD
CSCvo88231	Slot 0 crashed after LCSO
CSCvo90369	DBG: modem stuck at initO with created DBG having 2 ofdm and one in down state
CSCvo91298	ISSU from 16.6.1 to 16.10.1d failed at stage 2 due to SUP reload in Standby service handler process
CSCvo94774	'cable util-interval' does not take effect for OFDM util in docsIfCmtsChannelUtUtilization
CSCvp01331	Primary line card crash, but standby card fails to take over because of 'ALL CMTX down'

Open Caveats Cisco IOS XE Gibraltar 16.10.1c

Caveat ID Number	Description
CSCvg76956	Redundant Line card will be reset due to Transient Standby state Timer timed out
CSCvj20713	PHY43.31(CMTS OFDMA Burst Receiver Input Signal Minislot Parameters) Failed for QPSK and 2K FFT Size
CSCvj40754	there is no packet/bytes or bits/sec increasing for counters in #show interface
CSCvk59521	IPC performance downgrade will increase the voice ctrl pkt latency
CSCvk68830	RPHY modem not back online after re-config FN/MD/WB/profile etc unless reset RPD
CSCvm51131	cBR-8: Accessing standby filesystems is extremely slow.
CSCvm63094	CBR-8: misleading FAN syslog error messages.
CSCvm65242	CBR-8: fan failure in sh plat or sh platf diag did not update show environment
CSCvm69126	CPUHOG in DOCSIS LCHA Process
CSCvm89987	ptpd_mcp_rp process unexpected reload
CSCvm91723	Only one CM with UGS-AD with 20 grants per interval allowed per US when minislot=1
CSCvn00496	cBR-8 standby supervisor fails to take over due to midplane lock failure
CSCvn04305	LC does not reach rfsw pic: state changed to normal

Caveat ID Number	Description
CSCvn24876	docsis-channel-id change failed
CSCvn48630	Active protect LC reload during resource configuration of OFDM channels during ISSU
CSCvn53588	D31-UMP: OFDMA codewords stats is not as expected
CSCvn67318	CLC unable to communicate with SUP
CSCvn72716	LC switch to protect card and corefile generated
CSCvn75830	iomd reload @ iomd_ipc_send
CSCvn83854	D31 CMs fall offline with US traffic and OFDMA and symbols-per-frame 6 configured
CSCvo02514	docsIf31CmtsUsOfdmaChanSubcarrierSpacing returns value in Hz instead of KHz
CSCvo03922	cBR-8 : IGMP Joins Occuring Too Slowly Resulting in Service Impact
CSCvo15430	RPHY core PKO_ERROR on CBR-CCAP-LC-G2-R line card with DVB

Resolved Caveats Cisco IOS XE Gibraltar 16.10.1g

Caveat ID Number	Description
CSCvn22000	SUP250 backhaul 10GE interface admin down after reload chassis
CSCvn53588	D31 OFDMA codewords stats is not as expected
CSCvn72716	LC switch to protect card and corefile generated
CSCvn79157	cBR-8 Sup reload due to QOS Template handling exception
CSCvo43793	poor US throughput resulting from invalid fragment sizes
CSCvo45684	Unexpected reload when doing a SUPSO after an OIR and SUP replacement
CSCvo68383	Monitor DS OOB 55-1 Traffic and SNMP Trap/alarm on failure
CSCvo72165	After reconfig of IP address of CA on LC, old IP address stays in routing table
CSCvp25270	LCHA BPI isidkey assign incorrect - similar to CSCvh00500 but not fixed in 16.7.3
CSCvp28806	D3.0 JIB chan value is 0 and rlm is set to 0 due to D3.1 channel
CSCvp37177	Sup unexpected reload on show interface stats for interface VideoMON
CSCvp43802	Add "show command" for host resource management TLV 100.21/22/23
CSCvp53181	Observed incorrect packet count in cbr for packets received from RPD.
CSCvp57491	CBR8 SUP/PIC "Failed Identification Test" Error after OIR/Replacement

Caveat ID Number	Description
CSCvp62500	sh cable signal-quality cable x/y/z upstream x cmts can't show CNiR
CSCvp92883	some modem reset automaticly after LCHA
CSCvp93648	US packet counter in CBR8 is not accurate for 55d1
CSCvp95363	Spurious QAM oversubscribed messages, message is disabled in 16.10.1f
CSCvq00557	LCHA revertback to stable state takes longer time with recent v1612 image
CSCvq01053	Wrong qlimit 0/63 causes downstream drops
CSCvq09290	Unexpected cBR-8 line card reload or vidman process restart at pool_alloc
CSCvq11263	CPU HOG crash @ cmts_mcast_get_ds_check_adm_ctrl
CSCvq16616	DPIC link redundancy does not send correct trap when link down for 40GDPIC
CSCvq19754	D31 modem DBC and DSID value 0 behavior after channel impairment
CSCvq23522	multiple RPDs using the same controller the CLI only show the first RPD
CSCvq27809	fix the incorrect handling of DBC partial-service RSP during D31 profile list change in RCC
CSCvq29998	DCD DSG Rule & CFR Encoding lost after LCSO
CSCvq68404	cBR-8 displays incorrect QAM utilization

Resolved Caveats Cisco IOS XE Gibraltar 16.10.1f

Caveat ID Number	Description
CSCvm81484	CRC error observed randomly on uplink router which connect to WAN interface
CSCvn37237	ASR1002-HX crashed after huge traffic is transmitted over it
CSCvo00664	SUP reload after running the command " show plat hard qfp act infr bqs debug qmrt_dump "
CSCvo15703	CBR8/RPHY: IP address of D31 cable modem unpingnable after shut and no shut ofdma channel
CSCvo41374	cBR-8 Static Load-balance cannot work when the frequency of rf-ch 8 is far away from others
CSCvo65282	EDVT:SUP250 PMAN-3-PROCFAIL: R1/0: pman: The process cmand has failed (rc 134)
CSCvo72542	CBR-CCAP-LC-G2-R cdman process-restart cause iosd reload on both SUPs

Caveat ID Number	Description
CSCvo77695	D3.1 CM Unable to use OFDM Primary DS When OFDMA Configured or with Annex-A SC-QAM Channels
CSCvo83128	Static Passthru sessions deleted when performing an SBSS failover
CSCvo85716	multiple RPDs using the same controller the CCAP reports the SNR from only the first RPD
CSCvo88231	Slot 0 unexpected reload after LCSO - occurred once
CSCvo90369	modem stuck at init(o) with created DBG having 2 ofdm and one in down state
CSCvo91298	ISSU from 16.6.1 to 16.10.1d failed at stage 2 due to SUP reload in Standby service handler process
CSCvp09475	CBR8/RPD: cBR8 returning wrong value of ifType for ofdma channel
CSCvp18310	ENH:For annexC, it still shows as annexB in snmp result
CSCvp21664	SUP reload after configuring dsg tg in MD and also after 'show derived-config interface' CLI
CSCvp23692	Sessions output bitrate does not drop to zero on input loss
CSCvp31043	SNMP WALK query failed on ob551PerfStats and Oob552PerfStats tables
CSCvp49534	RPHY: inconsistent max-carrier configuration in DS controller profile & RPD shelf

Resolved Caveats Cisco IOS XE Gibraltar 16.10.1d

Caveat ID Number	Description
CSCvg16863	SUP160 crashes in tdldb_notf_read
CSCvk68830	RPHY modem not back online after re-config FN/MD/WB/profile etc unless reset RPD
CSCvm39860	Standby sup would crash when boot up with reason sync failed to a non-exist rf-pic card
CSCvm63094	CBR-8: misleading FAN syslog error messages.
CSCvm91723	Only one CM with UGS-AD with 20 grants per interval allowed per US when minislot=1
CSCvn00496	cBR-8 standby supervisor fails to take over due to midplane lock failure
CSCvn67294	Modem Flap list missing some US channels if 'upstream ranging-init-technique 2' configured under MD
CSCvn86577	cBR8 Linecard memory leak caused by specsvl_fft_log file

Caveat ID Number	Description
CSCvn98633	EDVT:CBR-CCAP-LC-G2-R CDMAN_ILK_REINIT Failure: FATAL!
CSCvo02514	docsIf31CmtsUsOfdmaChanSubcarrierSpacing returns value in Hz instead of KHz
CSCvo08333	all modems on D-PON enabled MD are on partial, using US0 only
CSCvo09571	Incorrect calculation for docsis DS_D31_License after OIR
CSCvo18098	VPM IPC failed to get BIPC buffer
CSCvo21280	docsPnmCmtsUtscCtrlInitiateTest MIB object expects 0 as false, TruthValue objects expect 2 as false
CSCvo21334	Drop between US-PHY & US-JIB causes all modems on US Ch to be init(rc); no dial tone for NRTPS SF
CSCvo30267	CM offline after LCSO triggered by OIR with scale RPD env
CSCvo35498	Cannot specify preferred PCR-pid for primary-subordinate clock recovery mode
CSCvo58725	show cable rpd config upstream remote shows incorrect information
CSCvo58915	RPD Events 66070201 & 66070221: MAC of VirtualPortGroup used for Core ID instead of stby core intf
CSCvo68977	Admission-Control vacancy table overutilized causing service-flow errors; customer hears "fast busy"
CSCvo72542	CBR-CCAP-LC-G2-R cdman process-restart cause iosd reload on both SUPs

Resolved Caveats Cisco IOS XE Gibraltar 16.10.1c

Caveat ID Number	Description
CSCvh19284	cBR8/16.6.1 : DS-JIB BG channel errors due to mcast flows after SUP FO
CSCvj06355	DPIC cannot ping outside and peer switch intf went down after 1 hour LCHA
CSCvj10057	CCAP appears to use decimal for the tunnel numbers, while the Cisco RPD uses hex
CSCvk26608	RPHY: OFDM channel status became other after change RPD's controller-profile
CSCvk28501	cBR8 docsIfCmtsDownChnlCtrExtTotalBytes not calculated correctly
CSCvk31941	RPHY: memleak @ cmts_free_id_dat_init
CSCvk32885	Default max-burst is incorrect when TLV 5.48 (Extended packet length) is supported
CSCvk42829	Output truncated for cli "show cable modem wideband phy"

Caveat ID Number	Description
CSCvk43566	MpegMIB SNMP response delay msg on configuration sync and configuration download
CSCvk50046	SUP BH interfaces connected with the Switch hit the link flapping when 1st SUPHA after reload
CSCvk64784	SUP rphyman unexpected reload at rphy_master_get_rphy_inst
CSCvk70883	cBR8 LED Memory Leak:Used Memory critical threshold alarms
CSCvk72878	RPD offline but SNMP walk still return value
CSCvm05254	'cable util-interval' does not take effect for SC-QAM & OFDMA util
CSCvm06904	'cable util-interval' does not take effect for DS util (SC-QAM & OFDM)
CSCvm13710	Multicast join not happened when changing ASM to SSM session using same G
CSCvm13831	Changes to sh cable RPD Indentification command
CSCvm42350	Downstream power level increase 3 dB when redundancy linecard take place
CSCvm58342	cBR-8 CLC unexpected reload at 'cmts_print_modem_phy'
CSCvm61788	CBR8 VIDEO (Tier based scrambling) SCS raising error Alarm Set: Scrambler: Scrambling not started
CSCvm62468	cBR-8 Linecard unexpected reload in 'ubr_map_builder'
CSCvm65604	PKO hung issue on RPHY setup
CSCvm71936	Cannot create new video sessions on a cBR-8 line card, missing sessions
CSCvm76573	16.9.1a - when shutting an RPD, the cbr8 keeps sending l2tp traffic on that interface
CSCvm82805	D31 CM with TLV5.48 stuck in reject(c) when cfg file max-burst <2000B & SCN max-burst >=2000B
CSCvm82896	Video LED Management IP address unreachable from VSRM
CSCvn09472	Memory leak observed in cpp_cp_svr
CSCvn18107	high cpu due to cmts_update_adj process
CSCvn27399	CBR: all D3.1 modems p-online(ofdm channel Other state)
CSCvn28261	cBR-8 line card VIDEO_BAD_PRIMARY_ID log messages
CSCvn34867	SUPHA causes rpd controller table corruption and RPD misconfiguration
CSCvn40100	SUP reload because of IPV4 HOST DB
CSCvn49536	cBR-8 : Slot 0 Reloaded During LCHA From Primary to Seconday LC

Caveat ID Number	Description
CSCvn53895	MTC mode incorrectly set to MTC_REQ_ATTR, modems unable to US bond
CSCvn59272	DSG tunnels stuck after SUP SO
CSCvn68931	Supervisor reloads unexpectedly when polling the OID k_qamChannelCommonEntry_get via SNMP
CSCvn73235	Errors on changing RPD D3.1 upstream controller-profile when exclusion band configured
CSCvn90475	cBR8: video interface is disabled in CPP after CLC removal, SUP SO, and CLC insertion
CSCvo01998	Errors on changing RPD D3.1 upstream controller-profile when unused band configured