Release Notes for Cisco cBR Series Converged Broadband Routers, Cisco IOS XE Dublin 17.12

First Published: 2024-07-30

Last Modified: 2025-12-18

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED “AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

All printed copies and duplicate soft copies of this document are considered uncontrolled. See the current online version for the latest version.

Cisco has more than 200 offices worldwide. Addresses and phone numbers are listed on the Cisco website at www.cisco.com/go/offices.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: https://www.cisco.com/c/en/us/about/legal/trademarks.html. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1721R)

© 2025 Cisco Systems, Inc. All rights reserved.

CONTENTS

Full Cisco Trademarks with Software License ?

CHAPTER 1

What's New in Cisco cBR-8 Series Routers 1

New and Changed Information 1

New Software Features in Cisco IOS XE Dublin 17.12.1z6 1

New Hardware Features in Cisco IOS XE Dublin 17.12.1z6 1

New Software Features in Cisco IOS XE Dublin 17.12.1z5 1

New Hardware Features in Cisco IOS XE Dublin 17.12.1z5 1

New Software Features in Cisco IOS XE Dublin 17.12.1z4 2

New Hardware Features in Cisco IOS XE Dublin 17.12.1z4 2

New Software Features in Cisco IOS XE Dublin 17.12.1z3 2

New Hardware Features in Cisco IOS XE Dublin 17.12.1z3 2

New Software Features in Cisco IOS XE Dublin 17.12.1z3 2

New Hardware Features in Cisco IOS XE Dublin 17.12.1z3 2

New Software Features in Cisco IOS XE Dublin 17.12.1z2 2

New Hardware Features in Cisco IOS XE Dublin 17.12.1z2 3

New Software Features in Cisco IOS XE Dublin 17.12.1z1 3

New Hardware Features in Cisco IOS XE Dublin 17.12.1z1 4

New Software Features in Cisco IOS XE Dublin 17.12.1y 4

New Hardware Features in Cisco IOS XE Dublin 17.12.1y 6

New Software Features in Cisco IOS XE Dublin 17.12.1x 6

New Hardware Features in Cisco IOS XE Dublin 17.12.1x 8

New Software Features in Cisco IOS XE Dublin 17.12.1w 9

New Hardware Features in Cisco IOS XE Dublin 17.12.1w 10

New Software Features in Cisco IOS XE Dublin 17.12.1 10

New Hardware Features in Cisco IOS XE Dublin 17.12.1 12

Behaviour Changes Introduced Features 12
Modified Software Features in Cisco IOS XE Dublin 17.12.1z6 12
Modified Hardware Features in Cisco IOS XE Dublin 17.12.1z6 13
Modified Software Features in Cisco IOS XE Dublin 17.12.1z5 13
Modified Hardware Features in Cisco IOS XE Dublin 17.12.1z5 13
Modified Software Features in Cisco IOS XE Dublin 17.12.1z4 13
Modified Hardware Features in Cisco IOS XE Dublin 17.12.1z4 13
Modified Software Features in Cisco IOS XE Dublin 17.12.1z3 13
Modified Hardware Features in Cisco IOS XE Dublin 17.12.1z3 13
Modified Software Features in Cisco IOS XE Dublin 17.12.1z2 13
Modified Hardware Features in Cisco IOS XE Dublin 17.12.1z2 13
Modified Software Features in Cisco IOS XE Dublin 17.12.1z1 14
Modified Hardware Features in Cisco IOS XE Dublin 17.12.1z1 14
Modified Software Features in Cisco IOS XE Dublin 17.12.1y 14
Modified Hardware Features in Cisco IOS XE Dublin 17.12.1y 14
Modified Software Features in Cisco IOS XE Dublin 17.12.1x 14
Modified Hardware Features in Cisco IOS XE Dublin 17.12.1x 14
Modified Software Features in Cisco IOS XE Dublin 17.12.1w 14
Modified Hardware Features in Cisco IOS XE Dublin 17.12.1w 14
Modified Software Features in Cisco IOS XE Dublin 17.12.1 14
Modified Hardware Features in Cisco IOS XE Dublin 17.12.1 15

CHAPTER 2 **Caveats** 17

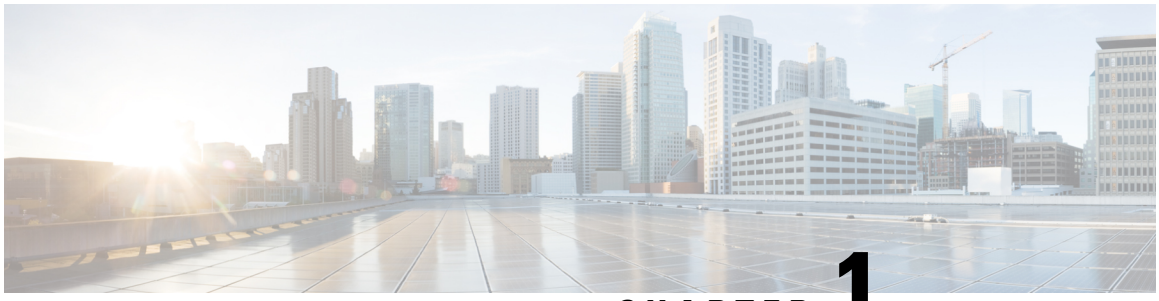
Caveat List 17
Open Caveats for Cisco IOS XE Dublin 17.12.1z6 18
Resolved Caveats for Cisco IOS XE Dublin 17.12.1z6 18
Open Caveats for Cisco IOS XE Dublin 17.12.1z5 18
Resolved Caveats for Cisco IOS XE Dublin 17.12.1z5 19
Open Caveats for Cisco IOS XE Dublin 17.12.1z4 19
Resolved Caveats for Cisco IOS XE Dublin 17.12.1z4 20
Open Caveats for Cisco IOS XE Dublin 17.12.1z3 20
Resolved Caveats for Cisco IOS XE Dublin 17.12.1z3 20
Open Caveats for Cisco IOS XE Dublin 17.12.1z2 21
Resolved Caveats for Cisco IOS XE Dublin 17.12.1z2 21

Open Caveats for Cisco IOS XE Dublin 17.12.1z1 22
Resolved Caveats for Cisco IOS XE Dublin 17.12.1z1 22
Open Caveats for Cisco IOS XE Dublin 17.12.1y 24
Resolved Caveats for Cisco IOS XE Dublin 17.12.1y 24
Open Caveats for Cisco IOS XE Dublin 17.12.1x 25
Resolved Caveats for Cisco IOS XE Dublin 17.12.1x 25
Open Caveats for Cisco IOS XE Dublin 17.12.1w 26
Resolved Caveats for Cisco IOS XE Dublin 17.12.1w 26
Open Caveats for Cisco IOS XE Dublin 17.12.1 27
Resolved Caveats for Cisco IOS XE Dublin 17.12.1 28
Cisco Bug Search 29

CHAPTER 3 **Supported Packages and System Requirements** 31
Memory Requirements 31
Supported Hardware 32
Determining the Software Version for Cisco IOS XE Dublin 17.12.1z6 32
Determining the Software Version for Cisco IOS XE Dublin 17.12.1z5 33
Determining the Software Version for Cisco IOS XE Dublin 17.12.1z4 34
Determining the Software Version for Cisco IOS XE Dublin 17.12.1z3 35
Determining the Software Version for Cisco IOS XE Dublin 17.12.1z2 36
Determining the Software Version for Cisco IOS XE Dublin 17.12.1z1 37
Determining the Software Version for Cisco IOS XE Dublin 17.12.1y 39
Determining the Software Version for Cisco IOS XE Dublin 17.12.1x 40
Determining the Software Version for Cisco IOS XE Dublin 17.12.1w 41
Determining the Software Version for Cisco IOS XE Dublin 17.12.1 42
Determine Firmware Support 43

CHAPTER 4 **Other Important Information** 45
Feature Support 45
Cisco cBR-8 Software Compatibility 45
MIBs 46
New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1z6 47
New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1z5 47
New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1z4 47

New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1z3 47
New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1z2 47
New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1z1 47
New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1y 47
New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1x 47
New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1w 47
New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1 47
Supported Transceiver Modules 48
Best Practice Manual of Procedure for Cisco IOS XE Dublin 17.12.1 Upgrade 48
Mapping CBR-DPIC-8X10G 10-Gigabit Ethernet Interface to downstream controllers 48
Cisco cBR-8 Documentation References 49



CHAPTER 1

What's New in Cisco cBR-8 Series Routers

Cisco is continuously enhancing the product with every release and this section covers a brief description of key features and enhancements that were added. It also includes links to detailed documentation, where available.

- New and Changed Information, on page 1
- Behaviour Changes Introduced Features, on page 12

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 Dublin 17.12.1z6

There are no new software features in the Cisco IOS XE Dublin 17.12.1z6 release for Cisco cBR-8 series routers.

New Hardware Features in Cisco IOS XE Dublin 17.12.1z6

There are no new hardware features in the Cisco IOS XE Dublin 17.12.1z6 release for Cisco cBR-8 series routers.

New Software Features in Cisco IOS XE Dublin 17.12.1z5

There are no new software features in the Cisco IOS XE Dublin 17.12.1z5 release for Cisco cBR-8 series routers.

New Hardware Features in Cisco IOS XE Dublin 17.12.1z5

There are no new hardware features in the Cisco IOS XE Dublin 17.12.1z5 release for Cisco cBR-8 series routers.

New Software Features in Cisco IOS XE Dublin 17.12.1z4

Feature	Description
Cisco cBR Converged Broadband Routers DOCSIS Software	
Channel Power Width MIB Update	With this release, the received power for SCQAM upstream channels are reported using channel width reference. It also includes upstream RF port basepower if configured (applicable to RPHY only). The following MIBs have been enhanced: • **docsIf3CmtsCmUsStatusRxPower** • **docsIf3CmtsSignalQualityExtExpectedRxSignalPower**

New Hardware Features in Cisco IOS XE Dublin 17.12.1z4

There are no new hardware features in the Cisco IOS XE Dublin 17.12.1z4 release for Cisco cBR-8 series routers.

New Software Features in Cisco IOS XE Dublin 17.12.1z3

There are no new software features in the Cisco IOS XE Dublin 17.12.1z3 release for Cisco cBR-8 series routers.

New Hardware Features in Cisco IOS XE Dublin 17.12.1z3

There are no new hardware features in the Cisco IOS XE Dublin 17.12.1z3 release for Cisco cBR-8 series routers.

New Software Features in Cisco IOS XE Dublin 17.12.1z3

There are no new software features in the Cisco IOS XE Dublin 17.12.1z3 release for Cisco cBR-8 series routers.

New Hardware Features in Cisco IOS XE Dublin 17.12.1z3

There are no new hardware features in the Cisco IOS XE Dublin 17.12.1z3 release for Cisco cBR-8 series routers.

New Software Features in Cisco IOS XE Dublin 17.12.1z2

There are no new software features in the Cisco IOS XE Dublin 17.12.1z2 release for Cisco cBR-8 series routers.

New Hardware Features in Cisco IOS XE Dublin 17.12.1z2

There are no new hardware features in the Cisco IOS XE Dublin 17.12.1z2 release for Cisco cBR-8 series routers.

New Software Features in Cisco IOS XE Dublin 17.12.1z1

Feature	Description
Cisco cBR Converged Broadband Routers DOCSIS Software	
Clearing OFDM Unfit Profile List	CMTS devices clear all the profiles from the Unfit profile list upon receiving a Dynamic Bonding Change Response (DBC-RSP) message from the cable modem.. The profiles are cleared as long as they aren't present in the Dynamic Bonding Change Request (DBC-REQ) list of Profiles. This feature ensures that good profiles don't remain in the unfit list. **Command enhanced**: **show cable modem [ip-address | mac-address] prof-mgmt downstream**
Support for 4xOFDM channel bonding on cBR8 platform	Starting with this release, DOCSIS 4.0 modems on cBR-8 routers may use four OFDM channels for channel bonding, operating at their highest capacity to enhance functionality.
Disabling OFDM Unfit Profile Aging	With this release, you can disable the OFDM unfit profile aging functionality. As a result, profiles move out of the unfit profile list, when the CMTS receives CM-STATUS Event 24 from the cable modem. Disabling OFDM Unfit Profile aging allows you to have better control of moving downstream profiles out of the unfit list. Downstream profiles only move out of the unfit list if there are no Forward Error Correction (FEC) errors and don't need to wait for the timer to expire. **Command Added**: **cable downstream ofdm-prof-mgmt unfit-profile-age disable** .
Downstream Resiliency Enhancments	In this release, CMTS handles • a CM-STATUS Event 16 on profile 0 as a downstream impairment. • a CM-STATUS Event 24 on profile 0 as a downstream impairment recovery. Configuring this feature helps reduce packet loss. **Command introduced**: **ofdm-rf-change-trigger prof-zero-fail dampen-time** *seconds* **recovery-multiplier** *number*.
Implementing hysteresis timer for profile recovery	CMTS can implement a hysteresis function or timer for profile recovery starting with this release. This timer uses the OPT process to check RxMER values at the CM before recovery or upgrading to the profile.

Feature	Description
Kafka support for OFDMA channel information	The cBR-8 routers now include a new telemetry event, OFDMA-Status, which serves to identify channel configurations and monitor the upstream status of channels.
Kafka support for multiple brokers	Starting from this release, Kafka broker cluster now provides support for monitoring the connection status of up to a maximum of two brokers. Each broker connection can be maintained independently.
Configuring OFDMA Modulation Profile Downgrade	With this release, the operator can downgrade to the desired interval usage codes (IUC), while configuring the codeword error threshold. The operator can configure the **data-iuc** *data-iuc-type* **modulation** *modulation* **pilot-pattern** *pilot-pattern-id* **cwerr-downgrade-iuc** *cwerr-downgrade-iuc* keyword under the **cable mod-profile-ofdma** command to enable this feature. The benefit of configuring this command is that you can skip the trial of multiple profiles until it reaches the final IUC13 profile and manually configure the exact downgrade that you need. The time taken to downgrade the profile to IUC13 is reduced as some profiles are skipped.
Optimizing OFDM Profile Downgrade	With this release, the process of downgrading an OFDM profile to is optimized to ensure that the best available profile is selected. We have added a capacity based profile ordering method to ensure that a good profile is not skipped. Here, capacity refers to the data transfer rate in Kbps for a profile. Configure the **cable downstream ofdm-prof-mgmt prof-order-method capacity** command to enable this feature. By default, the **bit-loading** order method is configured. As part of this feature, CMTS always skips a profile downgrade if CM-STATUS event 16 is not on the current profile, regardless of **profile-order-method** configuration.
Upstream transmit Power Ceiling SC-QAM Channel Assignment	Modems with restricted transmit power now benefit from this release that assigns them a set of ATDMA channels. Also, it ensures optimal path selection by checking power levels.
show cable modem command update	With this release, the command **show cable modem phy us-pwr** has been introduced. The implementation of this command will help display all the upstream channel attributes with referene to 1.6MHz, 6.4MHz and channel width values.

New Hardware Features in Cisco IOS XE Dublin 17.12.1z1

There are no new hardware features in the Cisco IOS XE Dublin 17.12.1z1 release for Cisco cBR-8 series routers.

New Software Features in Cisco IOS XE Dublin 17.12.1y

Feature	Description
Cisco cBR Converged Broadband Routers DOCSIS Software	

Feature	Description
Channel Utilization Consistency	We have enhanced **docsIf31CmtsDsOfdmChanUtilization** and **docsIfCmtsChannelUtUtilization** MIBS to calculate a rolling average utilization. The utilization calculation window is specified by the operator using the **cable util-interval** command. With this release, you can observe consistency in the Upstream and Downstream SCQAM/OFDMA Channel utilization and MIB data. We have also updated the output of the **show controllers downstream-cable** *slot/subslot/port* **[counter rf-channel | counter ofdm-channel] snmp-rolling-avg** command to include the rolling average values.
Support For Platform Automated Monitoring	With this release, cBR-8 supports Platform Automated Monitoring (PAM), which is a system monitoring tool that is integrated with Cisco IOS XE Software image to monitor the following issues: • Process Crashes • When StandbySUP cannot bootup PAM is an IOSd-process running on the Supervisor Card (SUP) to periodically monitor the system's crash. When an RP/FP/CC crashinfo or corefile is detected, the syslog displays on the active SUP's IOSd console. The benefit of PAM is that you can use a script (for example, EEM) to monitor PAM and automatically submit a TAC case and share the core/crashinfo with TAC, when a crash event is detected.
Upstream External PMA with Kafka	• In this release, Upstream External PMA is supported with Kafka. cBR8-routers publish US RxMER data automatically based on OFDMA **prof-mgmt** configured interval. The Publish rate can be down-sampled using the **cable telemetry topic us-rxmer publish-rate** command. • In this release, Receive modulation error ratio (RxMer) probe averaging is supported. RxMer Probe averaging allows the operator to specify the number of RxMer measurements to acquire per modem in a given polling interval. These results are averaged and forwarded to the TFTP server or Kafka broker as one averaged measurement per modem. RxMer averaging can improve RF measurement consistency in some situations, resulting in improved modulation profile assignment.
Schema version update for DOCSIS CMTS Topology service	In this release, the schema version for the DOCSIS CMTS Topology service has been updated to DOCSIS-CMTS-TOPOLOGY-TYPE_3.5.1-A.3.xsd to support the latest templates for the IPDR exporter.
Schema version update for DOCSIS Utilization Statistics service	In this release, the schema version for the DOCSIS Utilization Statistics service has been updated to DOCSIS-CMTS-US-UTIL-STATS-TYPE_3.7-A.6.xsd to support the latest templates for the IPDR exporter.

Feature	Description
Channel power width MIB Update	In this release, the received power for all the upstream channels, SCQAM and OFDMA, will be reported in 1.6MHz reference. It will also include upstream RF port basepower if configured (applicable to rphy only). The following MIBs has been enhanced: • **DocsIf3CmtsCmUsStatusRxPower** • **docsIf31CmtsCmUsOfdmaChannelRxPower**
Show cable modem verbose command update	With this release, the command **show cable modem verbose** has been updated to support functionalities with no base power and channel power upto 0 to accommodate 1.6 MHz upstream channel power conversion.

New Hardware Features in Cisco IOS XE Dublin 17.12.1y

Feature	Description
Optics	This release launches the new optics on selective hardware within the product portfolio. For details refer to the Transceiver Module Group (TMG) Compatibility Matrix. **Cisco 100GBASE QSFP-100G Modules** QSFP-100G-CWDM4: The 100GBASE CWDM4 QSFP Transceiver uses the LC connector type to provide connectivity for platforms located upto 2km over SMF. This optics is supported by the following interface cards. • **SUP250 SUPPIC (Supervisor Physical Interface Card)** • **CBR-DPIC-2X100G (Digital Physical Interface Card)**

New Software Features in Cisco IOS XE Dublin 17.12.1x

Feature	Description
Cisco cBR Converged Broadband Routers DOCSIS Software	
Enabling Line Card Redundancy When DPIC Fails	In this release, Line Card Redundancy (LCHA) triggers when Digital Physical Interface Cards (DPIC) encounters a hardware failure. This action ensures that the service is not impacted when a DPIC has a Hardware failure. This feature supports the **CBR-DPIC-8X10G** and **CBR-DPIC-2X100G** Interface Cards. In previous releases, when a DPIC encounters a hardware failure, the DPIC state moves to **out of service** and LCHA cannot be triggered. Triggering of LCHA was based on the state of the line card.

Feature	Description
Excluding Cable Modems from Downstream Resiliency Operations	You can now exclude cable modems from Downstream Resiliency operations and move them to an exclusion list using the **cable resiliency exclude** command. Excluding cable modems ensures that RBG and NB are not used and the resiliency activity reduces. The exclusion list is stored on the SUP and you can use the **show cable resiliency exclude** to view the exclusion list. By excluding cable modems, you can manage the downstream resiliency feature better and improve CPU efficiency. The following scenarios are examples of when you can use this feature and exclude cable modems from Downstream Resiliency operations. • Cable modems that report an excessive amount of impairment or recovery events, can be moved to the exclusion list. You can use the **show cable resiliency counts** command introduced in Cisco IOS XE Dublin 17.12.1x to identify which downstream channels and cable modems have the most impairments. • During planned maintenance windows, cable modems can be moved to the exclusion list.
Fast Fourier Transform (FFT) Enhancements	In this release, we have optimized legacy periodical FFT for both cBR-8 and RPD which helps in reducing system memory and CPU resources. Use the **cable rpd period-fft [start | stop]** command to start or stop RPD periodical FFT polling.
Moving a DS Partial Cable Modem Back to the Original BG	In this release, you can move a DS Partial cable modem back to the original BG. The cable modem remains online and does not reset or reinitialize partial service modems. The cable modem recovers to the **w-online** state. You can use this feature to recover cable modems that may send the **cm-status** recovery events which are not received by the cable modem. Cisco can provide the feature details upon request.
Queue protection	In this release, you can configure queue protection for Low Latency Service Flows. Use this feature to identify traffic on low latency flows that does not comply with the non-queue-building behavior and move some of them to classic flows. The benefit of using Queue protection is that latency is reduced for latency-critical applications that are classified to Low Latency Service Flows, that are well-behaved. Reducing the latency can provide more responsive gaming, faster and responsive website loads, and also provide a telepresence experience with minimum lag.
RPD PTP MIB Update	The MIB table (docsRphyPtpRpdClockStatusTable) is updated to capture additional clock states. This update enables you to identify PTP clock state issues by polling clock state information from the Generic Control Protocol (GCP). The MIB polling works even if the RPD is stuck in the init (clock) state.

Feature	Description
Registering DOCSIS 4.0 Modems as DOCSIS 3.1 Modems	In this release, you can register DOCSIS 4.0 Modems as DOCSIS 3.1 Modems. On cBR-8 routers, you can register DOCSIS 4.0 Modems in D3.1 modes. DOCSIS 4.0 modems advertising as DOCSIS 3.1 capable during registration are included in the **show cable modem docsis version d31-capable [operational | not-operational]** command. Such modems display more than 2 OFDM channels available in the **MRC** column of the command output. DOCSIS 4.0 modems advertising as DOCSIS 4.0 capable during registration are included in the **show cable modem docsis version d40-capable [operational | not-operational]** command. Such modems register as DOCSIS 3.1 operational.
Monitor RBG Creation Count Per Port	Use the **show cable resiliency counts** command in privileged EXEC mode, to display the number of RBGs created per downstream port.
SNMP RX Queuing Redesign	In previous releases, SNMP RX Queuing could impact AOM to CPP downloads, resulting in slow response to changing cable conditions. In this release, the new design fixes these issues. SNMP RX Queuing is more responsive to cable modem flaps, more responsive to resiliency changes of bandwidth on a link in response to impairments, and so on, while using the SNMP RX queue with saturating SNMP traffic.
Support for 2x4 RPD	The 2x4 RPD support is introduced for cBR-8 Converged Broadband Routers. This RPD handles up to 4 upstream ports of cBR-8, resulting in higher port utilization and improved upstream traffic handling. The new RPD continues to provide support for DOCSIS, OOB(Out-Of-Band), and pseudo-wire functions.
Upstream External PMA with SNMP/TFTP	In previous releases, the operator would need to provision static OFDMA modulation profile definitions that addressed all known and anticipated plant conditions, both static and dynamic. In this release, the operator has the ability to allow an external Artificial Intelligence (AI) to both tune the profiles for specific plants and dynamically change modulation definitions to address dynamic plant conditions. The AI resides within an external Profile Management Application (PMA).

New Hardware Features in Cisco IOS XE Dublin 17.12.1x

Feature	Description
Optics	This release launches the following new optics on selective hardware within the product portfolio. For details refer to the Transceiver Module Group (TMG) Compatibility Matrix. **Cisco 100GBASE QSFP-100G Modules** • QSFP-100G-ZR4-S: 100GBASE QSFP Transceiver, 80KM reach over SMF. This module is supported on the following interfaces. • **SUP250 SUPPIC**

New Software Features in Cisco IOS XE Dublin 17.12.1w

Feature	Description
Cisco cBR Converged Broadband Routers DOCSIS Software	
Configure the time interval between DBG unused and reclaim.	In this release, you can use the **cable dynamic-bonding-group** *reclaim-hold-interval* command to configure a time interval in seconds between DBG unused and reclaim. Configuring this command has the following benefits: • Reduces the chance of receiving the **AOM download to CPP stuck** or **AOM download to CPP queue** error messages. • Increasing the hold interval can help you avoid **DBG reclaim** or **DBG create** requests.
Configuring 10 Channels in Upstream Bonding Group (USBG)	In this release, you can configure up to 10 channels (8 ATDMA and 2 OFDMA) for USBG. In addition to TLV 47, TLV 89 is also supported. Configuring 10 channels allows you to optimally use the spectrum in USBG. In previous releases, you can only configure 8 channels.
Enhancements for LCHA Associated with DPIC Interfaces	In this release, the robustness of LCHA associated with DPIC interfaces is enhanced. This enhancement decouples the downstream queue in SUP and DPIC interface datapath change during LCHA. This ensures that RPDs on the line card stay online even if the active SUP is experiencing a stuck queue event. See show platform hardware qfp active cable dpic-lcha if-name.
New MIB tables for SNMP background synchronization	The following MIB tables are added to the SNMP background synchronization: • ccwbRFChannelEntry • docsIfUpstreamChannelEntry • cdxIfUpChannelExtEntry
New MIBs for OUDP doc leakage detection (DOCS-LEAK-DETECT)	New MIB support helps to fetch the details of OUDP leak detect test sessions. The following are the new MIBs supported: • docsLeakDetTestCapabilities • docsLeakDetTestSessionStatusTable • docsLeakDetTestSessionStatsTable • docsLeakDetTestChannelStatusTable Supported MIB version: DOCS-LEAK-DETECT-MIB-2022-09-15.txt.
New RPD location attributes to configure RPD's description, latitude, and longitude.	You can now configure RPD's description, latitude, and longitude that helps you to track the location attributes of an RPD seamlessly.

Feature	Description
ROMMON Enhancements	With this release, ROMMON autoupgrade takes place when the existing ROMMON version is older than version 16.7(9r)S. Manual ROMMON upgrade continues to be supported. In ROMMON version 16.7(9r)S, we remove DEV key support from cBR-8 routers. You need a challenge key if you need to run an engineer-signed image.
Resiliency Bonding Group (RBG) Commands	In this release you can: • Use the **cable resiliency cm-max-rbg-moves** command to configure the maximum number of times a CM can be moved to any RBG within the configured interval. This allows you to to have better control on CM movement in a specified duration. • Use the **show cable modem rbg-activity** command to view CM RBG usage statistics.

New Hardware Features in Cisco IOS XE Dublin 17.12.1w

Feature	Description
Optics	This release launches the following new optics on selective hardware within the product portfolio. For details refer to the Transceiver Module Group (TMG) Compatibility Matrix. **Cisco 100GBASE QSFP-100G Modules** • QSFP-100G-DR-S: QSFP-100G-DR-S: 100GBASE DR QSFP Transceiver, 500m over SMF. This module is supported on the following interfaces. • **SUP250 SUPPIC** • **DPIC100**

New Software Features in Cisco IOS XE Dublin 17.12.1

Feature	Description
Ability to configure IPv6 Querier Robustness Variable value in MLD queries.	This feature fine-tunes the MLD robustness variable, and specifies the retransmission count of MLD packets to minimize the impact of packet loss on an subnet. You can increase the robustness variable on a congested network to increase the number of times that packets are resent.
Ability to enable packet classifier in compliant with DOCSIS spec.	You can now enable the packet classifier that is provisioned already to be compliant with the DOCSIS spec. This helps to match the IPv4 type of service (ToS) or IPv6 Traffic Class (TC) value range as per the DOCSIS spec.

Feature	Description
Enhancements to Factory Reset	You can use the **factory-reset all secure** command to reset the router and securely clear the files that are stored in both bootflash and SSD. This command performs sanitization and clears all the user data from eUSB, SSD, ROMVAR, and ACT2. With this release, the **factory-reset all secure** command is more secure and performs better sanitization. • factory-reset all • factory-reset all secure • show usb-devices summary • show hdd-devices summary
Multiple Bulk Data Transfer support	You can now configure multiple BDTs for the following: • For TFTP in CM-MAC and Other trigger modes. PNM BDT (DocsPnmBulkDataTransferCfgTable) MIB extends support from one TFTP server address to three. • Guestshell in IPv4 for all UTSC modes.
Multiple Spectrum Acquisition Circuits on a single port	You can now configure two Spectrum Acquisition Circuits on a single port.
PNM BDT MIB Updates	In this release, PNM BDT MIB (docsPnmBulkDataTransferCfg) can support both OFDMA RxMER and UTSC. (UTSC has three trigger modes: Freerun, other, and CM-MAC.) The **docPnmBulkDestIpaddr** object (UTSC CM-MAC) is also supported.
Support for 262144 L2TP sessions	The maximum number of L2TP sessions is increased from 131072 to 262144. The benefit of having more L2TP sessions is that it enables better support for large-scale RPD deployments. **Note:** System logs are created when the number of sessions get close 262144. Configure the **memory chunk siblings threshold 20000** command, to eliminate system logs. The **rate-limit** warning is logged when L2TP session number is greater than 262144.
Entropy Source Update	In this release, CPU Jitter entropy source is implemented in cBR-8 SUP IOSd. Entropy is collected periodically and mixed from two sources which are Intel CPU RDRAND and ACT2. The output of the **show crypto entropy status** includes this entropy source information. A new command **show cable entropy status** is introduced to display the status of the Entropy sources.

Feature	Description
Support for DOCSIS 3.1 Battery Reduction Mode	You can configure channel bonding downgrade for cable modems in battery backup mode by using the **cable reduction-mode mta-battery** command in global configuration and interface configuration mode In this release, you can configure the **scqam-primary** keyword for the **cable reduction-mode mta-battery** command. Use the SCQAM primary channel in battery backup mode when the modem is with OFDM primary channel. This option is disabled by default. **Note**: For DOCSIS 3.1 battery mode, the inter-op testing with real CM is limited due to CM limitation. Most of the testing was run by simulation.
Low Latency DOCSIS Histogram Support	Low Latency DOCSIS (LLD) Histograms can now be configured and statistics collected via CLI and new MIBS. This provides visibility into how Active Queue Management (AQM) is managing average latencies on LLD-configured modems.
Support for Smart Transport	Smart Transport provides a new transport protocol from the cBR-8 to the Smart Licensing server, and replaces Smart Call-Home
Support for the Configuration of 4 OFDM Channels	In this release, you can configure 4 OFDM Channels per Service Group (SG) on cBR-8 routers. 2Gx1G Service Tiers are supported by configuring 4 OFDM channels in each downstream (DS) SG. This feature is supported on KOBOL-R and Cylon-R line cards.
Updates for Active Queue Management(AQM)	In this release, AQM is updated to include Immediate AQM, where Explicit Congestion Notification can be sent to the sender to control the latency of the queue. Also included in 17.12.1 is queue coupling, which ensures fairness between the classic and low-latency queues in an ASF.
Updates for Aggregate Service Flow (ASF) Provisioning	You can also use the AQP Expansion procedure to provision ASFs. There are no ASF TLVs present in the REG-REQ. A constituent SF TLV is present and specifies an AQP in the sub-tlv [24/25].4. The cBR-8 router performs an AQP table lookup based on this AQP name and provisions the ASF and constituent SFs from the AQP table entry.
UTSC CM-MAC for third-party RPD	cBR-8 now supports the suitable spectrum acquisition circuit and sends the related spectrum acquisition circuit index for the CM-MAC trigger mode. The UTSC CM-MAC works with the Cisco RPD and third-party RPD.

New Hardware Features in Cisco IOS XE Dublin 17.12.1

There are no new hardware features in the Cisco IOS XE Dublin 17.12.1 release for Cisco cBR-8 series routers.

Behaviour Changes Introduced Features

Modified Software Features in Cisco IOS XE Dublin 17.12.1z6

There are no modified software features in the Cisco IOS XE Dublin 17.12.1z6 release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Dublin 17.12.1z6

There are no modified hardware features in the Cisco IOS XE Dublin 17.12.1z6 release for Cisco cBR-8 series routers.

Modified Software Features in Cisco IOS XE Dublin 17.12.1z5

There are no modified software features in the Cisco IOS XE Dublin 17.12.1z5 release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Dublin 17.12.1z5

There are no modified hardware features in the Cisco IOS XE Dublin 17.12.1z5 release for Cisco cBR-8 series routers.

Modified Software Features in Cisco IOS XE Dublin 17.12.1z4

There are no modified software features in the Cisco IOS XE Dublin 17.12.1z4 release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Dublin 17.12.1z4

There are no modified hardware features in the Cisco IOS XE Dublin 17.12.1z4 release for Cisco cBR-8 series routers.

Modified Software Features in Cisco IOS XE Dublin 17.12.1z3

There are no modified software features in the Cisco IOS XE Dublin 17.12.1z3 release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Dublin 17.12.1z3

There are no modified hardware features in the Cisco IOS XE Dublin 17.12.1z3 release for Cisco cBR-8 series routers.

Modified Software Features in Cisco IOS XE Dublin 17.12.1z2

There are no modified software features in the Cisco IOS XE Dublin 17.12.1z2 release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Dublin 17.12.1z2

There are no modified hardware features in the Cisco IOS XE Dublin 17.12.1z2 release for Cisco cBR-8 series routers.

Modified Software Features in Cisco IOS XE Dublin 17.12.1z1

There are no modified software features in the Cisco IOS XE Dublin 17.12.1z1 release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Dublin 17.12.1z1

There are no modified hardware features in the Cisco IOS XE Dublin 17.12.1z1 release for Cisco cBR-8 series routers.

Modified Software Features in Cisco IOS XE Dublin 17.12.1y

There are no modified software features in the Cisco IOS XE Dublin 17.12.1y release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Dublin 17.12.1y

There are no modified hardware features in the Cisco IOS XE Dublin 17.12.1y release for Cisco cBR-8 series routers.

Modified Software Features in Cisco IOS XE Dublin 17.12.1x

There are no modified software features in the Cisco IOS XE Dublin 17.12.1x release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Dublin 17.12.1x

There are no modified hardware features in the Cisco IOS XE Dublin 17.12.1x release for Cisco cBR-8 series routers.

Modified Software Features in Cisco IOS XE Dublin 17.12.1w

There are no modified software features in the Cisco IOS XE Dublin 17.12.1w release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Dublin 17.12.1w

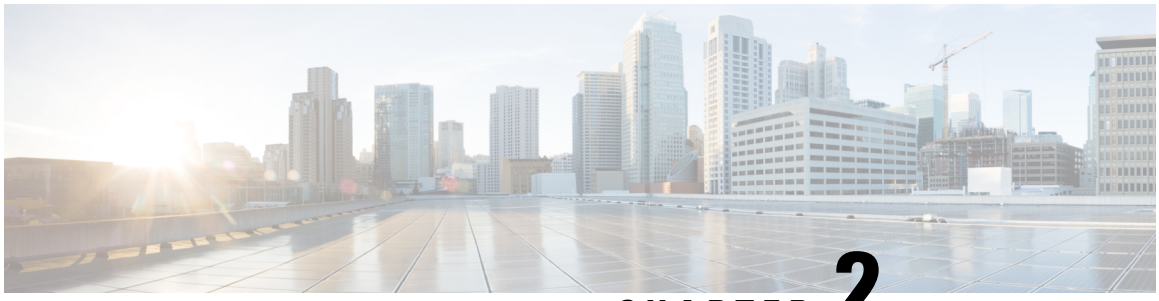
There are no modified hardware features in the Cisco IOS XE Dublin 17.12.1w release for Cisco cBR-8 series routers.

Modified Software Features in Cisco IOS XE Dublin 17.12.1

There are no modified software features in the Cisco IOS XE Dublin 17.12.1 release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Dublin 17.12.1

There are no modified hardware features in the Cisco IOS XE Dublin 17.12.1 release for Cisco cBR-8 series routers.



CHAPTER 2

Caveats

- Caveat List, on page 17
- Open Caveats for Cisco IOS XE Dublin 17.12.1z6, on page 18
- Resolved Caveats for Cisco IOS XE Dublin 17.12.1z6, on page 18
- Open Caveats for Cisco IOS XE Dublin 17.12.1z5, on page 18
- Resolved Caveats for Cisco IOS XE Dublin 17.12.1z5, on page 19
- Open Caveats for Cisco IOS XE Dublin 17.12.1z4, on page 19
- Resolved Caveats for Cisco IOS XE Dublin 17.12.1z4, on page 20
- Open Caveats for Cisco IOS XE Dublin 17.12.1z3, on page 20
- Resolved Caveats for Cisco IOS XE Dublin 17.12.1z3, on page 20
- Open Caveats for Cisco IOS XE Dublin 17.12.1z2, on page 21
- Resolved Caveats for Cisco IOS XE Dublin 17.12.1z2, on page 21
- Open Caveats for Cisco IOS XE Dublin 17.12.1z1, on page 22
- Resolved Caveats for Cisco IOS XE Dublin 17.12.1z1, on page 22
- Open Caveats for Cisco IOS XE Dublin 17.12.1y, on page 24
- Resolved Caveats for Cisco IOS XE Dublin 17.12.1y, on page 24
- Open Caveats for Cisco IOS XE Dublin 17.12.1x, on page 25
- Resolved Caveats for Cisco IOS XE Dublin 17.12.1x, on page 25
- Open Caveats for Cisco IOS XE Dublin 17.12.1w, on page 26
- Resolved Caveats for Cisco IOS XE Dublin 17.12.1w, on page 26
- Open Caveats for Cisco IOS XE Dublin 17.12.1, on page 27
- Resolved Caveats for Cisco IOS XE Dublin 17.12.1, on page 28
- Cisco Bug Search, on page 29

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.

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.

Note Starting with 17.6.1a Release Notes, the Open and Resolved Caveats include common software items that may affect the Cisco cBR-8 product. The Open and Resolved Caveats include generic IOS-XE 17.9.1 software items in addition to Cisco cBR-8 items.

Open Caveats for Cisco IOS XE Dublin 17.12.1z6

There are no new open caveats in the Cisco IOS XE Dublin 17.12.1z6 release.

Resolved Caveats for Cisco IOS XE Dublin 17.12.1z6

There are no new resolved caveats in the Cisco IOS XE Dublin 17.12.1z6 release.

Open Caveats for Cisco IOS XE Dublin 17.12.1z5

Identifier	Headline
CSCwh79605	unconfiguring and configuring DS controller prof with OFDM causes D31 CMs showing p-online
CSCwk79871	Unable to achieve max const DS tx rates above 8Gbps w 2x100G DPIC and a D4.0 modem
CSCwm43427	MaxRate incorrect for mixed modulation OFDM channels
CSCwm45781	"no cable us-scheduler bwr-drop ..." has no effect
CSCwm59957	ofdma-prof-mgmt downgrade partial-hold-down 0, but able to see partial hold-down timer
CSCwm64082	CBR8: Transmit Peak power field for D30 modems to be upd correctly in scm phy us-pwr <ref> cli
CSCwm75107	childless-delete-objects of active SUP might prevent new CPEs from getting an IP address
CSCwn43877	Command "show cable modem <> asf" Does Not Work with IP Address Input
CSCwn70490	L2-DOCSIS: cbr8 rcc/mdd/fiber-node dcid mismatch with cable downstream-channel-id automatic
CSCwn83045	cwerr downgrade iuc after adding in modulation profile not updated in show cmd after rxmer poll
CSCwo27005	ICMTS: NCP ZBL mismatch with more than 1024 zero bit-load sub-carriers
CSCwo56830	'show int wideband-cable' output might show decreasing values on Wi interfaces

Identifier	Headline
CSCwo72081	L2VPN Enabled CMs Unable to Come Online with mdf-disable
CSCwp96634	Line card restart as the device is stuck in gcd_num
CSCwq21211	DS-JIB RECOVERABLE BG vld but BG address table vld bit is zero
CSCwq44663	US Dynamic Power Ceiling - After DBC to 10 upstream channel bonding, assigned ubg mismatch with SF ubg in 'scm serv ver' after mdm down/upgrade
CSCwq97496	cBR-8 - TenG ports remain down post upgrade to 17.12.1z2
CSCwr60465	Video QAM incorrectly on RFID in Wideband-Cable Interface
CSCws05831	Silent reload on DPIC (CBR-DPIC-8X10G / 17.12.1y) with no logs.

Resolved Caveats for Cisco IOS XE Dublin 17.12.1z5

Identifier	Headline
CSCwk77077	Race condition leads to RCC reconciliation accessing freed RCC data
CSCwn90763	Supervisor unexpected reload with AQM enabled
CSCwo45678	IPv6 ACL drops packets that do not match deny ACE
CSCwo87976	After linecard switchover some modems are stuck on OFDM profile 0
CSCwp97565	CM Enters reject(c) state when sending DHQoS CM Capability TLV
CSCwr56087	DOCSIS 3.1 layer 3 loss to modem after OFDM downstream profile failure and load-balance move

Open Caveats for Cisco IOS XE Dublin 17.12.1z4

Identifier	Headline
CSCwo27005	NCP ZBL mismatch with more than 1024 zero bit-load sub-carriers
CSCwo45678	IPv6 ACL drops packets that do not match deny ACE
CSCwo55245	UTSC capture does not show data beyond 160Mhz with full traffic on ICCAP CLC
CSCwo56830	'show int wideband-cable' output might show decreasing values on Wi interfaces
CSCwo72081	CMs Unable to Come Online with mdf-disable

Resolved Caveats for Cisco IOS XE Dublin 17.12.1z4

Identifier	Headline
CSCwj73634	Full or partial 9800 configuration loss after HA SSO failover
CSCwo75108	SNMP walk o/p missing few valid us entries for docsIf3CmtsSignalQualityExtExpectedRxSignalPower MIB

Open Caveats for Cisco IOS XE Dublin 17.12.1z3

Identifier	Headline
CSCwn31184	DS D3.1 wcm using ofdm WB select rfch 12 instead of 11
CSCwn42918	OFDMA channel may operate in TaFDM mode despite exclusion band
CSCwn91911	Kobol-R Linecard Reload Due to Large US PHY Log File in /tmp/cc
CSCwn48309	Failure to read SFP status in DPIC blocks reading of remaining SFP modules
CSCwn90672	RPD provisioned with IPV4 failed to come online under Auxilary (video core)
CSCwo05753	The REPM process causing RPD database synchronization issue
CSCwo08275	Unmatched RPD configuration: DevID 1, should be 0
CSCwn43877	Command "show cable modem < > asf" Does Not Work with IP Address Input
CSCwn70490	L2-DOCSIS: cbr8 rcc/mdd/fiber-node dcid mismatch with cable downstream-channel-id automatic
CSCwn76720	RBG Throttle nb-to-rbg-rate value of 1 not working
CSCwn90763	Supervisor unexpected reload with AQM enabled

Resolved Caveats for Cisco IOS XE Dublin 17.12.1z3

Identifier	Headline
CSCwn93518	cBR8 - Slow pending-ack-update clearing of existing objects
CSCwn99904	DS Resil moves CMs to NB: Reporting both 32ch and 40ch Pools Exhausted

Open Caveats for Cisco IOS XE Dublin 17.12.1z2

Identifier	Headline
CSCwh79605	unconfiguring and configuring DS controller prof with OFDM causes D31 CMs showing p-online
CSCwm12199	scm phy ofdm-profile downstream prof-count command not working properly
CSCwm43427	MaxRate incorrect for mixed modulation OFDM channels
CSCwm45781	"no cable us-scheduler bwr-drop ..." has no effect
CSCwm59957	ofdma-prof-mgmt downgrade partial-hold-down 0, but able to see partial hold-down timer
CSCwm64082	CBR8: Transmit Peak power field for D30 modems to be upd correctly in scm phy us-pwr <ref> cli
CSCwm70573	CBR-CCAP-LC-40G linecard crash due to FPA buffer exhaustion
CSCwm75107	childless-delete-objects of active SUP might prevent new CPEs from getting an IP adress
CSCwm87833	Low latency traffic flow is incorrect with USASF from Cable modem

Resolved Caveats for Cisco IOS XE Dublin 17.12.1z2

Identifier	Headline
CSCwk78059	Stale AQP Entries on CLC after LCHA
CSCwk82376	TDL leak @masked_8bit_range_param during CM flapping if cm config file includes tos classifier
CSCwk97606	CBR: %CMTS_INFRA-3-NORES_BG_EXCD: ubr_dmp_resource_alloc:No More Resources:BG-Pool 40-Chan:pool-id
CSCwk98902	cBR8 - IOSd RP memory leak
CSCwm09837	AQP lookup failing at initial CM registration
CSCwm29699	Linecard crash with "ELEMENT_TMPFS_WARNING" logs
CSCwm29800	cBR-8 - OFDM PLC channel interrupted when SC-QAM is suspended by resiliency
CSCwm35985	CBR8: DS-JIB RECOVERABLE [Enq:Low-Pri:IPH header says BG vld but BG address table vld bit is zero
CSCwm45718	Kobol-R: WB configuration issue with cross controller

Open Caveats for Cisco IOS XE Dublin 17.12.1z1

Identifier	Headline
CSCwj23935	cpp-mcplo-ucode core observed after active sup comes up
CSCwk33790	no OCD/DPD info in 'show interfaces cable <> controller' w cfg change and disable/enable d31-mode
CSCwk41748	Tx msgs is greater than Prod Msgs but Tx retry counter 0 when kafka cluster connection flapping
CSCwk43319	%CBR-4-NOCFGFILE: Cannot read modem config file - constant errors
CSCwk59645	upstream ofdma DBC fails after lcpr iosd
CSCwk75758	SUP reload @rphy_cfg_malloc_tmp_entry during flapping CIN network
CSCwk78059	Stale AQP Entries on CLC after LCHA
CSCwk79035	NDR status of RPDs showing failure in TLV-95-Status when Provison all RPDs at a time
CSCwk79871	Unable to achieve max const DS tx rates above 8Gbps w 2x100G DPIC and a D4.0 modem

Resolved Caveats for Cisco IOS XE Dublin 17.12.1z1

Identifier	Headline
CSCvy84961	show cable video snmp-alarms port number 32
CSCwc44477	Random Multicast groups stopped working after upgrading to 17.3.1x from 16.7.4
CSCwh11813	UCD message reaches RPD during LCSW but not during LCREV
CSCwi38218	Incorrect output counter with 'show interface bundle'
CSCwi44532	cBR-8 - Trustpoint missing in crypto library
CSCwj50627	cBR8 NB-to-RBG rate has long delay before reaching correct value
CSCwj60858	CBR8:docsIf31CmtsUsOfdmaChanTargetRxPower must include rf port base power in reporting
CSCwj69389	Observed sup unexpected reload after remove the logical edge device
CSCwj72667	Updates to show tech-support cmts queuestuck
CSCwj78998	Lots of chunk memory leak entries for IPDR_EXP_PROC when ipdr exporter connection-active configured

Identifier	Headline
CSCwj80774	Node Names displayed on 'show platform software kman R0 kafka stats' is truncated
CSCwj80789	show platform software kman R0 database broker_tbl displays partial info
CSCwj80984	Support STM internal show command
CSCwj86468	BPI does not work after iosd restart
CSCwj91362	scm subscriber Total Time Online is Invalid
CSCwj92280	cBR8 - Supervisor unexpected reload after shutting a Downstream-Video Controller
CSCwj93098	CBR8: DsOfdmProfileStatus MIB reports DS Resiliency data not in sync with CM ofdm prof mgmt data
CSCwj93147	Kafka callback functions may cause KMAN reload when kman_kafka btrace is enabled
CSCwj94708	SNMP PNM Enable config is disabled on linecard after reload.
CSCwj99667	SUP unexpected reload-PuntInject after boot up
CSCwk00309	SUP Reloads after polling information from ifXTable 1.3.6.1.2.1.31.1.1 via SNMP query
CSCwk03030	US-PMA: CPUHOG and kman restart with invalid bootstrap config and "show kman database broker_tbl"
CSCwk06780	KMAN show broker command can't accept broker name including special characters
CSCwk09246	Apply AQM Params from SCN to US SFs
CSCwk09375	CMTS keeps print "%CBR-4-BADCFGFILE: Modem config file: No CMTS MIC"
CSCwk20166	the modem can't get online with the docsis1.0 cm config file
CSCwk20384	Profile Failure While DBC in Progress: Profile Appears in Both Current and Unfit Profile Lists
CSCwk24073	Broker state kept UP after server down &missed telemetry data not retransmitted after server recover
CSCwk31575	smand process reload @ sps_kernel_trans_proto_cb & sup reload after showing kernel tcp brief
CSCwk33254	CBR8: Decode is wrong for OPT-RSP TLVs with status = Testing
CSCwk44205	CM reject(c) when using SCN that matches configured AQP entry
CSCwk55537	Add ASF special handling to "show cable modem qos service-class"
CSCwk56375	PLATFORM_INFRA-5-IOS_INTR_OVER_LIMIT
CSCwk56416	Total Time Online under show cable modem subscriber displays random value after iosd process restart

Identifier	Headline
CSCwk59708	CBR: Memory Leak Issue in cce-class-group when CM flaps
CSCwk64718	Increase number of token buckets for queue protection

Open Caveats for Cisco IOS XE Dublin 17.12.1y

Identifier	Headline
CSCwj56450	netconf-yang doesn't work after perform ISSU from 17.06.1z1 to 17.12.1y
CSCwi38218	Incorrect output counter with **show interface bundle'**
CSCwj69389	Observed sup unexpected reload after remove the logical edge device
CSCwc44477	Random Multicast groups stopped working after upgrading to 17.3.1x from 16.7.4
CSCwi21760	LED core file is observed when script performing sup switchover(sso)
CSCwi44532	cBR-8 - Trustpoint missing in crypto library
CSCwj80783	State info on **show platform software kman R0 kafka stats** is very difficult to relate to Node Names
CSCwj80789	**show platform software kman R0 database broker_tbl** displays partial info
CSCwj83026	SNMP PNM RxMER data length is incorrect in OSSI File when pnm-rxmer-intercept enabled

Resolved Caveats for Cisco IOS XE Dublin 17.12.1y

Identifier	Headline
CSCwe12147	cbr8 enhancement: implement automatic recovery of US ch stuck in UMP Failure
CSCwi70553	Generating VIDMAN core file on active sup after the LED reload operation.
CSCwi62553	static LB cannot balance when config dynamic WB, rcc-template and legacy WB under mac-domain
CSCwj42964	Two SUPs run different images, can reach SSO if boot stby-SUP twice
CSCwi69834	OpSim: 'cable managed fiber-node' not always deleted from 'interface CableX/Y/Z'
CSCwi62034	LLD: Some Parameters Cannot Be Configured for US AQP
CSCwj54381	PNM UTS capture MIB UtscCfgWindow default value 4 not align the spec rectangular 2

Identifier	Headline
CSCwi12835	cBR8 - ndf/ndr issue after LCHA event
CSCwh01662	cBR8 packets going through RXQ may cause attn-sync failure
CSCwj41660	AQM configured on static service flows with dynamic service flow create/delete unexpected reload
CSCwi61872	docsIfCmtsChannelUtUtilization MIB refresh for US SCQAM and OFDMA Channels less than 30 secs

Open Caveats for Cisco IOS XE Dublin 17.12.1x

Identifier	Headline
CSCwi62553	static LB cannot balance when config dynamic WB, rcc-template and legacy WB under mac-domain
CSCwi62034	LLD: Some Parameters Cannot Be Configured for US AQP
CSCwf69010	Few dvb tier sessions are pending/off state after LCHA along with sequence of operations.

Resolved Caveats for Cisco IOS XE Dublin 17.12.1x

Identifier	Headline
CSCwi47716	cBR-8 - LC High CPU due to BIPC connection flap
CSCwh63169	cBR8 Admission Control missing from Wideband interfaces on 1 linecard
CSCwi10780	OFDMA: Add command to control use of delay queue for Equalization Probes
CSCwi55579	cBR-8 - Supervisor crash after line card reload
CSCwi07444	ISSU with patch file failed with error sed: character class syntax is [[:space:]], not [:space:]
CSCwh34129	2 OFDMA channel are allowed to have the same frequency range
CSCwh94982	If RPD reported the location before with different value, need to update the DB
CSCwh95891	rpd location config removed unexpectedly and stale db entry left after replacing or delete RPD-ID
CSCvw17802	CBR8 unexpected reload when handling classifier
CSCwi59289	Add software reset enhance for kobol-r PLL3 NMI issue

Identifier	Headline
CSCwi04178	OFDMA: re-implement 50 ms equalization probe delay with delay queue fix.
CSCwi10780	OFDMA: Add command to control use of delay queue for Equalization Probes
CSCwh49964	Change TLV 100.24.2.2 to 4 bytes
CSCwh70860	Deleting Packet Data for Second DBC-REQ, while handling the re-transmitted DBC-RSP for the first DBC
CSCwh77694	CBR SUP unresponsive due to dropping low priority injects from IOS to CPP
CSCwh92987	RPHY ofdma rfch status still AdminUP/OperUP with freq range from valid to invalid change

Open Caveats for Cisco IOS XE Dublin 17.12.1w

Identifier	Headline
CSCwh89354	memory leaks are observed on SUP
CSCwh26336	Free buffer pool 0 is at 0 percent low level - cdman FPA
CSCwh01662	cBR8 packets going through RXQ may cause attn-sync failure
CSCwh70860	Deleting Packet Data for Second DBC-REQ, while handling the re-transmitted DBC-RSP for the first DBC
CSCwh63169	cBR8 Admission Control missing from Wideband interfaces on 1 linecard

Resolved Caveats for Cisco IOS XE Dublin 17.12.1w

Identifier	Headline
CSCwf81087	OUDP: show cable oudp-leak-detect test-sessions not showing 2-digit rfch correctly
CSCwh51285	cBR-8 line card reload - LCHA BPI isidkey assign incorrect, v17.6.1z
CSCwh89302	BIPC down when SUP IOS CPU High
CSCwh56244	modems DBC during stby LC booting failed ping after LCHA
CSCwf90009	cbr8 LLD CM drop-policy changes from PIE to TAIL_DROP unexpectedly
CSCwf06216	refine 1588 time jump threshold
CSCwh01330	Update min-bw-req 0 0 to ensure the min MAP size is at least 64B with 4 IEs
CSCwh49283	Mismatch for DSG tunnel DSID between SUP and LC on certain mac-domains

Identifier	Headline
CSCwh48807	cBR-8 LC Crash Packet pointer pak in cdman process corrupted
CSCwh54873	Standby LC continues reboot after LCHA and reload LC
CSCwd75787	VIDEO: Video process excessive cpu when L3 WAN failure while multicast source switching
CSCwf59850	after shutdown/no shutdown MD and SUPHA, CM downstream traffic block
CSCwf69351	[17.12.1] show cable modem <mac> ver | i Online - cminstp->total_online_time' not synced over LCHA
CSCwf97834	StandbySUP reload after write or copy run start
CSCwh55217	LLD CM Fails to Come Online when Performing AQP Expansion with Identical AQP and SCN Names
CSCwf29330	Secondary SUP reload twice while performing ISSU from 17.9.1y to 17.12.1
CSCwf83643	CCF Throughput Step-Down Observed with High Speed SFs, software workaround.
CSCwh72364	CBR8 // 17.9.1y // SNMP request for RPHY LatencyLastVal shows zero
CSCwh13286	On a RHY setup, before adding exclusion band requires shutting down all the OFDMA channels

Open Caveats for Cisco IOS XE Dublin 17.12.1

Identifier	Headline
CSCwe92069	docsIf31CmtsCmRegStatusUsProfileIucList will return all channels in MD when modem assigned subset
CSCwf76924	cbr8 downstream performance drop caused by ToS range change
CSCwf22103	SRv6 not working on 1712_THROTTLE image
CSCwf60272	All video session lost on a single LED from one linecard with "VDMAN_IPC_FLOW_CONTROL" errors
CSCwd75787	VIDEO: Video process excessive cpu when L3 WAN failure while multicast source switching
CSCwh03865	Drop policy given an invalid scheduling queue/wred 0/0 -Traceback=1#b2262001573a0a77095872b84ebf6
CSCwf97834	SUP 5 reload(CBR-CCAP-SUP-160G) during change in PIC RF frequencies.
CSCwf69010	Few dvb tier sessions are pending/off state after LCHA along with sequence of operations.

Resolved Caveats for Cisco IOS XE Dublin 17.12.1

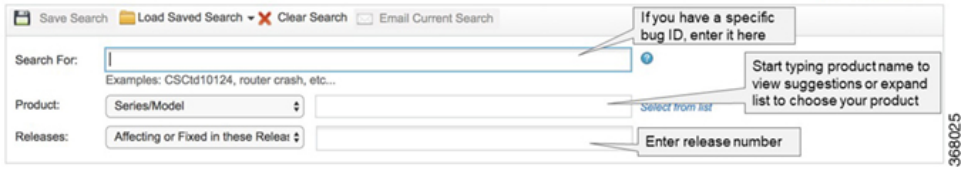
Identifier	Headline
CSCwd86228	cBR-8 Enhance driver log output of adm1266 to suppress useless message
CSCwd83290	D31 ipdr - UsOfdmaProfileStatus template missing entries for some CMs in setup with 200+modems
CSCwe70788	OUDP reserved bandwidth is not shown after LCHA
CSCvu68909	DSG not working on MAC domain after remove/add RPD with OPS config and mismatch between SUP and LC
CSCwe72875	OUDP has duplicate "ACTIVE" state sessions after LCHA
CSCwe88741	Downstream Controller is using the DEPI Unicast instead of using a v6 multicast address.
CSCwe04403	ICMTS OFDMA Ether-trap generated log file with no file limit and getting too big
CSCwe28432	Supervisor reload due to abnormal TLV of upstream channel response
CSCwe54152	OFDMA: Change to downgrade to partial modem when invalid RxMER data (all 0xFFs) is received
CSCwd73296	Disallow standby SUP bootup if it runs different image with Active SUP under non-ISSU state
CSCwe73266	Some DS-JIB channels stuck after LCHA due to channels were disabled in JIB
CSCwe94717	RBG interfaces lose "no snmp trap link-status" config
CSCwc17414	Bulk sync failure seen during ISSU upgrade from 17.6.1z to 17.9.1
CSCwe04707	RPHY: GCP KA timeout always defaulting to 16 seconds when interval is set to 4
CSCwe24159	docsPnmCmtsUsOfdmaRxMerEntry memory leak in IOSd
CSCwe23605	"no snmp trap link-status" line is removed from the interface Wideband-CableX/X/X:x
CSCwe78523	OFDMA: Change output of "show cable modem <modem> prof upstream verb | graph" to start at start SC.
CSCwe65945	cBR-8 // 17.6.1x // rf-channel power-adjust inconsistency
CSCwd83662	stby sup crash during modify aux core
CSCwe90443	Multiple IOMD_BULK_SYNC_TRACKER messages being received on system
CSCwd51884	Changes to OFDM DS Controller-Profile can potential Config cmd-line corruption on large scale system
CSCwe11072	CBR8: 'scm partial-mode ofdma' lists all upstream partial modems (D3.0 and D3.1)

Identifier	Headline
CSCwe61182	cBR8 - Continuous printing of log message CABLE IOSD Port Error
CSCwe30064	cBR-8 No L2 multicast traffic on a single mcast group in a single SG on a single Wideband Interface
CSCwe93934	SPECSVL IPC busy in cdman
CSCwd82679	OPS RBG WB interface loses RF config after SUP SO
CSCwe00625	BGSYNC_ERR:snmp_bg_sync_handle_packet:paramset expected data_size:140, but process len 236
CSCwe13912	cBR8 ARP-autoreply may generate excessive error messages when modems flap
CSCwe65419	LC memory leak @ ubr_ucd_copy_ofdma_scband_a2a & ubr_ucd_copy_mslot_mod_group_a2a
CSCwe06946	OUDP: OFDMA ctrlr-profile rapid shut/no-shut can block modem participation in test session
CSCwe51191	Cable linecard crash Reason: integer divide by zero
CSCwe93623	OFDMA: Current IUC doesn't match Recommended IUC after modem reset with OUDP sess and fix verb data
CSCwe61130	NVRAM Trusted CA certificates fail to load after upgrade to 17.6.1x; modems to become rejected
CSCwe31388	CBR linecard unexpected reload in PKTIO thread
CSCwd08687	Intermittent issue with LACP failure
CSCwe78495	Active LC crashed after LC switchover with OUDP enabled
CSCwf04631	cBR8 - CLI "test platform hardware slot r0 oir remove" resets LC0
CSCwe73438	cable socket connection print error log
CSCwe86939	remove dependency on "service internal" for "cable us-scheduler bwr-drop ..."
CSCwe44525	PNM: docsPnmCmtsUtscCapab returns invalid output through SNMP
CSCwe12317	CLC0 in booting state while CLC3 showing low watermark logs Slot0 downloaded configuration for slot3
CSCwd83462	duplicate PNM Sessions will be send to RPD for each connected Core

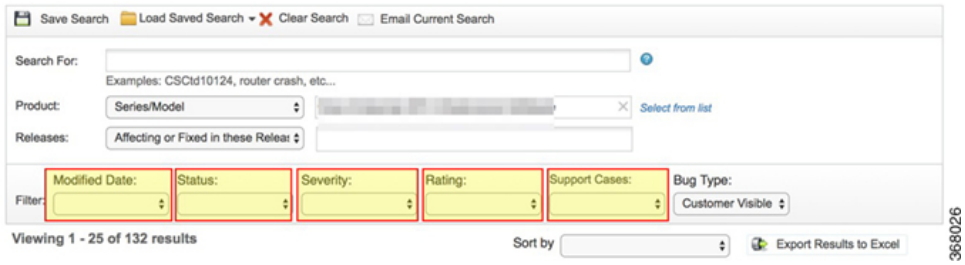
Cisco Bug Search

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.



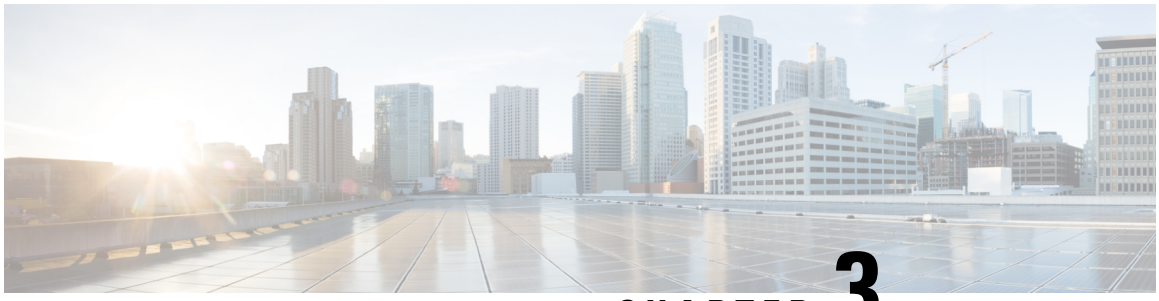
You can filter the search results by last modified date, bug status (open, resolved), severity, rating, and support cases.



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.



CHAPTER 3

Supported Packages and System Requirements

- Memory Requirements, on page 31
- Supported Hardware, on page 32
- Determining the Software Version for Cisco IOS XE Dublin 17.12.1z6, on page 32
- Determining the Software Version for Cisco IOS XE Dublin 17.12.1z5, on page 33
- Determining the Software Version for Cisco IOS XE Dublin 17.12.1z4, on page 34
- Determining the Software Version for Cisco IOS XE Dublin 17.12.1z3, on page 35
- Determining the Software Version for Cisco IOS XE Dublin 17.12.1z2, on page 36
- Determining the Software Version for Cisco IOS XE Dublin 17.12.1z1, on page 37
- Determining the Software Version for Cisco IOS XE Dublin 17.12.1y, on page 39
- Determining the Software Version for Cisco IOS XE Dublin 17.12.1x, on page 40
- Determining the Software Version for Cisco IOS XE Dublin 17.12.1w, on page 41
- Determining the Software Version for Cisco IOS XE Dublin 17.12.1, on page 42
- Determine Firmware Support, on page 43

Memory Requirements

The following table displays the memory recommendations for the Cisco cBR-8 routers with Cisco IOS XE Dublin 17.12.1 to 17.12.1z6 feature sets.

Table 1: Memory Recommendations for the Cisco cBR-8 Routers with Cisco IOS XE Dublin 17.12.1 to 17.12.1z6

Feature Set	Cisco cBR-8 Route Processor	Software Image	Recommended Flash Memory	Recommended DRAM Memory	Runs From
CISCO IOS-XE universalk9	Cisco cBR-8 (CBR) Processor	cbrsup-universalk9.17.12.01z5.SPA.bin	8G	48G	Harddisk
CISCO IOS-XE CLC K9	Cisco cBR-8 (CYLONS) Processor	cbrsup-universalk9.17.12.01z5.SPA.bin	8G	16G	Supervisor

Feature Set	Cisco cBR-8 Route Processor	Software Image	Recommended Flash Memory	Recommended DRAM Memory	Runs From
CISCO IOS-XE Kobol-R	Cisco cBR-8 (Kobol-R) Processor	cbrsup-universalk9. 17.12.01z5.SPA.bin	8G	64G	Supervisor

Supported Hardware

For detailed information about the hardware supported in Cisco IOS XE Dublin 17.12 and its maintenance releases, see: How and What to Order.

Cisco announced September 18, 2020, as the end-of-sale date for the Cisco cBR-8 Leoben1 based DOCSIS line cards (CBR-LC-*-16U30) and SUP60 (CBR-CCAP-SUP-60G).

For further information regarding end-of-sale and end-of-life announcements, see https://www.cisco.com/c/en/us/products/video/cbr-series-converged-broadband-routers/eos-eol-notice-listing.html.

Determining the Software Version for Cisco IOS XE Dublin 17.12.1z6

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

```
Router# show version
Load for five secs: 6%/0%; one minute: 8%; five minutes: 9%
Time source is NTP, 17:57:06.743 EST Fri Dec 12 2025
Cisco IOS XE Software, Version 17.12.01z6
Cisco IOS Software [Dublin], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
17.12.1z6, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2025 by Cisco Systems, Inc.
Compiled Thu 11-Dec-25 21:34 by mcpre

Cisco IOS-XE software, Copyright (c) 2005-2025 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: 17.15(1r)S

CBR-CREG2-L02 uptime is 21 minutes
Uptime for this control processor is 28 minutes
System returned to ROM by reload at 16:01:21 EST Fri Dec 12 2025
System restarted at 17:35:36 EST Fri Dec 12 2025
System image file is "bootflash:cbrsup-universalk9.17.12.01z6.SPA.bin"
```

```
Last reload reason: LocalSoft

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 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.

Smart Licensing Status: UNREGISTERED/EVAL MODE

Cisco cBR-8 (CBR) processor (revision CBRVE) with 6618362K/6147K bytes of memory.
Processor board ID FXS2025Q458
36 Gigabit Ethernet interfaces
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:.
117155287K bytes of SATA hard disk at harddisk:.

Configuration register is 0x2102
```

Determining the Software Version for Cisco IOS XE Dublin 17.12.1z5

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

```
Router# show version
Load for five secs: 6%/1%; one minute: 6%; five minutes: 7%
Time source is NTP, 17:36:58.569 EDT Mon Nov 24 2025
Cisco IOS XE Software, Version 17.12.01z5
Cisco IOS Software [Dublin], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
17.12.1z5, RELEASE SOFTWARE (fc3)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2025 by Cisco Systems, Inc.
Compiled Mon 24-Nov-25 16:47 by mcpre

Cisco IOS-XE software, Copyright (c) 2005-2025 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: 17.15(1r)S

CBR-CREG3-L04 uptime is 16 minutes
```

```
Uptime for this control processor is 23 minutes
System returned to ROM by reload at 04:17:11 EST Mon Nov 24 2025
System restarted at 17:20:02 EDT Mon Nov 24 2025
System image file is "bootflash:cbrsup-universalk9.17.12.01z5.SPA.bin"
Last reload reason: LocalSoft

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 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.

Smart Licensing Status: UNREGISTERED/EVAL MODE

Cisco cBR-8 (CBR) processor (revision CBR) with 6618346K/6147K bytes of memory.
Processor board ID FXS1952Q3C5
32 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:.

Configuration register is 0x2102
```

Determining the Software Version for Cisco IOS XE Dublin 17.12.1z4

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

```
Router#show version
Load for five secs: 6%/1%; one minute: 8%; five minutes: 9%
Time source is NTP, 09:16:51.404 EDT Tue Apr 15 2025
Cisco IOS XE Software, Version 17.12.01z4
Cisco IOS Software [Dublin], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
17.12.1z4, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2025 by Cisco Systems, Inc.
Compiled Mon 14-Apr-25 15:57 by mcpre

Cisco IOS-XE software, Copyright (c) 2005-2025 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: 17.15(1r)S
```

```
CBR-CREG2-L02 uptime is 23 minutes
Uptime for this control processor is 30 minutes
System returned to ROM by reload at 02:09:32 EDT Tue Apr 15 2025
System restarted at 08:53:35 EDT Tue Apr 15 2025
System image file is "bootflash:cbrsup-universalk9.17.12.01z4.SPA.bin"
Last reload reason: LocalSoft

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 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 cBR-8 (CBR) processor (revision CBRVE) with 6618365K/6147K bytes of memory.

Processor board ID FXS2025Q458
36 Gigabit Ethernet interfaces
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:.
117155287K bytes of SATA hard disk at harddisk:.


Configuration register is 0x2102
```

Determining the Software Version for Cisco IOS XE Dublin 17.12.1z3

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

```
Router#show version
Load for five secs: 5%/0%; one minute: 6%; five minutes: 8%
Time source is NTP, 15:01:27.769 EST Thu Feb 27 2025
Cisco IOS XE Software, Version 17.12.01z3
Cisco IOS Software [Dublin], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
17.12.1z3, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2025 by Cisco Systems, Inc.
Compiled Thu 20-Feb-25 06:43 by mcpre

Cisco IOS-XE software, Copyright (c) 2005-2025 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: 17.15(1r)S

sj-cbr-3 uptime is 27 minutes
Uptime for this control processor is 34 minutes
System returned to ROM by reload at 13:21:59 EST Thu Feb 27 2025
System restarted at 14:34:23 EST Thu Feb 27 2025
System image file is "bootflash:cbrsup-universalk9.17.12.01z3.SPA.bin"
Last reload reason: PowerOn

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 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.


Smart Licensing Status: UNREGISTERED/EVAL MODE

Cisco cBR-8 (CBR) processor (revision CBRVE) with 6618365K/6147K bytes of memory.
Processor board ID FXS1923Q3P5
16 Gigabit Ethernet interfaces
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:.
117155287K bytes of SATA hard disk at harddisk:.
3911744K bytes of USB flash at usb0:.

Configuration register is 0x2102
```

Determining the Software Version for Cisco IOS XE Dublin 17.12.1z2

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

```
Router#show ver
Cisco IOS XE Software, Version 17.12.01z2
Cisco IOS Software [Dublin], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
17.12.1z2, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2024 by Cisco Systems, Inc.
Compiled Wed 13-Nov-24 21:09 by mcpre


Cisco IOS-XE software, Copyright (c) 2005-2024 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: 17.15(1r)S

sj-104-cbr-18 uptime is 1 day, 21 hours, 2 minutes
Uptime for this control processor is 1 day, 21 hours, 9 minutes
System returned to ROM by reload
System image file is "harddisk:/XE-1712-1z2fc2-untar/packages.conf"
Last reload reason: Reload Command



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 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.


Smart Licensing Status: UNREGISTERED/EVAL EXPIRED

Cisco cBR-8 (CBR) processor (revision CBR) with 4665242K/6147K bytes of memory.
Processor board ID FXS2014Q0PT
32 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:.

Configuration register is 0x2
```

Determining the Software Version for Cisco IOS XE Dublin 17.12.1z1

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

```
Router#show ver
Load for five secs: 17%/3%; one minute: 22%; five minutes: 23%
Time source is NTP, 10:20:10.266 EST Thu Jul 25 2024
Cisco IOS XE Software, Version 17.12.01z1
Cisco IOS Software [Dublin], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
17.12.1z1, RELEASE SOFTWARE (fc3)
Technical Support: http://www.cisco.com/techsupport
```

```
Copyright (c) 1986-2024 by Cisco Systems, Inc.
Compiled Sun 21-Jul-24 22:38 by mcpre


Cisco IOS-XE software, Copyright (c) 2005-2024 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: 17.15(1r)S

Router uptime is 3 days, 7 hours, 41 minutes
Uptime for this control processor is 3 days, 7 hours, 47 minutes
System returned to ROM by SSO Switchover at 04:08:03 EST Wed Jul 10 2024
System restarted at 02:40:58 EST Mon Jul 22 2024
System image file is "harddisk:cbrsup-universalk9.17.12.01z1.SPA.bin"
Last reload reason: Reload Command



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 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.


Smart Licensing Status: REGISTERED/AUTHORIZED

Cisco cBR-8 (CBR) processor (revision CBRVE) with 14430865K/6147K bytes of memory.
Processor board ID FXS2038Q3GW
64 Gigabit Ethernet interfaces
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:.

Configuration register is 0x1820
```

Determining the Software Version for Cisco IOS XE Dublin 17.12.1y

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

```
Router#show ver
Load for five secs: 80%/8%; one minute: 63%; five minutes: 72%
Time source is NTP, 09:49:35.258 CST Fri Apr 26 2024
Cisco IOS XE Software, Version 17.12.01y
Cisco IOS Software [Dublin], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version 17.12.1y,
 RELEASE SOFTWARE (fc4)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2024 by Cisco Systems, Inc.
Compiled Wed 24-Apr-24 09:18 by mcpre


Cisco IOS-XE software, Copyright (c) 2005-2024 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: 17.15(1r)S

CST-CBR8-SongJiang uptime is 1 day, 1 hour, 25 minutes
Uptime for this control processor is 1 day, 1 hour, 30 minutes
System returned to ROM by SSO Switchover at 08:15:30 CST Thu Apr 25 2024
System restarted at 08:27:30 CST Thu Apr 25 2024
System image file is "harddisk:cbrsup-universalk9.17.12.01y.SPA.bin"
Last reload reason: Reload Command



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 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.


Smart Licensing Status: REGISTERED/OUT OF COMPLIANCE

Cisco cBR-8 (CBR) processor (revision CBR) with 14430954K/6147K bytes of memory.
Processor board ID FXS2023Q4TA
80 Gigabit Ethernet interfaces
```

```
32768K bytes of non-volatile configuration memory.
50331648K bytes of physical memory.
7649279K bytes of eUSB flash at bootflash:.
117155287K bytes of SATA hard disk at harddisk:.

Configuration register is 0x1822

Router#
```

Determining the Software Version for Cisco IOS XE Dublin 17.12.1x

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

```
Router#show ver
Load for five secs: 63%/7%; one minute: 40%; five minutes: 43%
Time source is NTP, 06:01:37.333 PDT Wed Oct 26 2022
Cisco IOS XE Software, Version 17.12.01x
Cisco IOS Software [Dublin], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version 17.12.1x,
 RELEASE SOFTWARE (fc3)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2022 by Cisco Systems, Inc.
Compiled Thu 20-Oct-22 19:21 by mcpre


Cisco IOS-XE software, Copyright (c) 2005-2022 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: 16.7(8r)S

CST_RPHY_LS uptime is 4 days, 1 hour, 2 minutes
Uptime for this control processor is 3 days, 7 hours, 30 minutes
System returned to ROM by SSO Switchover at 22:27:19 PDT Sat Oct 22 2022
System restarted at 22:36:45 PDT Sat Oct 22 2022
System image file is "harddisk:cbrsup-universalk9.17.12.01x-FC3.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 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.


Smart Licensing Status: UNREGISTERED/EVAL MODE

Cisco cBR-8 (CBR) processor (revision CBRVE) with 14445324K/6147K bytes of memory.
Processor board ID FXS2024Q7DJ
64 Gigabit Ethernet interfaces
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:.

Configuration register is 0x2

Router#
```

Determining the Software Version for Cisco IOS XE Dublin 17.12.1w

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

```
Router#show ver
Load for five secs: 63%/7%; one minute: 40%; five minutes: 43%
Time source is NTP, 06:01:37.333 PDT Wed Oct 26 2022
Cisco IOS XE Software, Version 17.12.01w
Cisco IOS Software [Dublin], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version 17.12.1w,
 RELEASE SOFTWARE (fc3)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2022 by Cisco Systems, Inc.
Compiled Thu 20-Oct-22 19:21 by mcpre


Cisco IOS-XE software, Copyright (c) 2005-2022 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: 16.7(8r)S

CST_RPHY_LS uptime is 4 days, 1 hour, 2 minutes
Uptime for this control processor is 3 days, 7 hours, 30 minutes
System returned to ROM by SSO Switchover at 22:27:19 PDT Sat Oct 22 2022
System restarted at 22:36:45 PDT Sat Oct 22 2022
System image file is "harddisk:cbrsup-universalk9.17.12.01w-FC3.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 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.


Smart Licensing Status: UNREGISTERED/EVAL MODE

Cisco cBR-8 (CBR) processor (revision CBRVE) with 14445324K/6147K bytes of memory.
Processor board ID FXS2024Q7DJ
64 Gigabit Ethernet interfaces
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:.

Configuration register is 0x2

Router#
```

Determining the Software Version for Cisco IOS XE Dublin 17.12.1

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

```
router#show version
Load for five secs: 54%/5%; one minute: 65%; five minutes: 66%
Time source is NTP, 22:52:28.192 PDT Tue Jul 25 2023
Cisco IOS XE Software, Version 17.12.01
Cisco IOS Software [Dublin], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version 17.12.1,
 RELEASE SOFTWARE (fc3)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2023 by Cisco Systems, Inc.
Compiled Tue 25-Jul-23 15:49 by mcpre


Cisco IOS-XE software, Copyright (c) 2005-2023 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: 16.7(8r)S
```

```
router uptime is 1 hour, 3 minutes
Uptime for this control processor is 1 hour, 10 minutes
System returned to ROM by reload at 21:37:36 PDT Tue Apr 25 2023
System restarted at 21:48:58 PDT Tue Aug 25 2023
System image file is "harddisk:cbrsup-universalk9.17.09.01y.SPA.bin"
Last reload reason: Reload Command



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 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.


Smart Licensing Status: REGISTERED/OUT OF COMPLIANCE

Cisco cBR-8 (CBR) processor (revision CBRVE) with 14445086K/6147K bytes of memory.
Processor board ID FXS2024Q7DJ
64 Gigabit Ethernet interfaces
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:.

Configuration register is 0x2

router#
```

Determine Firmware Support

This section describes firmware that is supported for the Cisco cBR-8 Converged Broadband Routers.

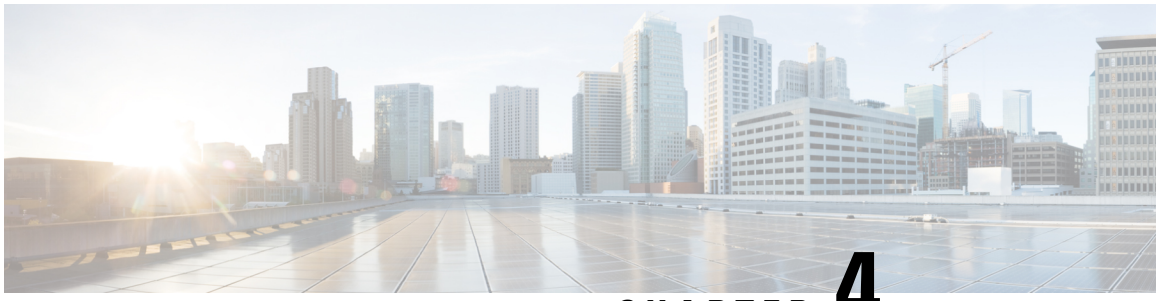
For more information, see the Install and Upgrade Guides.

Note If you want to upgrade to one of the Supervisor CPLD versions mentioned in the table, the chassis must have Cisco IOS XE Bengaluru 17.6.1a or later.

Table 2: Firmware Packages and Versions Supported in Cisco IOS XE Dublin 17.12.1 to 17.12.1z6

Internal Name	Component Name	Required Minimum Version	Command
Linecard Uboot	CBR-CCAP-LC-40G Rommon	2011.03.19	**show platform**
Supervisor CPLD	CBR-CCAP-SUP-160G CPLD	16052011 19071712 (optional)	**show platform**
	CBR-CCAP-SUP-250G CPLD	170724E0 190717E1 (optional)	**show platform**
Supervisor ROMMON	CBR-CCAP-SUP-160G ROMMON and CBR-CCAP-SUP-250G ROMMON	16.7(9r)s	**show platform**
Line Card CPLD	CBR-CCAP-LC-40G CPLD	00000026	**show platform diag**
DOCSIS 3.1 downstream module Micro	CBR-CCAP-LC-40G Gemini2 Micro	3.1A	**show platform diag**
DOCSIS 3.1 downstream module FPGA	CBR-CCAP-LC-40G Gemini2 Apollo	4.484F	**show platform diag**
DPIC Uboot and FPGA	CBR-DPIC-8X10G Firmware	00010001	**show platform diag**
DPIC 100G Uboot and FPGA	CBR-DPIC-2X100G Firmware	00020006	**show platform diag**
RF-PROT-PIC Firmware	CBR-RF-PROT-PIC Firmware	00000721	**show platform diag**

Upgrade Cisco cBR-8 to the minimum supported firmware revisions for Cisco IOS XE Dublin 17.12.1 to 17.12.1z6.



CHAPTER 4

Other Important Information

- Feature Support, on page 45
- Cisco cBR-8 Software Compatibility, on page 45
- MIBs, on page 46
- Supported Transceiver Modules, on page 48
- Best Practice Manual of Procedure for Cisco IOS XE Dublin 17.12.1 Upgrade, on page 48
- Mapping CBR-DPIC-8X10G 10-Gigabit Ethernet Interface to downstream controllers , on page 48
- Cisco cBR-8 Documentation References, on page 49

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-8 Software Compatibility

The Cisco cBR-8 software must be compatible with Cisco RPD and SmartPHY software. Otherwise the RPD remains in the **init(gcp)** state. The following table provides details of the compatible software versions:

Cisco cBR-8 Software Version	Compatible Cisco RPD Software Version	Compatible SmartPHY Software Version
Cisco IOS XE Dublin 17.12.1z6	Cisco 1x2 / Compact Shelf RPD Software 10.9.1	SmartPHY v25.1.1

Cisco cBR-8 Software Version	Compatible Cisco RPD Software Version	Compatible SmartPHY Software Version
Cisco IOS XE Dublin 17.12.1z5	Cisco 1x2 / Compact Shelf RPD Software 10.9.1	SmartPHY v25.1.1
Cisco IOS XE Dublin 17.12.1z4	Cisco 1x2 / Compact Shelf RPD Software 10.9.1 and 10.8	SmartPHY v24.2
Cisco IOS XE Dublin 17.12.1z3	Cisco 1x2 / Compact Shelf RPD Software 10.8	SmartPHY v24.2
Cisco IOS XE Dublin 17.12.1z2	Cisco 1x2 / Compact Shelf RPD Software 10.8	SmartPHY v24.1.1
Cisco IOS XE Dublin 17.12.1z1	Cisco 1x2 / Compact Shelf RPD Software 10.8	SmartPHY v24.1.1
Cisco IOS XE Dublin 17.12.1y	Cisco 1x2 / Compact Shelf RPD Software 10.7.1	SmartPHY v24.1.1
Cisco IOS XE Dublin 17.12.1y	Cisco 1x2 / Compact Shelf RPD Software 10.7	SmartPHY v24.1.1
Cisco IOS XE Dublin 17.12.1x	Cisco 1x2 / Compact Shelf RPD Software 10.7	SmartPHY v23.3
Cisco IOS XE Dublin 17.12.1w	Cisco 1x2 / Compact Shelf RPD Software 10.6	SmartPHY v23.3
Cisco IOS XE Dublin 17.12.1	Cisco 1x2 / Compact Shelf RPD Software 10.6	SmartPHY v23.2

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://cfnng.cisco.com/mibs

New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1z6

New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1z5

New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1z4

New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1z3

New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1z2

New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1z1

New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1y

New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1x

New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1w

In Cisco IOS XE Dublin 17.12.1w, Cisco proprietary MIB table CISCO-CABLE-PNM-MIB is introduced to support multiple SAC capture.

New and Changed MIB Information in Cisco IOS-XE Dublin 17.12.1

This section provides information regarding new and updated MIBs in the Cisco IOS XE Cupertino 17.12.1 release for Cisco cBR-8 series routers.

- **PNM BDT MIB Updates**: Starting with Cisco IOS XE Dublin 17.12.1, PNM BDT MIB (docsPnmBulkDataTransferCfg) can support both OFDMA RxMER and UTSC. (UTSC has three trigger modes: Freerun, other, and CM-MAC). The **docPnmBulkDestIpaddr** object (UTSC CM-MAC) is also supported.
- **Multiple Bulk Data Transfer Support**: You can now configure multiple BDTs. PNM BDT (DocsPnmBulkDataTransferCfgTable) MIB extends support from one TFTP server address to three.
- **Low Latency DOCSIS Histogram Support**: In this release, DOCS-QOS3-MIB is updated for configuring and polling histogram statistics. The new OIDs supported are docsQos3ServiceClassEntry, docsQos3SfLatencyHistCfgEntry, and docsQos3SfLatencyStatsEntry.

Supported Transceiver Modules

For more information on the supported transceiver modules, see Transceiver Module Group (TMG) Compatibility Matrix.

Best Practice Manual of Procedure for Cisco IOS XE Dublin 17.12.1 Upgrade

See the *Upgrading the Cisco cBR Converged Broadband Routers for Cisco IOS XE Dublin 17.12* document at the Install and Upgrade Guides page.

Mapping CBR-DPIC-8X10G 10-Gigabit Ethernet Interface to downstream controllers

Starting from Cisco IOS XE Bengaluru 17.6.1a, when you configure the RPD with CBR-CCAP-LC-G2-R, note that the CBR-DPIC-8X10G 10-Gigabit Ethernet Interface to downstream controllers mapping has changed.

Following are the new mapping values:

10-Gigabit Ethernet Interface	Downstream Controller
<slot>/1/0 ~ 1	0..7
<slot>/1/2 ~ 3	8..15
<slot>/1/4 ~ 5	16..23
<slot>/1/6 ~ 7	24..31

The mapping changes are also for valid downstream-video controllers.

Note The mapping changes does not apply to the CBR-DPIC-2x100G.

The previous mapping values are:

10-Gigabit Ethernet Interface	Downstream Controller
<slot>/1/0 ~ 3	0..15
<slot>/1/4 ~ 7	16..31

Ensure that you have correctly configured the mapping to avoid error logs and error messages. Following is an example of a wrong manual configuration:

```
Router(config)#cab rpd test1
```

```
Router(config-rpd)#core-interface tenGigabitEthernet 8/1/0
Router(config-rpd-core)#rpd-ds 0 downstream-cable 8/0/9 profile 0
For RPD aaaa.bbbb.aaaa, DPIC TE interface Te8/1/0 and DS controller 9 mismatch, TE interface
 Te*/1/0 can only be associated with DS controller */*/0~7, configuration failed.
Router(config-rpd-core)#rpd-ds 0 downstream-video 8/0/9 profile 1
For RPD aaaa.bbbb.aaaa, DPIC TE interface Te8/1/0 and Video controller 9 mismatch, TE
interface Te*/1/0 can only be associated with Video controller */*/0~7, configuration failed.
Router(config-rpd-core)#
```

Following is an example of a bootup error message:

```
*Jun 10 15:53:29.108 CST: %CBR-3-TE_CONTROLLER_MISMATCH: For RPD aaaa.bbbb.aaaa, DPIC TE
interface Te8/1/0 and DS controller 9 mismatch, TE interface Te*/1/0 can only be associated
 with DS controller */*/0~7, configuration failed.

*Jun 10 15:53:29.110 CST: %CBR-3-TE_CONTROLLER_MISMATCH: For RPD aaaa.bbbb.aaaa, DPIC TE
interface Te8/1/0 and Video controller 9 mismatch, TE interface Te*/1/0 can only be associated
 with Video controller */*/0~7, configuration failed.
```

Cisco cBR-8 Documentation References

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 at Cisco.com, you can find the field notices at http://www.cisco.com/en/US/customer/support/tsd_products_field_notice_summary.html.

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

Note Cisco IOS XE Cupertino 17.12.1 is generally available for field deployment. However, we recommend that you validate and qualify Cisco IOS XE Cupertino 17.12.1 in a limited field trial with your specific network configuration requirements. This process ensures a smoother, faster, and successful field deployment.

For information on Cisco cBR-8, go through the following links:

- Cisco cBR-8 Documentation for Cisco IOS XE
- Cisco cBR-8 DOCSIS Software Configuration Guide