



Release Notes for Cisco cBR Series Converged Broadband Routers, Cisco IOS XE Cupertino 17.9

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CHAPTER 1

What's New in Cisco cBR-8 Series Routers



- Note** Explore the [Content Hub](#), the all new portal that offers an enhanced product documentation experience.
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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 5](#)

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 Cupertino 17.9.1y1

There are no new software features in the Cisco IOS XE Cupertino 17.9.1y1 release for Cisco cBR-8 series routers.

New Hardware Features in Cisco IOS XE Cupertino 17.9.1y1

There are no new hardware features in the Cisco IOS XE Cupertino 17.9.1y1 release for Cisco cBR-8 series routers.

New Software Features in Cisco IOS XE Cupertino 17.9.1y

- **Support for Active Queue Management(AQM) In Low Latency DOCSIS (LLD):** Active Queue Management (AQM) is one of the critical components of LLD. AQM allows routers to control the queue length and delay of packets.

- **Support for Arbitrary Configuration of a Combination of US Channels in a USBG:**

Starting with Cisco IOS XE Cupertino 17.9.1y, the **upstream bonding-group** (USBG) can include any of the available 16 US channels. You can arbitrarily configure a combination of US channels in a USBG. The maximum limit remains eight channels per USBG. For example, you can configure US6, US7, US8, and US9 together in a USBG.

In releases before Cisco IOS XE Cupertino 17.9.1y, the **upstream bonding-group** can only include upstream channels either from **Group 1** (US channels 0-7) or **Group 2** (US channels 8-15). For example, you can't configure US6, US7, US8, and US9 together in a USBG as they are from different groups.

- **Support for Multiple TFTP Servers:**

Starting with Cisco IOS XE Cupertino 17.9.1y, the new PNM BDT MIB (docsPnmBulkDataTransferCfgTable) support has been added. It introduces support for multiple TFTP destination servers, and simultaneous capture of both UTSC freerun and RxMER data and store into different TFTP server locations. PNM captured files can be stored in three different TFTP servers simultaneously. Each TFTP server detail is stored into BDT table using unique index values (that is, 1, 2 and 3). The existing PNM Bulk Data Control Table MIB remains supported with the following changes.

- Capture doesn't start if the destination TFTP IP address and PATH aren't configured.
- For UTSC other mode, the path isn't required and only IP is required.

PNM BulkData Transfer Cfg MIB and the legacy PNM Bulk Data Control MIB, can be configured and used at the same time.

In releases before Cisco IOS XE Cupertino 17.9.1y, only one BDT TFTP destination server per CCAP is supported to store the captured UTSC or RxMER data, and maximum eight captures on upstream ports per line card and a maximum of 20 captures per CBR8 is supported for both I-CMTS and RPHY. All captured files are stored into the same TFTP server.

- **Updates to GCP Configuration:**

The timeout range for the `cable rphy gcp keepalive timeout` command is updated 0–1000 to **0-100**. The following options are added to the `cable rphy gcp` command.

- **flowctrl-threshold**
- **max-idle-time**
- **reconnect-timeout**
- **recovery-act-delay**
- **recovery-act-retry**
- **recovery-action** *action*

- **Proactive Network Management Using RxPwr MIB:** Provides an estimate of the received power in a specified OFDMA channel at the F connector input of either a CMTS-integrated linecard or RPD. The

measurement is based on upstream probes, which are typically the same probes used for pre-equalization adjustment. For more information see, [Proactive Network Management](#).

- **Rolling Average Calculation for Channel Utilization**

Rolling Average calculation is now available for OFDMA and SC-QAM. The average window size is configurable using cable util-interval command and via the SNMP using docsIfCmtsChannelUtilizationInterval MIB.

The following commands are modified to display the rolling average calculation: show interface cable mac-scheduler and show cable upstream ofdma chan-util.

The following MIBs are modified to support channel utilization:

- docsIfCmtsChannelUtUtilization for OFDMA - provides the same rolling average functionality.
- docsIfCmtsChannelUtilizationInterval - allows the "cable util-interval" setting to be read and configured via SNMP.

In addition, the above MIBs no longer include DPS grants in the utilization calculation.

- **CM Device Class DOCS-SUBMGT3-MIB:**

Updated the following MIBs:

- docsSubmgt3BaseCpeMaxIpv6AddressesDef :

This attribute represents the maximum number of IPv6 prefixes or addresses allowed for the CM's CPEs if not signaled in the registration process. All IPv6 addresses, including Link-Local and any address with a scope greater than 1 are counted against the docsSubmgt3BaseCpeMaxIpv6AddressesDef.

- docsSubmgt3BaseCpeMaxIpv6PrefixesDef:

This attribute represents the maximum number of IPv6 IA_PD's (delegated prefixes) allowed for the CM's CPEs if not signaled during the registration process. IPv6 IA_PD's are counted against the CpeMaxIpv6PrefixesDef. This contrasts with the CpeMaxIPv4AddressesDef addresses, rather than IPv4 subnets, allowed by default per CM. Because this attribute only counts IA_PD's against the default, IA_NA addresses and Link-Local addresses aren't counted against this default limit.

- **RPD reconnect enhancements:**

To configure RPD reconnection, use the following command:

- **cable rphy reconnection hold-time 120**

When an RPD drops offline, some resources such as capability database, configuration changed data, and so on, are paused until the next active reconnection. If there's no reconnection, then the data is cleared to avoid the leak. If the RPD reconnection is successful, then these data are used.

To disable the RPD reconnection, use the following command:

- **no cable rphy reconnection hold-time**

New Hardware Features in Cisco IOS XE Cupertino 17.9.1y

There are no new hardware features in the Cisco IOS XE Cupertino 17.9.1y release for Cisco cBR-8 series routers.

New Software Features in Cisco IOS XE Cupertino 17.9.1x1

The following features are supported from Cisco IOS XE Cupertino 17.9.1x1:

Enhanced RPD recovery mechanism after SUPHA: SUP CPU utilization increases when SUPSO occurs, during new SUP rebuilding of RPDs, CMs, and so on. At this time, if RPDs fail to recover, then those rpd's are suppressed and the speed it takes to become online again is based on the SUP IOS's CPU utilization. This can prevent the system from being further burdened by RPDs and CMs which come after them, by coming online and reducing the impact to other RPDs or CMs rebuilding. You can use the **cablerphy supso suppress-rpd max-cpu max-cpumin-cpumin-cputime** command to configure this feature.

High-Split Upstream Spectrum Capture Support: This feature allows 409.6M span to be configured with Upstream Triggered Spectrum Capture "other" mode for cBR-8 routers. This allows the full spectrum capture range of 0 MHz to 204.8MHz to be supported.

Low Latency DOCSIS (LLD) Aggregate Service Flow Phase 1: This feature introduces configuration and parsing of TLVs representing bidirectional Aggregate Service Flows using two associated static service flows for LLD capable D31 modems. ASF can be configured via TLVs or Service Classes, but ASF QoS Profile (AQP expansion) will be supported in a future release. Also, ASF Shaping will be supported in a future release.

Support for insertion of downstream description into the DHCPv6 packets: This feature introduces support for the insertion of downstream description into the DHCPv6 packets for Cisco cBR-8 series routers. Use the `cable ipv6 dhcp-insert downstream-description` command in global configuration mode to configure this feature.

New Hardware Features in Cisco IOS XE Cupertino 17.9.1x1

There are no new hardware features in the Cisco IOS XE Cupertino 17.9.1x1 release for Cisco cBR-8 series routers.

New Software Features in Cisco IOS XE Cupertino 17.9.1w

The following features are supported from Cisco IOS XE Cupertino 17.9.1w:

Factory Reset Enhancement: The `factory-reset` command introduces two new options:

- **Fast Reset** (`factory-reset all`): Resets the card to factory default.
- **Secure Reset** (`factory-reset all secure`): Sanitizes all the storage devices.

For more information, see [Cisco cBR Series Converged Broadband Router Statement of Volatility](#).

Support for Long Haul QSFP Transceivers with cBR-8 SUP250: The Cisco 100GBASE Quad Small Form-Factor Pluggable (QSFP), **QSFP-100G-ER4L-S** is supported with cBR-8. It has 40 km reach over SMF, Duplex line card.

OUDD Leakage Detection for i-CCAP: Cable operators can now measure cable signal leaks by initiating the Orthogonal Frequency-Division Multiple Access (OFDMA) Upstream Data Profile (OUDD) leakage test sessions on one or more upstream OFDMA channels simultaneously. OUDD test sessions are initiated using

CLI commands in the config and EXEC modes. These commands direct modems to generate a test burst, which enables operators to locate leaks in the Federal Aviation Administration (FAA) frequency range above 100MHz. Operators use handheld or vehicle-based devices to detect leaks.

2x2 RPD DLM Support Enhancement: These following features are supported:

- Multiple Downstream controllers per RPD including 2x2 RPDs.
- Upstream sharing among multiple RPDs.
- Enhanced downstream sharing among multiple RPDs.

Downstream OFDM High Frequency Power Adjust: This feature enables power adjustment controls for OFDM downstream channels on RPD nodes to allow a step-down of channel power by 6 dB.

DS Resiliency Enhancement: VTY injection is not used during RBG change and the system shows the username of the last user who has performed the last configuration update.

Support for RPHY GCP TLV 98.3 (BaseTargetRxPower): This feature introduces TLV 98.3 support for cBR-8 routers. Use the **base-power-rx-level-1_6Mhz** option under **cable upstream controller-profile** *controller-profile-number* to enable base power configuration for the entire upstream port.

Support for Multiple Spectrum Acquisition (SAC): This feature introduces support for multiple SAC and support for *other* trigger mode.

Support for Flexible Consumption Model (Cisco Smart Licensing): This feature introduces support for *Flexible Consumption Model* in Cisco Smart Licensing. The Flexible Consumption Model (FCM) provides the capability and flexibility to purchase software capacity as needed.

New Hardware Features in Cisco IOS XE Cupertino 17.9.1w

There are no new hardware features in the Cisco IOS XE Cupertino 17.9.1w release for Cisco cBR-8 series routers.

Behaviour Changes Introduced Features

Modified Software Features in Cisco IOS XE Cupertino 17.9.1y1

There are no modified software features in the Cisco IOS XE Cupertino 17.9.1y1 release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Cupertino 17.9.1y1

There are no modified hardware features in the Cisco IOS XE Cupertino 17.9.1y1 release for Cisco cBR-8 series routers.

Modified Software Features in Cisco IOS XE Cupertino 17.9.1y

There are no modified software features in the Cisco IOS XE Cupertino 17.9.1y release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Cupertino 17.9.1y

There are no modified hardware features in the Cisco IOS XE Cupertino 17.9.1y release for Cisco cBR-8 series routers.

Modified Software Features in Cisco IOS XE Cupertino 17.9.1x1

There are no modified software features in the Cisco IOS XE Cupertino 17.9.1x1 release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Cupertino 17.9.1x1

There are no modified hardware features in the Cisco IOS XE Cupertino 17.9.1x1 release for Cisco cBR-8 series routers.

Modified Software Features in Cisco IOS XE Cupertino 17.9.1w

There are no modified software features in the Cisco IOS XE Cupertino 17.9.1w release for Cisco cBR-8 series routers.

Modified Hardware Features in Cisco IOS XE Cupertino 17.9.1w

There are no modified hardware features in the Cisco IOS XE Cupertino 17.9.1w release for Cisco cBR-8 series routers.



CHAPTER 2

Caveats

- [Caveat List, on page 7](#)
- [Open Caveats for Cisco IOS XE Cupertino 17.9.1y1, on page 8](#)
- [Resolved Caveats for Cisco IOS XE Cupertino 17.9.1y1, on page 8](#)
- [Open Caveats for Cisco IOS XE Cupertino 17.9.1y, on page 9](#)
- [Resolved Caveats for Cisco IOS XE Cupertino 17.9.1y, on page 9](#)
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- [Open Caveats for Cisco IOS XE Cupertino 17.9.1w, on page 12](#)
- [Resolved Caveats for Cisco IOS XE Cupertino 17.9.1w, on page 15](#)
- [Cisco Bug Search, on page 24](#)

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 Cupertino 17.9.1y1

Identifier	Headline
CSCwe92069	docsIf31CmtsCmRegStatusUsProfileIucList will return all channels in MD when modem assigned subset
CSCwf22684	OUDP: OIR event not handled properly for redundant linecards
CSCwd83290	D31 ipdr - UsOfdmaProfileStatus template missing entries for some CMs in setup with 200+modems
CSCwf60272	All video session lost on a single LED from one linecard with "VDMAN_IPC_FLOW_CONTROL" errors
CSCwf00731	Increase OFDMA probe pending queue size for scale OUDP burst testing
CSCwe72875	OUDP has duplicate "ACTIVE" state sessions after LCHA
CSCwd75787	VIDEO: Video process excessive cpu when L3 WAN failure while multicast source switching
CSCwe47523	SUP reloaded with repeated modem ping docsis while doing ccm all del
CSCwf29480	CBR linecard PID/SN mismatch in EEPROM and 'show inventory'

Resolved Caveats for Cisco IOS XE Cupertino 17.9.1y1

Identifier	Headline
CSCwf18757	OFDMA: Prevent Probe bursts during LCHA and improve Eq Probe error visibility
CSCwe61182	cBR8 - Continuous printing of log message CABLE IOSD Port Error
CSCwf30536	The DBMS connection is down and never recovers between Primary CDMAN and Secondary CDMAN
CSCwf52639	Modem stuck in init(o) status due to SC-QAM channel configuration close to 1002
CSCwf58637	CMs in partial mode on OFDMA channel due to controller/PHY state mismatch
CSCwf24266	ND entries for IPv6 CM are not removed after CM delete
CSCwf04631	cBR8 - CLI "test platform hardware slot r0 oir remove" resets LC0
CSCwf58900	cBR8 arp-filter counters incorrect when primary bundle interface is specified
CSCwe89864	Unable to set mgmt IP when reconfiguring LED
CSCwf61677	OFDMA: Equalization Probes PMAPS will not be sent within 50 ms of a ranging response.

Identifier	Headline
CSCwf44606	RPD & CM will drop offline after SUPHA if 20m ipv6 nd reachable-time & ns-interval configured
CSCwf38004	cBR8 - Linecard unexpected reload due to CDMAN_HW_FAILURE:PLL NMI

Open Caveats for Cisco IOS XE Cupertino 17.9.1y

Identifier	Headline
CSCwd83290	D31 ipdr - UsOfdmaProfileStatus template missing entries for some CMs in setup with 200+modems
CSCwd95935	DBC-RSP rejected by Hitron when 2 OFDM DS in RCS and OPT results in DBC for profile change
CSCwe72875	OUUDP has duplicate "ACTIVE" state sessions after LCHA
CSCwe89864	Unable to set mgmt IP when reconfiguring LED
CSCwf04631	cBR8 - CLI "test platform hardware slot r0 oir remove" resets LC0
CSCwf06216	refine 1588 time jump threshold
CSCwf11895	Fman HOG and NAT Traceback popup and stby-sup reload suddenly then the stby-sup keeps rebooting

Resolved Caveats for Cisco IOS XE Cupertino 17.9.1y

Identifier	Headline
CSCvu68909	DSG not working on MAC domain after remove/add RPD with OPS config and mismatch between SUP and LC
CSCwe17414	Bulk sync failure seen during ISSU upgrade from 17.6.1z to 17.9.1
CSCwd39712	Optimize OFDM Profile Selection to consider ZBL SCs in profiles as comparable
CSCwd51884	Changes to OFDM DS Controller-Profile can potential Config cmd-line corruption on large scale system
CSCwd73296	Disallow standbySUP bootup if it runs different image with Active SUP under non-ISSU state
CSCwe00625	BGSYNC_ERR:snmp_bg_sync_handle_packet:paramset expected data_size:140, but process len 236
CSCwe06946	OUUDP: OFDMA ctrlr-profile rapid shut/no-shut can block modem participation in test session

Identifier	Headline
CSCwe11072	CBR8: 'scm partial-mode ofdma' lists all upstream partial modems (D3.0 and D3.1)
CSCwe12317	CLC0 in booting state while CLC3 showing low watermark logs Slot0 downloaded configuration for slot3
CSCwe24159	type ubrtldl_pnm_rxmer_job/f4af91655ff2ad68e5d957789094b550/0 created:48 destroyed:32 diff:16
CSCwe30064	cBR-8 No L2 multicast traffic on a single mcst group in a single SG on a single Wideband Interface
CSCwe30995	SW Workaround for DSPHY DUC Interrupt CSCwd61303
CSCwe51191	Cable linecard crash Reason: integer divide by zero
CSCwe54152	OFDMA: Change to downgrade to partial modem when invalid RxMER data (all 0xFFs) is received
CSCwe57846	Add TDL error support for ubrtldl_pnm_rxmer_job_supha_msg_job_get
CSCwe61130	NVRAM Trusted CA certificates fail to load after upgrade to 17.6.1x; modems to become rejected
CSCwe65419	LC memory leak @ ubr_ucd_copy_ofdma_scband_a2a & ubr_ucd_copy_mslot_mod_group_a2
CSCwe65945	cBR-8 // 17.6.1x // rf-channel power-adjust inconsistency
CSCwe70788	OUUDP reserved bandwidth is not shown after LCHA
CSCwe73266	Some DS-JIB channels stuck after LCHA due to channels were disabled in JIB
CSCwe78138	5-Minute Load Average value exceeds warning by smand process of Standby SUP
CSCwe78495	Active LC crashed after LC switchover with OUUDP enabled
CSCwe78523	OFDMA: Change output of "show cable modem <modem> prof upstream verb graph" to start at start SC.
CSCwe86939	remove dependency on "service internal" for "cable us-scheduler bwr-drop ..."
CSCwe88741	Downstream Controller is using the DEPI Unicast instead of using a v6 multicast address.
CSCwe93623	OFDMA: Current IUC doesn't match Recommended IUC after modem reset with OUUDP sess and fix verb data
CSCwe93934	SPECSVL IPC busy in cdman
CSCwe94717	RBG interfaces lose "no snmp trap link-status" config

Open Caveats for Cisco IOS XE Cupertino 17.9.1x1

Identifier	Headline
CSCwc17414	Bulk sync failure seen during ISSU upgrade from 17.6.1z to 17.9.1
CSCwd65754	cBR-8 qfp queue stuck due to DShaper stuck
CSCwd75787	VIDEO: Video process excessive cpu when L3 WAN failure while multicast source switching
CSCwd83290	D31 ipdr - UsOfdmaProfileStatus template missing entries for some CMs in setup with 200+modems
CSCwe00625	BGSYNC_ERR:snmp_bg_sync_handle_packet:paramset expected data_size:140, but process len 236
CSCwe06946	OUUDP: OFDMA ctrlr-profile rapid shut/no-shut can block modem participation in test session

Resolved Caveats for Cisco IOS XE Cupertino 17.9.1x1

Identifier	Headline
CSCwc38612	default ofdma channel config not displayed correctly in the upstream controller-profile
CSCwc44166	OUUDP: Parent sessions should be downloaded to LC after card OIR
CSCwc44605	OFDM issues after changing the DS controllers profile on cBR8
CSCwc47269	OUUDP mdm oudp cnt mismatch with iosd lcpr with child session complete
CSCwc82095	docsIf31CmtsCmRegStatusUsProfileIucList defaults to IUC13 if channel not in modem TCC
CSCwd04795	OFDMA USPHY BCM3161 may get stuck with OFDMA channel parameter change
CSCwd08687	Intermittent issue with LACP failure
CSCwd14146	OFDMA: update equalization coefficients when an OFDMA channel comes out of partial-mode
CSCwd18076	Configuring 33rd OFDMA channel via controller profile get the profile into an error state
CSCwd21600	OUUDP child status ACTIVE is not expected COMPLETE with target ofdma shut
CSCwd32279	CBR-8 Linecard - Modems offline with DSPHY Mod 1 GE0-2 to Jib Packets messages logged

Identifier	Headline
CSCwd32291	RPHY - cBR does not release OFDMA enabled US controller binding after RPD de-provision
CSCwd33401	DPIC interfaces cannot ping peer device after reload LC and SUPHA
CSCwd37723	SAC index is always 0 in capture stop
CSCwd46413	clear counter cable x/y/z should clear total codeword counters when clearing per modem counts
CSCwd51000	Several SNMP CPUHOG messages observed @ dcm_rf_port_get_chan
CSCwd62563	RPHY: redundancy pool is over allocating IP addresses from Pool based on card limitations
CSCwd63431	cBR-8 Upstream SNR reporting is not immediately updated on the Supervisor
CSCwd73302	SUP unexpected reload when config OPS
CSCwd82679	OPS RBG WB interface loses RF config after SUP SO
CSCwd83462	duplicate PNM Sessions will be send to RPD for each connected Core
CSCwe04403	ICMTS OFDMA Ether-trap generated log file with no file limit and getting too big
CSCwe04707	RPHY: GCP KA timeout always defaulting to 16 seconds when interval is set to 4
CSCwe13912	cBR8 ARP-autoreply may generate excessive error messages when modems flap
CSCwe23605	"no snmp trap link-status" line is removed from the interface Wideband-CableX/X/X:x
CSCwe28432	Supervisor crash due to abnormal TLV of upstream channel response
CSCwe31388	CBR linecard unexpected reload in PKTIO thread

Open Caveats for Cisco IOS XE Cupertino 17.9.1w

Identifier	Headline
CSCwd33401	DPIC interfaces cannot ping peer device after reload LC and SUPHA
CSCwc17414	Bulk sync failure seen during ISSU upgrade from 17.6.1z to 17.9.1
CSCwd22882	%SELINUX-5-MISMATCH: R0/0: audispd: comm="pistisd" name="packages.conf"
CSCwb78228	ISR4461 platform rebooted unexpectedly with reason "LocalSoft"
CSCwc37320	RP Switchover Causes Linecard NFS mount Failure Resulting in Memory Leak
CSCwc56896	crash in ipv6_tunnel_macaddr while adding/removing gre multi-point tunnel mode

Identifier	Headline
CSCwb91453	Code upgrade fails from 17.7.1a to 17.8.1 - Critical process vip_confid_startup_sh fault on ...
CSCwc18977	Crash with "IPE_CPE_UI4_CSR32_IPE_CPE_ERR_CPE_MISC_LEAF_INT__INT_CPE_MALGN_ADDR_ERR" error
CSCwc03478	vtcp does not support L2 correctly
CSCwc21402	Invalid BGP update when add-paths negotiated only for label (SAFI 4) and not unicast (SAFI1)
CSCwb77093	next hop self does changes automatically on VRF lite and ipv4
CSCwc44605	OFDM issues after changing the DS controllers profile on cBR8
CSCwc56252	DNS configuration stops working after the reload
CSCwc79906	IOS/XE BGP L2VPN VPLS RR doesn't advise RRC routes to non-RR-client
CSCwc63452	Hostname Duplicates System ID When Configured After Router ISIS
CSCwb52324	C8KV unexpected reload due to QFP ucode crash
CSCwc47269	OUUDP mdm oudp cnt mismatch with iosd lcpr with child session complete
CSCwc77663	ISR4461 frequent reloads due to stuck thread in CPP
CSCwb55514	Crash seen after enabling "platform qos port-channel-aggregate"
CSCwc75084	R1/0: /usr/sbin/boot_verify_package: ERROR : sqlite3 failed to execute,result=5 database is locked
CSCwc65778	OSPF Key causes memory corruption
CSCwc43794	ASR1K VRF+NAT Outside Source Static - Drop packets during FTP (Active-mode) execution.
CSCwc26523	[XE BGP] VPNv6 AF is not getting updated after export map configuration change
CSCwc83848	IP DHCP Relay information command under the interface only is not working without globally enabled
CSCwc25912	PUNT Policer messages when DLEP conf is attached
CSCwc58973	Crash with critical process fman_fp_image fault on fp_0_0 (rc=134)
CSCvz91309	Crash due to IOSXE-WATCHDOG due to management port traffic storm
CSCwb09722	Unexpected reload while processing arp requests.
CSCvz89354	Router Running 17.x.x Crashes Due to CPUHOG When Walking ciscoFlashMIB
CSCwc39865	Subscriber Session getting stuck and needs clearing it manually

Identifier	Headline
CSCwc49154	ASR1k ISG DHCPD Timer crash due to subscriber session double free
CSCwc38612	default ofdma channel config not displayed correctly in the upstream controller-profile
CSCwb19987	Low throughput with Iperf TCP traffic on 2xOFDMA after config change to 50 kHz subcarrier spacing
CSCwc80053	IPS policy push causes increase in tunnel MTU
CSCwc42837	ASR1k crash when creating VRF when subscriber event tracing is enabled
CSCwd18076	Configuring 33rd OFDMA channel via controller profile get the profile into an error state
CSCwc03907	ISIS SRLG to BGPLS export problems
CSCwc82095	docsIf31CmtsCmRegStatusUsProfileIucList defaults to IUC13 if channel not in modem TCC
CSCwc03944	cEdge: unable to remove the BGP ipv6 neighbor statement
CSCwb82702	Multiple Devices line vty showing ssh process and cant Delete
CSCwb08057	ISG: Number of lite sessions conversion in progress counter not decrementing on failed account-logon
CSCwc02423	IOSd crash in DHCPv6 Client Process During Retransmission
CSCwc63337	destination not reachable if configured as a next for a static route resolvable via non /32 OMP
CSCwc49961	Switch may crash when executing "show authentication sessions interface <name> details"
CSCwc46081	VRF being stuck after deletion
CSCwc40811	L2 interfaces may appear as "no passive-interface" under router rip
CSCwc29629	Crashes when Virtual-Access tries to bring-up/bring-down OSPFv3 ipsec crypto session authentication
CSCwc71227	BGP redistribution into OSPF - Route-map not matching 'local-preference'
CSCwc70848	Unexpected reload when attempting to processing a TCL scripts
CSCwc20171	Fragmented packets crashes while allocating memory
CSCwc83453	IOS-XE router crashes during 'ip community-list' configuration
CSCwc17032	cpp_cp_svr crash when port-channel configured
CSCwd21600	OUUDP child status ACTIVE is not expected COMPLETE with target ofdma shut
CSCwc44166	OUUDP: Parent sessions should be downloaded to LC after card OIR

Identifier	Headline
CSCwc06327	PFP policy in SRTE, RIB resolution in FC bring down ipsec tunnel interface- stuck at linestate down
CSCwb94845	OTV ISIS LSP-FULL crash in isisl2_recover_int_vlan->isis_lsp_advertise_int_vlan
CSCwc25454	SSH to IPv6 LinkLocal address don't work without explicit "ip ssh source-interface" configuration
CSCwc70511	Router Reloads Unexpectedly during NHRP Processing
CSCwc37478	debug lldp packet-decode outputs to console , not to SSH or log
CSCwc40033	DHCP crash on destroy binding
CSCwc67367	Seeing traffic issues after clearing isis with SRTE_ODN_ISIS_Flex_Algo configs

Resolved Caveats for Cisco IOS XE Cupertino 17.9.1w

Identifier	Headline
CSCwd26878	DBG should check D31 DS lower band edge for SC-QAM channels
CSCvz92059	ISR fails to negotiate MACsec encrypted session if the RSA keys in the certificates are >2048
CSCwb57974	SDA - DHCP Offer not processed by DHCP Snooping, punted to Glean Adj / missing SVI in IPDT
CSCwb17852	Standby Sup OSPF Router Process crashes due to Segmentation Fault in ospf_service_maxage
CSCwa76570	ISG / Crashes due to %IDMGR-3-INVALID_ID: bad id in id_delete during session roaming
CSCwa50828	IOSXE: syncfd crashes during repl_str while collecting show ip access-list
CSCwa61641	BGP IPv6 flowspec policy filtering doesn't work properly
CSCwa58548	the other segment IP address will be displayed in "show ip arp" after copy via TFTP
CSCwa76577	BGP bestpath chooses RR path over client path for EVPN Ethernet Auto-discovery Route
CSCwb66749	when configuration ip nat inside/outside on VASI interface,ack/seq number abnormal
CSCwb49857	Memory leaks on keyman process when key is not found
CSCwb60902	Umbrella stats file has incorrect format.
CSCwb66896	Router crashing after config replace w IS-IS redistribution

Identifier	Headline
CSCvw49366	17.5: exact-match command is missing in match community
CSCwc13013	IPSec Key Engine process holding memory continuously and not freeing up
CSCwb38978	Unexpected reload during EIGRP dynamic redistribution.
CSCwb34140	IOS-XE device experiences an unexpected reset when issuing "show isis database adv" command
CSCwa26412	17.7 ZBFW: OG lookups are missing from device for optimized policy
CSCwb99084	OMP routes carrying prepended AS_PATH incorrectly imported into BGP at remote site
CSCwa51186	crash occured accessing fragment-QoS memory after repeated IF-module down
CSCwb22552	C1100TG platform abnormal Kerlog log is produced when port in shutdown state
CSCwb76976	Netflow sip destination/source field contains garbage value
CSCwb93905	In Tacacs cmd accounting, string NETCONF is used instead of actual username
CSCwd05619	SUP crash caused by "show cable modem select xxx"
CSCwa59389	WSMA failing to resolve host name
CSCwa59427	SDA: Static device-tracking binding removed from running config.
CSCwc47527	OUUDP: CM offline at end of OUUDP leak detection test when DBC-REQ fails
CSCwa19159	Memory Leak in TPLUS process
CSCwa45899	Crash when configuring named community-list
CSCwb33869	[SDA] Dataplane loop between FIAB and external border for silent hosts
CSCwb06471	IPDT changes introduced in 17.7.1 are causing avalanche of IPv6 DAD messages
CSCwa84448	Intersite cloudsec enabled packets with <60 byte across ASR1k getting dropped when PTP is enabled
CSCwd00152	cBR-CLC OBFL reports incomplete "IPH header says BG vld but BG address table vld bit is zero" errors
CSCwa48552	Authentication not working with Access-Point - SR - 690229087
CSCwa65728	Large number of DH failures
CSCwa84919	"Revocation-check crl none" does not failover to NONE DNAC-CA
CSCwb14020	Serial interface stuck in "line protocol is down" state after it went down and it is recovered
CSCwc04056	IS-IS IPv6 PDB cleanup may go into endless loop

Identifier	Headline
CSCwa64481	SA warning removal
CSCwa76875	After configuring match input-interface on class-map, router goes into a reboot loop
CSCwb46649	NAT translation don't show (or use) correct timeout value for an established TCP session
CSCwb66047	RSP3/ASR920/RSP2:node crashed @ l2rib_obj_peer_tbl_cmd_print
CSCwa70649	Improve serviceability to figure out the reason for c9800 blacklisting 11w client with Reason
CSCwc06928	IOS PKI client uses incorrect search filter for CRL retrieval using LDAPv3
CSCwb70720	Mem Leak on standby switch on sessmgrd when Downloadable service template is used(refer description)
CSCwb28518	Domain ISIS LSP purge after "no authentication send-only" is removed
CSCwb99793	CRL verification failure result 400 Bad Request with DigiCert
CSCwa84502	ISG DHCP SIP crash while removing the ip routes
CSCwa61238	FlexVPN per-user inline ACL from Radius not installed
CSCwa10307	IPv6 IP SLA does not wait to become active
CSCwa44322	set-attached-bit is not supported for IPv6 topology
CSCwa68540	FTP data traffic broken when UTD IPS enabled in both service VPN
CSCwa58148	DT config deleted from the CDB because of macro script running "no device-tracking" during full sync
CSCwa46760	Incorrect memory utilisation value sent to vManage
CSCvz65764	Peer MSS value showing incorrect
CSCwa07120	Configuring "no redistribute isis" causes a new IS-IS PDB to be created and lock VRF deletion
CSCwb72336	ICMP traceroute return packet not classified based on FW override port info
CSCwb03893	When macsec dot1q-in-clear 1 is enabled on interfaces there is traffic drop.
CSCwa17310	template attach fails after upgrading to 20.6.2 from 20.4.2
CSCwb75983	BFD Session with authentication with 16 or more characters remains down
CSCwc06967	IOS PKI client uses incorrect search filter for CRL retrieval using LDAPv3
CSCwb12875	ISR running 17.6.X with HSEC PAK is consuming DNA_HSEC instead of ISR_4331_Hsec

Identifier	Headline
CSCwa99777	ISIS crash when configuring flex-algo config on neighboring router
CSCwb08939	IOSd crashes when updating PIM group RPF
CSCwb28785	Feature request to block the unsupported CLI config "ip next-hop verify availability"
CSCwc76974	SUP reload when cable oudp-leak-detect cm-list <file> points to a binary file
CSCwa99719	Polaris : %PLATFORM_SCC-1-AUTHENTICATION_FAIL: Chassis authentication failed
CSCwa20655	Catalyst 9300L switch crash due to SISF
CSCwa01293	17.7 ZBFW: Optimized policy traffic failure due to OG edit error
CSCvy52143	ENH: Address the memory fragmentation in "IPSEC Key" process.
CSCwc70010	D31 CM reports /p due to RNG and w-expire then changes to offline as unable to range
CSCvz97718	Standby supervisor crashes when executing the command, erase stby-nvram., in the active sup.
CSCwa70095	Incorrect error handling of malformed update when IPv4 NLRIs overflows MP_REACH attribute
CSCwa76962	Overruns and performance issues observed with crypto configuration enabled on C8500L
CSCwa47160	Removal of "random-detect dscp" configuration get rejected on device side
CSCwb85046	Device reloads when group-range is configured under an interface Group-Async
CSCvz57735	Memory leak due to IPSLA telemetry - CSR 1000v.
CSCwa91666	Fast Roaming latency is more than 10 seconds for consecutive roams in Fabric Networks
CSCwb25913	(Rework): After configuring match input-interface on class-map, router goes into a reboot loop
CSCvz72697	BGP MVPN C-Multicast routes are not dampened
CSCwc29220	Catalyst 9K crashes on Critical software exception generating iosd core files
CSCwa80883	%BGP_LMM-4-LABEL: Failed to allocate a keyed label (sync): Error: no labels available for allocation
CSCwa20981	sisf waits .5 sec for garp before sending out new arp request after a roam
CSCwb40125	RSP3::crashed when move from one config to another config...
CSCwb70339	Properly trigger RIB synchronization when doing a PRC
CSCwc02704	ASR1k crashed at iWAG GTP PDP director event dispatcher

Identifier	Headline
CSCwb12647	4461 crash for stuck threads in cpp on packet processing
CSCwb55683	Large number of IPSec tunnel flapping occurs when underlay is restored
CSCwa80826	IOS-XE: C11xx platforms running 17.x - crypto ipsec policy installation fails
CSCwb42318	Crash in BGP Process - WATCHDOG TIMER EXPIRED
CSCwa59611	[IGMP] cbr8/17.6.1w: Multicast stream disruption w/ IGMP robustness=1
CSCwa67398	NAT translations do not work for FTP traffic in 4451-x
CSCwb61073	BQS Failure - Qos policy is missing in hardware for some Virtual-Access tunnels after session flaps
CSCvz28950	DMVPN phase 2 connectivity issue between two spokes
CSCwb70411	C9300 - Critical software exception crash - iosd core
CSCwa57951	Cisco IOS/IOS-XE MOP transport input configuration bypass
CSCwb92552	Add/Remove database element for LISP not syn using NETCONF
CSCwb17255	WNCD Platform State shown as DEAD for "show aaa servers" output
CSCwb75107	C8500-12X4QC Traceback : %COMMON_FIB-3-LOADBALANCE_LOOP: Detected loop while installing OCE
CSCwb22870	Multiple SGACL modified from ISE pushed using single CoA, policy download is not working
CSCwa30653	MVPN Profile 14 : Data MDT traffic not flowing with 2 paths when OSPF cost configured on 1 path
CSCwb02142	Traceback: fman_fp_image core after clearing packet-trace conditions
CSCvx76690	Crash at 'IPv6 RIB Event Handler' when configuring BGP
CSCwb15774	SDWAN 17.8 - cEdge4351: crashing @ndb_validate, ospf_redist_callback_default_route !
CSCvz34668	Static mapping for the hub lost on one of the spokes
CSCwa67851	Router traceback and reload when different encapsulation used on xconnect interfaces.
CSCwb76866	CSDL failure: Use of MD5 by IPSEC key engine is denied
CSCwb80500	Memory leak on the WNCD process due to Unknown Responses from Radius
CSCwb31243	Missing prefix-sid's in SRAPP with node reload
CSCwc25854	Cat8500L - ucode crash due to SIGABRT from bnxt_start_xmit
CSCwb49760	pubd process crashes after subscription receiver gets disconnected

Identifier	Headline
CSCwb28745	1781:PCE Initiated Policies down due to BSID label outside SRLB range after config replace operation
CSCwb12674	Memory leak on the WNCD process due to malformed radius packets
CSCwa95092	When Object-group used in a ACL is updated, it takes no effect
CSCwa98144	C8500L-8S4X - No negotiation auto command changing to negotiation auto after reload
CSCwb56841	ASR1009 ENTITY-MIB polling failed after ESP switchover
CSCwc48365	cBR8 linecard reload on ubr_map_rem_slot_from_vac_map_internal
CSCwc27514	cBR-8 LC Crash Packet pointer pak in cdman process corrupted and resulted to the crash in frame 0
CSCwb53801	17.9:ASR1001-HX:Ping failed on dual speed port Te0/1/6 in speedracer.
CSCwa76620	Upgrading from 17.6 to 17.7 causes config change
CSCvz89713	CEF should not notify LISP based on helpered UDP broadcast packets from remote hosts
CSCwb55260	Fallback to local password doesn't work when TACACS enabled in VRF
CSCwb76896	SD-Access IGP/LISP race condition causes stale map-cache entry for dual-homed endpoints
CSCwb34625	C8KV auto mode: static ip from bootstrap config overwritten by dhcp on fresh install
CSCwb28049	[EVPN L2TRM] VTEP not forwarding traffic to local receiver after shut/no shut vlan on VTEPS
CSCwa66916	VG450 - SCCP auto-configuration issues with multiple protocols
CSCwb17663	MTTedge:Partial control connect shown for device when all connection on device are up
CSCwa49902	MGCP automatic configuration fails after IOS-XE upgrade on ISR4k
CSCwa77027	Radsec counter always remains zero
CSCwa27620	%DMI-3-DMI_DEGRADED: R0/0: dmiauthd: The dmi infra is operating in degraded mode with BGP asdot
CSCwa08378	C8000V Day0 ZTP ignores crypto configuration before licensing
CSCwc24755	RPHY : Cable RF-channels in Valid=FALSE state after linecard failover
CSCwc43466	PNM UTSC showing incorrectly frequency with RPD
CSCwa94158	C8500 media type is not correct after removing an SFP

Identifier	Headline
CSCwa67492	MPLS label imposition mismatch after a loop xconnect being affected and not passing traffic
CSCwa97171	PRP frames not transparent transmitted over L2TPv3 or EoMPLS tunnel
CSCwb08186	E1 R2 - dnis-digits cli not working
CSCwb25137	[XE NAT] Source address translation for multicast traffic fails with route-map
CSCwa48512	CoR intercepted DNS reply packets dropped with drop code 52 (FirewallL4Insp) if UTD enabled also
CSCwa37283	RSP failover on NCS4200 showing several seconds of outage for L2VPN services
CSCwc17302	SD-WAN BFD for BGPv6 in AdminDown with TrustSec SGT propagation enabled
CSCwb24123	Registration of spoke fails with dissimilar capabilities w.r.t to HUB.
CSCwa86466	Explicit-null flag does not work for Flex algo sids
CSCvz77313	Catalyst Switch reload due to SFF8472
CSCwc20005	[XE ETA] IDP record is incomplete when traffic is fragmented
CSCwa78348	Traceback: IOS-XE reload after Segmentation fault on Process = SSS Manager
CSCwb04551	FRR not calculating backup route due to "primary_update_complete_pending:" flag set to 1
CSCwa76934	Memory leak due to SNMP type 6 encryption visible in the MallocLite process
CSCwa97151	DHCP LQ code should not decrease the reply remaining counter if replies comes from invalid server
CSCwa64326	9800 WLC Crash UNIX-EXT-SIGNAL: Segmentation fault(11), Process = SNMP ENGINE
CSCwa45303	[EVPN L2TRM] When Both IGMP/MLD snooping is disabled default SMET routes are not sent to L2RIB
CSCwb39284	L2VPN EVPN: RT-5s advertised with incorrect NH when next-hop-unchanged allpaths configured
CSCvw50622	Nhrp network resolution not working with link-local ipv6 address.
CSCwb51238	Router reload unexpectedly two times when enter netflow show command
CSCvz90918	17.6: OMP route is not getting replace with BGP route
CSCwc30609	sem qos does not display correct throughput data with high DS throughput
CSCwa57036	SDA: L2 Flooding not working on FIAB's when SDA transit is configured.
CSCwb86767	C1111 no-alias unable work with static route

Identifier	Headline
CSCwa67711	cEdge ignores FTP source Loopback interface when using VRF X in copy command
CSCwb94488	ASR1K reports strncat_s errors for MPLS TE after upgrade to 17.6 IOS-XE
CSCwc13569	uboot enhancement to record boot steps
CSCwa58523	C8000V Memory leak in guestshell
CSCwb23043	macsec not working on subinterfaces using dot1q >255 between Cat8k and ASR9K
CSCwb53709	PRP trailer frames were trunked in xconnect on Utah platform
CSCwb36255	vManage-API: Bulk API cannot get correct value for disk
CSCwd06998	DSPHY Event Code 8394/8330 are not recognized by software on cBR
CSCwb25610	IPv6: Switch may reload due to a memory allocation error by SISF
CSCwc12738	as-path access-list configuration inconsistent between IOS and Yang DB
CSCwa57743	ASR1K / 17.3.4a / active RP crashes due to Segmentation fault when inserting secondary RP
CSCwa71110	Malformed UPDATE generated after unconfig and config LU knob and add-path
CSCwb54171	Unable to SSH to Cat8KV on Azure Stack Hub
CSCwb37022	Crash in show isis rib flex-algo
CSCwb04461	Pushing invalid sgacl and correcting the syntax, policies for some of the DGTs are not downloading
CSCwb11389	NAT translation stops suddenly(ip nat inside doesn't work)
CSCwa26079	OSPF: Configuring "ip ospf message-digest" commands under vnet submode is getting rejected
CSCwb16232	SNMP Engine High CPU when NVE interface is Configured
CSCwb49626	EVPN Type-2 IP/MAC route is created for not-connected BDIs
CSCwa69101	ISG: initiator unclassified ip-address LQipv4 command has no effect
CSCwc85476	CPUHOG happend during free the tdlchunk
CSCwc24425	CPU Usage due to Memory Pressure exceeds threshold; caused by hman crashing top 5 memory processes
CSCwb91026	Traffic is hitting wrong sequence in the data policy
CSCvz92994	Lack of MAC address in Inform Event message.
CSCwb08751	SSS Manager crash during lite- and dedicated- session churn

Identifier	Headline
CSCwb04815	NHRP process taking more CPU with ip nhrp redirect configured
CSCwb17282	Router crashing when clearing a VPDN session
CSCwa94665	Traffic getting dropped on Fugazi(C8500L) when AppQoE and Umbrella DNS is configured.
CSCwa92921	Console flooded with error "Classification statistics in bytes is not supported"
CSCwa55390	Crash with 'show isis rib redist' display in certain scenario
CSCvz55553	BGP routes refreshing in the routing table after adding "bgp advertise-best-external"
CSCwb95559	Packet Sanity failed for Resolution Reply on Spoke due to missing SMEF capability
CSCwc20845	CWMP : Portmapping does not add VRF name to NAT rule
CSCwa80606	Cat9K crashes on mDNS packets coming from Bonjour
CSCwb31587	Subject-alt-name attribute in certificate trustpoint causes Windows NDES/CA to reject SCEP requests
CSCwa29664	BGP neighbor cannot up with bfd strict-mode configured
CSCwb64336	ASR1k: Memory leak under lacp_get_lag_aggregate_state
CSCwb59034	IS-IS does not regenerate LSPs when password/key changes
CSCwb08932	standby switch crashed due to SISF BT mac mov
CSCwb78173	CSDL failure: IPsec QM Use of DES by encrypt proc is denied
CSCwb69726	cEDGE: GD: software status control-processor Load average status unknown
CSCwa57462	The router reload unexpectedly due to Cellular CNM process.
CSCwb74917	C8500L incorrectly drops ip fragments due to reassembly timeout
CSCwc45532	CLC Core File Observed During LCHA when MDD Debug is Enabled
CSCwa80474	IKEv2 Deprecated Ciphers denied by Crypto Engine CDSL - PSB Security Compliance - MD5, SHA1
CSCwb27486	New Key for NBAR app and NBAR category without OGREF optimized
CSCwa72803	AAA fails to close the open sockets if accounting servers were reconfigured during CLI commands
CSCwa76260	IKEv2 Deprecated Ciphers denied by Crypto Engine CDSL - PSB Security Compliance - DES, 3DES, DH1/2/5
CSCwb79491	Unexpected reload in C9800-CL due to pubd fault on rp_0_0 during a connection free
CSCwc00415	1791: ISIS SRLG Memory leak seen after Network triggers

Identifier	Headline
CSCwb95750	ASR1K reports strncat_s errors for imrp_appliance after upgrade to 17.6 IOS-XE
CSCwc75924	Entries missing in docsRphyCcapRpdToCmMapStatusTable
CSCwb15331	Keyman memory leak using public keys
CSCwb10633	ASR1001X reloading when installing queue to a BDI interface
CSCwb76988	IKEv2 fragmentation causes wrong message ID used for EAP authentication
CSCwa52627	Incorrect Tx/Rx optical power values reported for QSFP transceivers
CSCwb47025	[9800-40]: Kernel: SAR Blocking API called in not task context seen in 9800-40 HA.
CSCwb31191	Box crashing while issueing "qos diffservmib"
CSCwb09524	Memory Leak in *Dead* Process Due to AAA General DB and AAA Interface Struct
CSCwc86350	OUUDP potential TDL/IPC mem leak with oudp session
CSCwb94409	BGP : neighbor <ip> advertisement-interval <value> config not applied to LU session after reboot
CSCwb74339	OTV ISIS authentication commands missing after reload
CSCvx00230	IOS-XE device may show input/output rate values even if the interface is in admin down state.
CSCwa82143	%SYS-2-INTSCHED: 'may_suspend' disabled -Process= "HSRP IPv4" log generate during boot up
CSCwb41907	CPP uCode crash due to ipc congestion from dp to cp

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CHAPTER 3

Supported Packages and System Requirements

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Memory Requirements

The following table displays the memory recommendations for the Cisco cBR-8 routers with Cisco IOS XE Cupertino 17.9.1 feature sets.

Table 1: Memory Recommendations for the Cisco cBR-8 Routers with Cisco IOS XE Cupertino 17.9.1y1

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-universalk9.17.9.1y1.SPA.bin	8G	48G	Bootflash:
CISCO IOS-XE CLC K9	Cisco cBR-8 (CYLONS) Processor	cbrsup-universalk9.17.9.1y1.SPA.bin	8G	16G	Supervisor
CISCO IOS-XE Kobol-R	Cisco cBR-8 (Kobol-R) Processor	cbrsup-universalk9.17.9.1y1.SPA.bin	8G	64G	Supervisor

Table 2: Memory Recommendations for the Cisco cBR-8 Routers with Cisco IOS XE Cupertino 17.9.1y

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-universalk9.17.9.1y.SPA.bin	8G	48G	Bootflash:
CISCO IOS-XE CLC K9	Cisco cBR-8 (CYLONS) Processor	cbrsup-universalk9.17.9.1y.SPA.bin	8G	16G	Supervisor
CISCO IOS-XE Kobol-R	Cisco cBR-8 (Kobol-R) Processor	cbrsup-universalk9.17.9.1y.SPA.bin	8G	64G	Supervisor

Table 3: Memory Recommendations for the Cisco cBR-8 Routers with Cisco IOS XE Cupertino 17.9.1x1

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-universalk9.17.9.1x1.SPA.bin	8G	48G	Bootflash:
CISCO IOS-XE CLC K9	Cisco cBR-8 (CYLONS) Processor	cbrsup-universalk9.17.9.1x1.SPA.bin	8G	16G	Supervisor
CISCO IOS-XE Kobol-R	Cisco cBR-8 (Kobol-R) Processor	cbrsup-universalk9.17.9.1x1.SPA.bin	8G	64G	Supervisor

Table 4: Memory Recommendations for the Cisco cBR-8 Routers with Cisco IOS XE Cupertino 17.9.1w

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-universalk9.17.9.1w.SPA.bin	8G	48G	Bootflash:
CISCO IOS-XE CLC K9	Cisco cBR-8 (CYLONS) Processor	cbrsup-universalk9.17.9.1w.SPA.bin	8G	16G	Supervisor
CISCO IOS-XE Kobol-R	Cisco cBR-8 (Kobol-R) Processor	cbrsup-universalk9.17.9.1w.SPA.bin	8G	64G	Supervisor

Supported Hardware

For detailed information about the hardware supported in Cisco IOS XE Cupertino 17.9 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 Cupertino 17.9.1y1

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 ver EXEC** command:

```
Router# show ver
Load for five secs: 11%/1%; one minute: 11%; five minutes: 11%
Time source is NTP, 13:21:51.230 EST Tue Oct 25 2022
Cisco IOS XE Software, Version 17.09.01y1
Cisco IOS Software [Bengaluru], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version 17.9.1y1, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2022 by Cisco Systems, Inc.
Compiled Mon 10-Oct-22 19:32 by mcpre
```

Cisco IOS-XE software, Copyright (c) 2005-2022 by cisco Systems, Inc.
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ROM: 16.7(8r)s

```
video-LWR-G-I10 uptime is 1 day, 1 hour, 7 minutes
Uptime for this control processor is 4 hours, 2 minutes
System returned to ROM by SSO Switchover at 09:12:32 EST Tue Oct 25 2022
System restarted at 09:24:26 EST Tue Oct 25 2022
System image file is "harddisk:cbrsup-universalk9.17.09.01y1.SPA.bin"
Last reload reason: Force Failover
```

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Smart Licensing Status: UNREGISTERED/EVAL MODE

```
Cisco cBR-8 (CBR) processor (revision CBRVE) with 11293417K/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

Router#

Determining the Software Version for Cisco IOS XE Cupertino 17.9.1y

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 version
Load for five secs: 54%/5%; one minute: 65%; five minutes: 66%
```

```
Time source is NTP, 22:52:28.192 PDT Tue Apr 25 2023
Cisco IOS XE Software, Version 17.09.01y
Cisco IOS Software [Cupertino], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
17.9.1y, RELEASE SOFTWARE (fc3)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2023 by Cisco Systems, Inc.
Compiled Tue 25-Apr-23 15:49 by mcpre
```

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```
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 Apr 25 2023
System image file is "harddisk:cbrsup-universalk9.17.09.01y.SPA.bin"
Last reload reason: Reload Command
```

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```
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#
```

Determining the Software Version for Cisco IOS XE Cupertino 17.9.1x1

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: 10%/1%; one minute: 11%; five minutes: 11%
Time source is NTP, 11:01:36.347 EST Tue Mar 1 2023
Cisco IOS XE Software, Version 17.09.01x
Cisco IOS Software [Cupertino], CBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version
17.9.1x1, RELEASE SOFTWARE (fc6)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2023 by Cisco Systems, Inc.
Compiled Mon 1-Mar-23 16:09 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: 16.7(8r)s
```

```
video-LWR-G-I9 uptime is 2 hours, 1 minute
Uptime for this control processor is 2 hours, 8 minutes
System returned to ROM by reload at 08:48:44 EST Tue Mar 1 2023
System restarted at 09:00:30 EST Tue Mar 1 2023
System image file is "harddisk:cbrsup-universalk9.17.09.01x.SPA.bin"
Last reload reason: Reload Command
```

```
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```

```
A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wvl/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 11515589K/6147K bytes of memory.
Processor board ID FXS2038Q3G8
88 Gigabit Ethernet interfaces
```

```
32768K bytes of non-volatile configuration memory.  
50331648K bytes of physical memory.  
7743487K bytes of eUSB flash at bootflash:.  
97620256K bytes of SATA hard disk at harddisk:.
```

```
Configuration register is 0x1820
```

```
Router#
```

Determining the Software Version for Cisco IOS XE Cupertino 17.9.1w

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 17.09.01w  
Cisco IOS Software [Cupertino], cBR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version  
17.9.1w, 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
```

```
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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:cbrrsup-universalk9.17.09.01w-FC3.SPA.bin"  
Last reload reason: redundancy force-switchover
```

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<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#

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 5: Firmware Packages and Versions Supported in Cisco IOS XE Cupertino 17.9.1y1

Internal Name	Component Name	Required Minimum Version	Command
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(8r)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

Internal Name	Component Name	Required Minimum Version	Command
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

Table 6: Firmware Packages and Versions Supported in Cisco IOS XE Cupertino 17.9.1y

Internal Name	Component Name	Required Minimum Version	Command
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(8r)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

Table 7: Firmware Packages and Versions Supported in Cisco IOS XE Cupertino 17.9.1x1

Internal Name	Component Name	Required Minimum Version	Command
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(8r)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

Table 8: Firmware Packages and Versions Supported in Cisco IOS XE Cupertino 17.9.1w

Internal Name	Component Name	Required Minimum Version	Command
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(8r)s	show platform
Line Card CPLD	CBR-CCAP-LC-40G CPLD	00000026	show platform diag

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

Upgrade Cisco cBR-8 to the minimum supported firmware revisions for the Cisco IOS XE Cupertino 17.9.1



CHAPTER 4

Other Important Information

- [Feature Support](#), on page 39
- [Cisco cBR-8 Software Compatibility](#), on page 39
- [MIBs](#), on page 40
- [Supported Transceiver Modules](#), on page 41
- [Best Practice Manual of Procedure for Cisco IOS XE Cupertino 17.9.1 Upgrade](#), on page 42
- [Mapping CBR-DPIC-8X10G 10-Gigabit Ethernet Interface to downstream controllers](#), on page 42
- [Cisco cBR-8 Documentation References](#), on page 43

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 Cupertino 17.9.1y1	Cisco 1x2 / Compact Shelf RPD Software 10.5 Cisco 1x2 / Compact Shelf RPD Software 10.6	SmartPHY v22.4
Cisco IOS XE Cupertino 17.9.1y	Cisco 1x2 / Compact Shelf RPD Software 10.5	SmartPHY v22.4
Cisco IOS XE Cupertino 17.9.1x1	Cisco 1x2 / Compact Shelf RPD Software 10.5	SmartPHY v22.4
Cisco IOS XE Cupertino 17.9.1w	Cisco 1x2 / Compact Shelf RPD Software 10.4	SmartPHY v22.4

MIBs

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

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

New and Changed MIB Information in Cisco IOS-XE Cupertino 17.9.1y1

There are no new or changed MIBs for Cisco IOS-XE Cupertino 17.9.1y1

New and Changed MIB Information in Cisco IOS-XE Cupertino 17.9.1y

This section provides information regarding new and updated MIBs in the Cisco IOS XE Cupertino 17.9.1y release for Cisco cBR-8 series routers.

- **Proactive Network Management Using RxPwr MIB:** Provides an estimate of the received power in a specified OFDMA channel at the F connector input of either a CMTS integrated linecard or RPD. The measurement is based on upstream probes, which are typically the same probes used for pre-equalization adjustment. For more information see, [Proactive Network Management](#).
- **docsIfCmtsChannelUtUtilization**
 - docsIfCmtsChannelUtUtilization for OFDMA is functional and provides the same rolling average functionality
 - docsIfCmtsChannelUtilizationInterval allows the "cable util-interval" setting to be read and configured via SNMP
- **docsSubmgt3BaseCpeMaxIpv6PrefixDef**
 - **docsSubmgt3BaseCpeMaxIpv6AddressesDef**– Allows the maximum number of IPv6 addresses for the CM's CPE's.

- **docsSubmgt3BaseCpeMaxIpv6PrefixesDef**- Allows the maximum number of IPv6 IA_PDs (delegated prefixes) for the CM's CPE's.
- The existing MIB global object **docsSubmgt3BaseCpeMaxIpv6PrefixDef** is modified as follows:
docsSubmgt3CpeCtrlMaxCpeIpv6Prefix
- The existing MIB **docsSubmgt3CpeCtrlMaxCpeIpv6Prefix** is modified as follows:
 - **docsSubmgt3CpeCtrlMaxCpeIpv6Addresses** - Permits the maximum number of simultaneous IPv6 prefixes and addresses for CPEs connected to the CM.
 - **docsSubmgt3CpeCtrlMaxCpeIpv6Prefixes**- Permits the maximum number of simultaneous IPv6 IA_PDs (delegated prefixes) for CPEs connected to the CM.
- **docsSubmgt3CpeIpType**
The existing MIB **docsSubmgt3CpeIpType** supports more types of CPE. The types are classified as: **cpe** (Regular CPE clients), **ps** (CableHome Portal Server (PS)), **mta** (PacketCable, Multimedia Terminal Adapter (MTA)), **stb** (Digital Set-top Box (STB)), **tea** (T1 Emulation adapter (TEA)), **erouter** (Embedded Router (eRouter)), **dva** (Digital Voice Adapter (DVA)), **sg** (Security Gateway (SG)), and **card** (CableCARD).
- **docsSubMgt3GrpUdcGroupIds**
The existing MIB **docsSubMgt3GrpUdcGroupIds** is changed from read-write to read only support.
- **docsSubMgt3GrpUdcSentInRegRsp**
The existing MIB **docsSubMgt3GrpUdcSentInRegRsp** is changed from read-write to read-only support.
- **docsSubmgt3FilterGrpGrpId**
The existing MIB **docsSubmgt3FilterGrpGrpId** identifiers for a set of classifiers are modified (1..65535 to 1..1024).

New and Changed MIB Information in Cisco IOS-XE Cupertino 17.9.1x1

There are no new or updated MIBs in the Cisco IOS XE Cupertino 17.9.1x1 release for Cisco cBR-8 series routers.

New and Changed MIB Information in Cisco IOS-XE Cupertino 17.9.1w

In Cisco IOS XE Cupertino 17.9.1w, Cisco proprietary MIB table CISCO-CABLE-PNM-MIB is introduced to support multiple SAC capture.

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 Cupertino 17.9.1 Upgrade

See the *Upgrading the Cisco cBR Converged Broadband Routers for Cisco IOS XE Cupertino 17.9* 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 aaa.bbbb.aaa, 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 aaa.bbbb.aaa, 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 17.9.1 is generally available for field deployment. However, we recommend that you validate and qualify Cisco IOS XE Cupertino 17.9.1 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](#)

