Release Notes for Cisco cBR Series Converged Broadband Routers, IOS XE Release 17.18

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Cisco cBR Series Converged Broadband Routers, IOS XE Release 17.18.1

This Release Notes identifies changes and issues related to the release of Cisco cBR-8 Converged Broadband Router (Cisco cBR-8).

For more information on Cisco cBR-8, see the Related resources section.

New software features

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.

This section provides a brief description of the new software features introduced in this release.

New software features in IOS XE 17.18.1z

Table 1. New software features for Cisco cBR-8 Routers, IOS XE Release 17.18.1z

Product impact	Feature	Description
Ease of Use	LLD for PGS	With this release, DOCSIS Proactive Grant Service (PGS) service flow support for upstream SC-QAM and OFDMA channels resulting in lower latency is introduced. You gain guaranteed upstream bandwidth and low latency for cable modems by using Proactive Grant Service (PGS), which provides periodic, operator-defined grants independent of traditional request/grant cycles and adapts dynamically to channel conditions for consistent, efficient service delivery.
Ease of Use	ASF Upstream Traffic Shaping - Combined max rate cap	The ASF maximum sustained rate and burst, if configured, applies to the combined throughput of the two flows comprising the dual queue. The scheduling weight of an ASF can determine the ratio in servicing the low-latency and classic flows. This disabled by default and can be enabled by configuring the **cable us-asf-shaping enable** command.
Ease of Use	Add valid checking for rpd-cores-idents	With this release, validity checking in the cBR8 for the ccapCoreList when deleting an RPD is supported.
Ease of Use	Support of MIB Object: docsIf31CmtsCmDsOfdmChannelPreferredProfile	DocsIf31CmtsCmDsOfdmChannelPreferredProfile MIB support is added.

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Product impact	Feature	Description
Ease of Use	Addition of certificate information for a MD	In releases before 17.18.1z, when cable modem certificates expire, there is no easy way to identify the offending modem and certificate from the error produced in the logs. This feature adds show commands to list the CM and CA certificates on a given mac-domain, card, or chassis. This includes the CM MAC, IP, Interface, Online time/ CM and CA certificate.
Ease of Use	Populating the 'sysDescr' field in 'show cable modem verbose'	You can populate the 'sysDescr' field in the **show cable modem verbose** without using SNMP-based remote query. Instead of SNMP, snoop the cable modem's DHCP transaction to acquire the sysDescr. Command Added: **cable modem sysdescr-dhcp**
Ease of Use	Additional show commands for sysDescr' field in 'show cable modem verbose'	You gain reliable modem identification and improved troubleshooting with the sysDescr field now consistently displayed in cable modem show commands, including for IPv6-enabled modems. This feature uses details extracted from DHCP provisioning, eliminating reliance on SNMP for sysDescr data. Command Added: • show cable modem sysDescr • show cable modem cable x/y/z sysDescr • show cable modem rpd name <name> sysDescr
Ease of Use	Add all output from show cable modem verbose CLI command to SQL Database	You can now query all attributes from the show cable modem verbose command using the show cable modem select SQL interface, enabling comprehensive filtering, grouping, and aggregation in a structured tabular format for faster diagnostics and more streamlinedreporting.
Ease of Use	RPDs included in SQL Database	You can efficiently search, filter, and analyze Remote PHY Devices by storing RPD data in an SQL database. This feature lets you use SQL-like commands on the CLI to quickly find, organize, and export detailed RPD information for easier inventory management in large deployments. Parameters from the show cable rpd info and 'show cable rpd capability' are added to the SQL Database.
Ease of Use	Flash the LED lights locate linecard or SUP	You can visually identify and locate the correct CBR-8 hardware module for maintenance or replacement by activating the REPLACE LED indicator through the CLI, helping you reduce errors and accelerate hardware servicing and replacement tasks. Command Added: **hw-module led slot** *slot*
Ease of Use	Add ability to shut range of cable interfaces	This feature allows you to perform shutdown operation for multiple cable interfaces in a defined range. Command Added: **interface range cable** *range-value*
Ease of Use	Static pseudowire for the dataplane delivery of broadcast video	This release adds support for configuration of a static pseudowire for the dataplane delivery of Broadcast video. You maintain continuous broadcast video delivery to RPDs during line card switchover, as RPDs automatically transition

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Product impact	Feature	Description
		to standby multicast IPs if the primary video source is unavailable. This feature reduces service interruptions and improves high availability for broadcast video services. LCHA is supported.
Ease of Use	QSFP-100G-LR-S support	Supported transceiver module product number: **QSFP-100G-LR-SF** for SUP-PIC For information about the module, see Cisco 100GBASE QSFP-100G Modules DataSheet. For information about device compatibility, see the Transceiver Module Group(TMG) Compatibility Matrix.
Ease of Use	Output of OFDMA Profile commands put over Kafka Bus	Enhanced “OFDMA-CWERR-DOWNGRADE”, “US-RXMER”, “CM-PARTIAL-SERVICE" and “US-CTRLR-STATS" Kafka messages to include OFDMA profiles parameters.

New software features in IOS XE 17.18.1y

Table 2. New software features for Cisco cBR-8 Routers, IOS XE Release 17.18.1y

Product impact	Feature	Description
Software Reliability	Kafka Migration MIB	To reduce IOSd overhead, selected MIB/OID values are transitioned from SNMP processing to the existing Kafka-based telemetry pipeline, where they can be represented as **Kafka based messages:** OFDMA Status, US SCQAM Status, DS SCQAM Status, DS OFDM Status, US Ctrlr Stats, DS Ctrlr Stats. MIB/OID entry values are converted to the new kafka topics and protobuf messages.
Ease of Use	RPHY Upstream Dynamic Modulation with Upstream sharing	This feature introduces support for dynamic modulation of a profile for RPDs in an upstream-sharing environment for SC-QAM channels. Selection of best profile is based on the RPD which has the worst SNR, which provides significant noise reduction and connectivity improvements.
Ease of Use	Support to View EAE Online Parameter	This feature enhances the **show cable modem verbose** and **show cable modem verbose privacy** commands to indicate when EAE (Early Authentication and Encryption) policy is being enforced. **Note**: cBR-8 default mode remains as EAE enforcement disabled.
Ease of Use	RPD Uptime Information Enhancement	This feature enhances the following RPD commands to get full uptime (like the SNMP output). **show cable rpd [*mac-addresss* / *ip address* / *id* / *rpd-name*] uptime**
Ease of Use	Single Command to View Consolidated Logs for an RPD	This feature introduces a CLI command that consolidates logs for a single RPD. This enhancement allows the user to retrieve all logs, in both forward and reverse order, for a specific RPD using a single command. **show cable rpd [*mac-addresss* / *ip address* / *id* / *rpd-name*] log [reverse]**
Ease of Use	Support to add a counter for OFDMA downgrades caused by codeword errors	OFDMA Profile Management Codeword Error (CWE) Profile Downgrade Counts is a diagnostic feature designed to track and display the number of profile downgrades caused by codeword errors in OFDMA modem channels. This feature adds add a new show command and new command options that display profile management downgrade counts.

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Product impact	Feature	Description
		show cable upstream ofdma downgrade counts **show cable modem phy ofdm-profile upstream [downgrade [summary]]** **show cable modem [ip | interface cable [upstream] | mac | ipv6] phy ofdm-profile upstream [downgrade]**
Ease of Use	Track of " recent" OFDMA downgrades and display them	This feature introduces a number value after summary to specify the number of hours the user would like to include in the “recent” count, and a verbose option when displaying a single modem to show all the related counters and specifically show the downgrades on an hour-by-hour display. **show cable upstream ofdma downgrade counts [1-24]** **show cable modem phy ofdm-profile upstream [downgrade [summary [1-24]]** **show cable modem [ip | interface cable | mac | ipv6] phy ofdm-profile upstream [downgrade [verbose]]**
Ease of Use	Track Cable Modem Requests Which Move to RBG	This feature enhances show cable modem command to display RBG requests counter regardless of whether the move is allowed or successful. **show cable modem rbg-activity** **show cable modem <mac | IPv4 | IPv6> rbg-activity** **show cable modem <cable interface> rbg-activity sort-by-rbg-requested**
Ease of Use	show cable modem <mac> prof-mgmt downstream graph	This feature adds an ASCII graph to **show cable modem <ip-addr>|<mac-addr> prof-mgmt downstream graph** command similar to the one for scm upstream.
Ease of Use	Upstream AQProbe Table Support	PNM Active/Quiet Probe (AQProbe) feature defined by the DOCSIS PNM MIB docsPnmCmtsUsOfdmaAQProbe is a new enhancement for better planning and diagnosis of RF plant issues in the Upstream path. Active/Quiet Probe is designed to help operators analyze and maintain the upstream RF plant by providing controlled, time-scheduled measurements.
Ease of Use	AQProbe MIB data be available via protobuf and streamed over the Kafka bus	Kafka events are defined by Google Protocol Buffers (GPB) for returning CmUsOfdmaAqProbe data samples initiated by SNMP either in addition to or in place of TFTP files.

New software features in IOS XE 17.18.1x

There are no new software features in the IOS XE 17.18.1x release for Cisco cBR-8 routers.

New software features in IOS XE 17.18.1w

Table 3. New software features for Cisco cBR-8 Routers, IOS XE Release 17.18.1w

Product impact	Feature	Description
API Experience	Monitor cBR-8 Logs in CSPC Update	This feature is an update to the existing feature - converting the syslog format to be compatible with AFM, which is introduced in the IOS XE 17.18.1w release. The CX Automated Fault Management (AFM) tool reads syslog messages from a syslog server. The CX Common Services Platform Collector (CSPC) tool is responsible for collecting syslog messages from the cBR8 and sending them to the syslog server. Forwarding rules can be configured for CSPC to define which messages are forwarded from the syslogs to a syslog server.

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Product impact	Feature	Description
Ease of Use	CM Specific OFDMA US PMA Fine Tuning	With the current US PMA design a single data IUC is selected for all minislots of an OFDMA channel. All the minislot average RxMER needs to satisfy the modulation SNR requirement for the selected data IUC. This feature allows for an OFDMA customized IUC configuration per CM. Known as “Fine Tuning” this allows for adjustment of IUC.
Ease of Use	OFDMA Codeword Downgrade Per Channel List Support for PMA	OFDMA codeword downgrade per channel list add/extend to PMA The OFDMA profile management codeword error downgrade IUC configuration allows customers to define the OFDMA profile management downgrade path. A modem's OFDMA channel can skip downgrade steps, making the downgrade process shorter from the highest IUC to the lowest IUC. The Downgrade IUCs are configured in the OFDMA mod-profile. With this feature we are allowing an external PMA to change the downgrade path for a specific upstream channel. As the PMA changes the IUC’s modulation, it can also decide the best path for the downgrade.
Ease of Use	OFDMA CWERR Downgrade Kafka Message	A new Kafka Telemetry message is being provided that will periodically report the count of IUC downgrades that occur due to codeword errors. The new Kafka message is referred to as “OFDMA-CWERR-Downgrade” and will carry statistics related to the IUC downgrade counts, partial-service counts, current IUC and RxMER send/receive counts.
Ease of Use	Pilot Tone Frequency Overlap Support	This feature allows the operator to configure 4 pilot tone frequencies in RPDs that overlap existing SC-QAM channels, and without any limitation of the minimum frequency interval between adjacent pilot tones Command Introduced: **cable downstream-pilot-tone freq-overlap disable**.

New hardware features

This section provides a brief description of the new hardware features introduced in this release.

New hardware features in IOS XE 17.18.1z

There are no new hardware features in the IOS XE 17.18.1z release for Cisco cBR-8 routers.

New hardware features in IOS XE 17.18.1y

There are no new hardware features in the IOS XE 17.18.1y release for Cisco cBR-8 routers.

New hardware features in IOS XE 17.18.1x

There are no new hardware features in the IOS XE 17.18.1x release for Cisco cBR-8 routers.

New hardware features in IOS XE 17.18.1w

There are no new hardware features in the IOS XE 17.18.1w release for Cisco cBR-8 routers.

Changes in behavior

This section provides a brief description of the behavior changes introduced in this release.

Modified software features in IOS XE 17.18.1z

There are no modified software features in the IOS XE 17.18.1z release for Cisco cBR-8 routers.

Modified software features in IOS XE 17.18.1y

There are no modified software features in the IOS XE 17.18.1y release for Cisco cBR-8 routers.

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Modified software features in IOS XE 17.18.1x

There are no modified software features in the IOS XE 17.18.1x release for Cisco cBR-8 routers.

Modified software features in IOS XE 17.18.1w

There are no modified software features in the IOS XE 17.18.1w release for Cisco cBR-8 routers.

Modified hardware features in IOS XE 17.18.1z

There are no modified hardware features in the IOS XE 17.18.1z release for Cisco cBR-8 routers.

Modified hardware features in IOS XE 17.18.1y

There are no modified hardware features in the IOS XE 17.18.1y release for Cisco cBR-8 routers.

Modified hardware features in IOS XE 17.18.1x

There are no modified hardware features in the IOS XE 17.18.1x release for Cisco cBR-8 routers.

Modified hardware features in IOS XE 17.18.1w

There are no modified hardware features in the IOS XE 17.18.1w release for Cisco cBR-8 routers.

Resolved issues

This table lists the resolved issues in this specific software release.

Note: This software release may contain bug fixes first introduced in other releases. To see additional information, click the bug ID to access the Cisco Bug Search Tool.

Resolved issues for cBR-8, Release IOS XE 17.18.1z

Table 4. Resolved issues for Cisco cBR-8 Routers, Release IOS XE 17.18.1z

Bug ID	Description
CSCwu75905	ES_MiDCO: RPHYMAN failure during LCHA unconfig triggered SUP Switchover and generated core
CSCws67055	ofdma-status event message - Observed ofdma-status message on consumer without any ofdma channel config update
CSCws68350	Observed scm select Flapscount attribute values are not matching with scm verbose output
CSCws75654	Observed traceback log " DATACORRUPTION-1-DATAINCONSISTENCY: strcpy_s: src is null" post command execution " scm select *"
CSCwt06601	CBR8: RxPWR MIB entry in BUSY state during SUPSO does not auto retry after switchover
CSCwt07503	DS-PMA on RPHY: Control profile configuration mismatch between cbr8 and RPD after dynamic change on control profile
CSCwt53331	AQProbe support for Legacy TFTP (non-BDT) capture
CSCwt72712	'scm <mac> qos' shows throughput twice as much as max-rate

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Bug ID	Description
CSCwt80859	AQProbe: error job has date-time listed in show summary and missing after sup so
CSCwt91739	Default USBG: Bonding bit remains set after removing US channel attribute-mask
CSCwu07255	Upstream classifier " Number of matches" count displaying value instead of " N/A"
CSCwu07487	AQProbe: empty path with '?kafka=only' BDT URI " tftp://1.2.2.92?kafka=only" not working
CSCwu12865	ICMTS: observing memory leak
CSCwu54806	IPv6 classifier created via packetcable is incorrect
CSCwu56218	observed traceback " DATACORRUPTION-1-DATAINCONSISTENCY: strncpy_s: copy was truncated (not enough space in dest)," after reload.
CSCwv43224	AdmCtrl underflows sid count and curr_reservation

Resolved issues for cBR-8, Release IOS XE 17.18.1y

Table 5. Resolved issues for Cisco cBR-8 Routers, Release IOS XE 17.18.1y

Bug ID	Description
CSCwt01473	DS PMA: RP IOSD SUP switch over during modulation profile configurations
CSCwt55501	Some modems with privacy enabled becomes unpingable around 11 hours after online with LC-G2-R CLC
CSCwp66197	rphy_mcast_ds_rfchan table record limit causes REPM to fail
CSCwq75448	Recent count values not cleared in cwerr_downgrade_counts when clear count CLI is executed and Last dgd time showing NA after reset
CSCws16967	DS-PMA : Exec changes not retained in CBR8 DPD and show cable pma all after LCPR IOSD restart
CSCws21092	cm-reg-status and cm-stats messages are not displayed on consumer side
CSCws60151	us-rxmer : Rxmer values and dbc are not displayed after Rxmer polling when the cm is initialized
CSCws63674	Supervisor engine restart as IPDR exporter started and stopped in configuration mode
CSCws70234	Some non-LLD Capable CMs enter reject(c) with US ASF CM Cfg File
CSCwt03754	scm <mac-address> cm-status verbose entry is not cleared after iosd restart
CSCwt06598	CBR8: PNM SUPHA: some RxMer MIB measurements do not auto retry after SUP switchover
CSCwt10531	SUP HA: cm-instance field boolean_services data sync is broken
CSCwt28992	Periodic Kafka Telemetry messages should always require the " periodic-timer" CLI keyword

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Bug ID	Description
CSCwt30424	OP-SIM: command admission-control max-reserved-bandwidth not configured at boot time with op-sim
CSCwt51424	Linecard reload observed due to unexpected NULL pointer in packet TX flow

Resolved issues for cBR-8, Release IOS XE 17.18.1x

Table 6. Resolved issues for Cisco cBR-8 Routers, Release IOS XE 17.18.1x

Bug ID	Description
CSCwr60465	Video QAM incorrectly added to Wideband-Cable Interface after SUP switchover
CSCws08641	IOSd process restart causing LLD modems to fail with reject(epk)
CSCwp60914	Observed " %IOSXE-3-PLATFORM: R1/0: kernel: cpld_ehsa_midplane_lock (line 1183): Failed to get midplane lock" after downgraded to the base image
CSCwq69967	SN displays as " NA" for some cable LCs after upgrade from 16.12.1z2.ES2 to 17.12.1z2
CSCwq97496	cBR-8 - TenG ports remain down post upgrade
CSCwr28806	Observed %IOSXE-3-PLATFORM: CLC9: kernel: show_reg_read_pin (line 192): read adm1075 register at 97 failed rtn=-11 error msg after reload and SSO
CSCwr32061	Unexpected reload when MAP builder is sending grants when do LCPR and CDMAN restart
CSCwr62105	CCC mismatch between controller and mac-domain
CSCwr88177	DS PMA: Disallow dynamic modulation change in NCP profile associated with modulation profile
CSCwr95862	Linecard reload: Unnecessary messaging on LC, leading to CPU hog
CSCws05831	Silent reload on DPIC (CBR-DPIC-8X10G / 17.12.1y) with no logs.
CSCws06108	Linecard unexpected reload due to DSPHY detects continuous MAC drop
CSCws30772	LC IOS-d reload when to execute " show cable card <slot>/0 ds-mac free-index"
CSCws42693	UTSC MaxHold Trigger Mode Values in CLI Differ After Capture Initiation
CSCws43966	odd behavior from platform punt-keepalive CLI
CSCws59923	missing mac domain in " scr md-association"
CSCws65039	upstream packets not captured with per mac-address upstream cable monitor (post-docsis)

Resolved issues for cBR-8, Release IOS XE 17.18.1w

Table 7. Resolved issues for Cisco cBR-8 Routers, Release IOS XE 17.18.1w

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Bug ID	Description
CSCwp96634	Line card restart as the device is stuck in gcd_num
CSCwq73762	cBR-8 supervisor graceful failover because ptpd reload
CSCwr56087	DOCSIS 3.1 layer 3 loss to modem after OFDM downstream profile failure and static load-balance move
CSCwo78968	After adding new data-prof, CMs goes OFFLINE, when OFDM ch configured as primary
CSCwq02191	One report on Kafka-consumer is missing post LC Process (i.e IOSD) Restart.
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
CSCwr63505	cBR-8 - TenG ports remain down post upgrade to 17.12.1z2

Open issues

This table lists the open issues in this specific software release.

Note: This software release may contain open bugs first identified in other releases. To see additional information, click the bug ID to access the Cisco Bug Search Tool.

Open issues for cBR-8, Release IOS XE 17.18.1z

Table 8. Open issues for Cisco cBR-8 Routers, Release IOS XE 17.18.1z

Bug ID	Description
CSCwu22006	When " ipdr type" is set as " ad-hoc" , messages are inconsistant.
CSCwu50398	Upstream resiliency event not moving to UB->p after OFDMA profile management event
CSCwu93212	OFDM channel went down with " RESOURCE-CONFIG-TIMEOUT"
CSCwv31906	Modem transition to " P-Online" state when control profile is configured as static in external PMA mode and override with exec
CSCwv41210	RxPwr: sup ha caused mdm rxpwr MIB setting back to default
CSCwv52947	After resetting the RPD on the source cBR8, video does not recover after the RPD is back online
CSCwv61403	cBR8 does not use redundant multicast pool for l2tp multicast joins
CSCwv64755	Certificate Valid From & Until fields for CA and CM Certicates will not be shown post SUPHA, LCHA, LCPR.
CSCwv67226	US ASF combined throughput is much higher than expected when the max rate is low

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Bug ID	Description
CSCwv74307	Correct the CA certificate state to use the appropriate CA-specific state

Open issues for cBR-8, Release IOS XE 17.18.1y

Table 9. Open issues for Cisco cBR-8 Routers, Release IOS XE 17.18.1y

Bug ID	Description
CSCws67055	ofdma-status event message - Observed ofdma-status message on consumer without any ofdma channel config update
CSCwt06601	CBR8: RxPWR MIB entry in BUSY state during SUPSO does not auto retry after switchover
CSCwt53331	AQProbe support for Legacy TFTP (non-BDT) capture
CSCwt72015	After the removal of virtual combine rpds , DevID is not updated
CSCwt74132	cable modem failed to Move from RCC to wideband interface
CSCwt74961	During script execuion dbg_creation.py : CM DBG Check Failed
CSCwt80853	AQprobe: Enable sub-oid changed from 2 to 1 for an Error job after SUP HA
CSCwt80859	AQProbe: error job has date-time listed in show summary and missing after sup so
CSCwt81118	CBR-3-CABLE_IPC_ERROR during ISSU reported by KMAN config
CSCwt83097	Include CMs bonded to single channel WB in " scm summary wb-rfs" stats
CSCwt91739	Default USBG: Bonding bit remains set after removing US channel attribute-mask

Open issues for cBR-8, Release IOS XE 17.18.1x

Table 10. Open issues for Cisco cBR-8 Routers, Release IOS XE 17.18.1x

Bug ID	Description
CSCws16967	DS-PMA : Exec changes not retained in CBR8 DPD and show cable pma all after LCPR IOSD restart
CSCws60151	us-rxmer : Rxmer values and dbc are not displayed after Rxmer polling when the cm is initialized
CSCws63674	Supervisor engine restart as IPDR exporter started and stopped in configuration mode
CSCws70234	Some non-LLD Capable CMs enter reject(c) with US ASF CM Cfg File

Open issues for cBR-8, Release IOS XE 17.18.1w

Table 11. Open issues for Cisco cBR-8 Routers, Release IOS XE 17.18.1w

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Bug ID	Description
CSCwr60465	Video QAM incorrectly on RFID in Wideband-Cable Interface
CSCwq97496	cBR-8 - TenG ports remain down post upgrade to 17.12.1z2
CSCwq97740	D3.1 modems report uncorrectable codeword errors on OFDM control profile with ZBL configuration

Known issues

Map 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.
```

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```
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.
```

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
IOS XE 17.18.1z	Cisco 1x2 / Compact Shelf RPD Software 10.9.3	SmartPHY v26.1
IOS XE 17.18.1y	Cisco 1x2 / Compact Shelf RPD Software 10.9.3	SmartPHY v26.1
IOS XE 17.18.1x	Cisco 1x2 / Compact Shelf RPD Software 10.9.2	SmartPHY v25.2
IOS XE 17.18.1w	Cisco 1x2 / Compact Shelf RPD Software 10.9.2	SmartPHY v25.2

Supported hardware

For detailed information about the hardware supported in Cisco IOS XE 17.18.1 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.

Note: Starting with IOS XE 17.18.1w, 8 RPD US sharing mode is no longer supported. The maximum number of RPD in US sharing mode is 4.

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Memory requirements

The following table displays the memory recommendations for the Cisco cBR-8 routers with IOS XE 17.18.1 feature sets.

Table 12. Memory recommendations for the Cisco cBR-8 Routers, Release IOS XE 17.18.1z

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-universalk9.17.18.1z.SPA.bin	8G	48G	Harddisk
CISCO IOS-XE CLC K9	Cisco cBR-8 (CBR-CCAP-LC-40G) Processor	cbrsup-universalk9.17.18.1z.SPA.bin	8G	16G	Supervisor
CISCO IOS-XE Kobol-R	Cisco cBR-8 (CBR-CCAP-LC-G2-R) Processor	cbrsup-universalk9.17.18.1z.SPA.bin	8G	64G	Supervisor

Table 13. Memory recommendations for the Cisco cBR-8 Routers, Release IOS XE 17.18.1y

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-universalk9.17.18.1y.SPA.bin	8G	48G	Harddisk
CISCO IOS-XE CLC K9	Cisco cBR-8 (CBR-CCAP-LC-40G) Processor	cbrsup-universalk9.17.18.1y.SPA.bin	8G	16G	Supervisor
CISCO IOS-XE Kobol-R	Cisco cBR-8 (CBR-CCAP-LC-G2-R) Processor	cbrsup-universalk9.17.18.1y.SPA.bin	8G	64G	Supervisor

Table 14. Memory recommendations for the Cisco cBR-8 Routers, Release IOS XE 17.18.1x

Feature Set	Cisco cBR-8 Route Processor	Software Image	Recommended Flash Memory	Recommended DRAM Memory	Runs From
CISCO IOS-XE	Cisco cBR-8 (CBR) Processor	cbrsup-universalk9.	8G	48G	Harddisk

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Feature Set	Cisco cBR-8 Route Processor	Software Image	Recommended Flash Memory	Recommended DRAM Memory	Runs From
universalk9		17.18.1x.SPA.bin			
CISCO IOS-XE CLC K9	Cisco cBR-8 (CBR-CCAP-LC-40G) Processor	cbrsup-universalk9. 17.18.1x.SPA.bin	8G	16G	Supervisor
CISCO IOS-XE Kobol-R	Cisco cBR-8 (CBR-CCAP-LC-G2-R) Processor	cbrsup-universalk9. 17.18.1x.SPA.bin	8G	64G	Supervisor

Table 15. Memory recommendations for the Cisco cBR-8 Routers, Release IOS XE 17.18.1w

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. 17.18.1w.SPA.bin	8G	48G	Harddisk
CISCO IOS-XE CLC K9	Cisco cBR-8 (CBR-CCAP-LC-40G) Processor	cbrsup-universalk9. 17.18.1w.SPA.bin	8G	16G	Supervisor
CISCO IOS-XE Kobol-R	Cisco cBR-8 (CBR-CCAP-LC-G2-R) Processor	cbrsup-universalk9. 17.18.1w.SPA.bin	8G	64G	Supervisor

Supported transceiver modules

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

Supported software packages

View installed software version for IOS XE 17.18.1z

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

```
Router# show version
Load for five secs: 5%/1%; one minute: 7%; five minutes: 9%
Time source is NTP, 06:28:57.714 EDT Wed Jul 29 2026
Cisco IOS XE Software, Version 17.18.01z
```

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Cisco IOS Software [IOSXE], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version 17.18.1z, RELEASE SOFTWARE (fc2)

Technical Support: http://www.cisco.com/techsupport

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Compiled Wed 29-Jul-26 04:16 by mcpre

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documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.

ROM: 17.15(1r)S

CBR-CREG2-L02 uptime is 22 minutes
Uptime for this control processor is 30 minutes
System returned to ROM by reload at 04:48:16 EDT Wed Jul 29 2026
System restarted at 06:06:25 EDT Wed Jul 29 2026
System image file is "bootflash:cbrsup-universalk9.17.18.01z.SPA.bin"
Last reload reason: LocalSoft

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```
Cisco cBR-8 (CBR) processor (revision CBRVE) with 6611079K/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:
```

View installed software version for IOS XE 17.18.1y

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

```
Router# show version
Load for five secs: 6%/0%; one minute: 7%; five minutes: 9%
Time source is NTP, 10:43:29.818 EDT Wed Apr 15 2026
Cisco IOS XE Software, Version 17.18.01y
Cisco IOS Software [IOSXE], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
17.18.1y, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
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or the applicable URL provided on the flyer accompanying the IOS-XE
software.

ROM: 17.15(1r)S

CBR-CREG2-L02 uptime is 22 minutes
Uptime for this control processor is 31 minutes
System returned to ROM by reload at 20:15:30 EDT Tue Apr 14 2026
System restarted at 10:20:39 EDT Wed Apr 15 2026
System image file is "bootflash:cbrsup-universalk9.17.18.01y.SPA.bin"
Last reload reason: LocalSoft
```

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Cisco cBR-8 (CBR) processor (revision CBRVE) with 6611384K/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:.
```

View installed software version for IOS XE 17.18.1x

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

```
Router# show version
Load for five secs: 6%/0%; one minute: 7%; five minutes: 8%
Time source is NTP, 19:17:17.277 EST Fri Jan 16 2026
Cisco IOS XE Software, Version 17.18.01x
Cisco IOS Software [IOSXE], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
17.18.1x, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
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```

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software.

ROM: 17.15(1r)S

CBR-CREG1-L01 uptime is 22 minutes
Uptime for this control processor is 29 minutes
System returned to ROM by reload at 17:20:56 EST Fri Jan 16 2026
System restarted at 18:55:00 EST Fri Jan 16 2026
System image file is "bootflash:cbrsup-universalk9.17.18.01x.SPA.bin"
Last reload reason: LocalSoft

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Cisco cBR-8 (CBR) processor (revision CBRVE) with 6611614K/6147K bytes of memory.
Processor board ID FXS1917Q4LZ
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.
7780351K bytes of eUSB flash at bootflash:.

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```
234365527K bytes of SATA hard disk at harddisk:.
```

View installed software version for IOS XE 17.18.1w

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

```
Router# show version
Load for five secs: 10%/1%; one minute: 8%; five minutes: 8%
Time source is NTP, 23:25:17.494 EDT Wed Oct 22 2025
Cisco IOS XE Software, Version 17.18.01w
Cisco IOS Software [IOSXE], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
17.18.1w, RELEASE SOFTWARE (fc2)
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software.

ROM: 17.15(1r)S

CBR-CREG2-L02 uptime is 26 minutes
Uptime for this control processor is 35 minutes
System returned to ROM by reload at 21:29:53 EDT Wed Oct 22 2025
System restarted at 22:58:30 EDT Wed Oct 22 2025
System image file is "bootflash:cbrsup-universalk9.17.18.01w.SPA.bin"
Last reload reason: LocalSoft

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Cisco cBR-8 (CBR) processor (revision CBRVE) with 6611621K/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:.
```

Determine firmware support

This section describes firmware that is supported for the Cisco cBR-8 Converged Broadband Routers. For more information, see 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 16. Firmware Packages and Versions Supported in IOS XE 17.18.1

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**

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Internal Name	Component Name	Required Minimum Version	Command
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**

Related resources

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

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Note: Cisco IOS XE Cupertino 17.18.1 is generally available for field deployment. However, we recommend that you validate and qualify Cisco IOS XE Cupertino 17.18.1 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

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