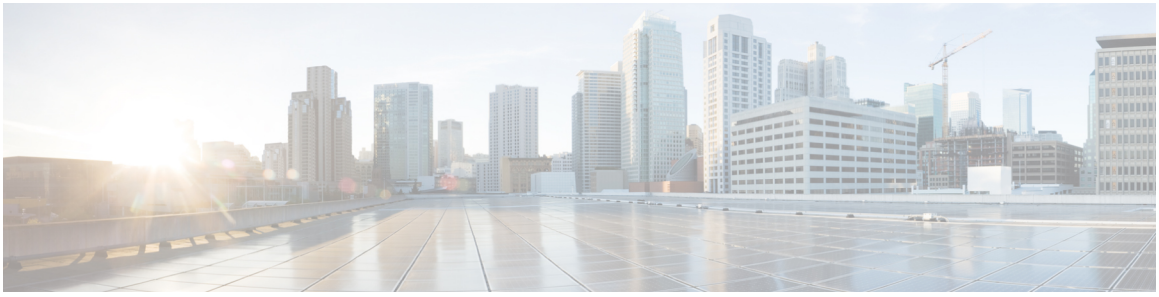
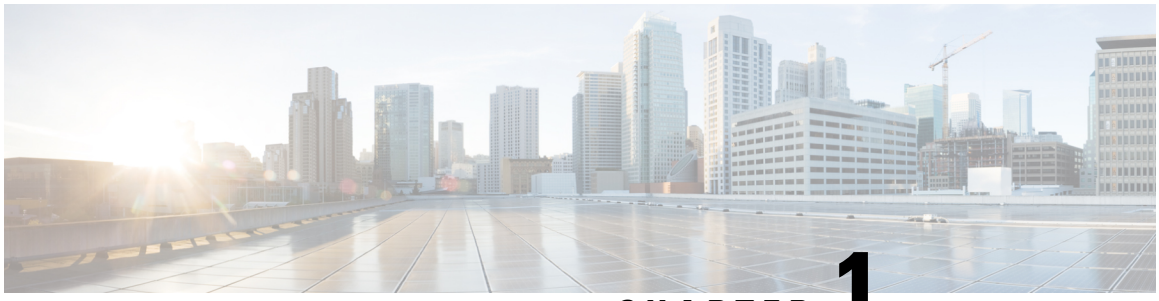
Release Notes for Cisco NCS 4206 and Cisco NCS 4216 Series, Cisco IOS XE Everest 16.5.1

First Published: 2017-04-06

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



CONTENTS



CHAPTER 1

Introduction

The Cisco NCS 4206 and Cisco NCS 4216 are full-featured, modular aggregation platforms designed for the cost-effective delivery of converged mobile, residential, and business services.

This document provides information about the IOS XE software release for the Cisco NCS 4206 and Cisco NCS 4216 beginning with Cisco IOS XE Everest 16.5.1, which is the first supported release in the Release 16 Series.

Overview of Cisco NCS 4206 and NCS 4216

Cisco NCS 4206

The Cisco NCS 4206 is a fully-featured aggregation platform designed for the cost-effective delivery of converged mobile and business services. With shallow depth, low power consumption, and an extended temperature range, this compact 3-rack-unit (RU) chassis provides high service scale, full redundancy, and flexible hardware configuration.

The Cisco NCS 4206 expands the Cisco service provider product portfolio by providing a rich and scalable feature set of Layer 2 VPN (L2VPN) and Layer 3 VPN (L3VPN) services in a compact package. It also supports a variety of software features, including Carrier Ethernet features, Timing over Packet, and pseudowire.

For more information on the Cisco NCS 4206 Chassis, see the Cisco NCS 4206 Hardware Installation Guide.

Cisco NCS 4216

The Cisco NCS 4216 is a seven-rack (7RU) unit chassis that belongs to the Cisco NCS 4200 family of chassis. This chassis complements Cisco's offerings for IP RAN solutions for the GSM, UMTS, LTE and CDMA. Given it's form-factor, interface types and Gigabit Ethernet density the Cisco NCS 4216 can also be positioned as a Carrier Ethernet aggregation platform.

The Cisco NCS 4216 is a cost optimized, fully redundant, centralized forwarding, extended temperature, and flexible pre-aggregation chassis.

For more information about the Cisco NCS 4216 Chassis, see the Cisco NCS 4216 Hardware Installation Guide.

Cisco NCS 4216 14RU

The Cisco NCS 4216 F2B is a 14-rack unit router that belongs to the Cisco NCS 4200 family of routers. This router complements Cisco's offerings for IP RAN solutions for the GSM, UMTS, LTE, and CDMA. Given its form-factor, interface types, and Gigabit Ethernet density the Cisco NCS 4216 14RU can also be positioned as a Carrier Ethernet aggregation platform.

The Cisco NCS 4216 14RU is a cost optimized, fully redundant, centralized forwarding, extended temperature, and flexible pre-aggregation router.

For more information about the Cisco NCS 4216 Chassis, see the Cisco NCS 4216 F2B Hardware Installation Guide.

Feature Navigator

You can use Cisco Feature Navigator to find information about feature, platform, and software image support. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn. An account on cisco.com is not required.

Hardware Supported

The following sections list the hardware supported for Cisco NCS 4206 and Cisco NCS 4216 chassis.

Cisco NCS 4206 Supported Interface Modules

The following table lists the supported interface modules for Cisco NCS 4206 chassis:

RSP Module	Supported Interface Modules	Part Numbers	Slot
NCS420X-RSP	SFP Combo IM-8-port Gigabit Ethernet (8X1GE) + 1-port 10 Gigabit Ethernet Interface Module (1X10GE)	NCS4200-1T8LR-PS	All
	8-port 10 Gigabit Ethernet Interface Module (8X10GE)	NCS4200-8T-PS	All
	1-port 100 Gigabit Ethernet Interface Module (1X100GE)	NCS4200-1H-PK=	4 and 5
	2-port 40 Gigabit Ethernet QSFP Interface Module (2X40GE)	NCS4200-2Q-P	4 and 5
	OC-192 Interface module + 8-port Low Rate Interface Module	NCS4200-1T8S-10CS	2,3, 4 and 5
	48 X T1/E1 CEM Interface Module	NCS4200-48T1E1-CE	All
	48 X T3/E3 CEM Interface Module	NCS4200-48T3E3-CE	All

Cisco NCS 4216 RSP Supported Interface Modules

The following table lists the RSP supported interface modules for Cisco NCS 4216 chassis:

RSP Module	Interface Modules	Part Number	Slot
NCS4216-RSP	SFP Combo IM-8-port Gigabit Ethernet (8X1GE) + 1-port 10 Gigabit Ethernet (1X10GE)	NCS4200-1T8LR-PS	2,5,6,9,10,13,14,15
	1x100G Interface module	NCS4200-1H-PK	7, 8
	2x40G Interface module	NCS4200-2Q-P	3, 4, 7, 8, 11, 12
	8x10G Interface module	NCS4200-8T-PS	3, 4, 7, 8, 11, 12
	OC-192 Interface Module with 8-port Low Rate CEM Interface Module (10G HO / 10G LO)	NCS4200-1T8S-10CS	3, 4, 7, 8, 11, 12
	OC-192 Interface Module with 8-port Low Rate CEM Interface Module (5G HO / 5G LO)	NCS4200-1T8S-10CS	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
	48XT1/E1 Interface module	NCS4200-48T1E1-CE	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
	48XT3/E3 Interface module	NCS4200-48T3E3-CE	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15

Restrictions and Limitations for Cisco NCS 4206 and Cisco NCS 4216

- Far end PMON counters are not supported.
- VT PMON is not supported.
- M13 framing is not supported on DS3 IM.
- APS is supported across interface modules. But it is not supported on the same interface module.
- VT loopback is not supported if T1 is configured for the VT mode.
- DS1/DS3 SF/SD is not supported.
- Alternate 0's and 1's BERT pattern is not supported for DS1.
- All zeros BERT pattern on system side does not get in sync on DS3.
- DS3/OCx MDL does not interoperate with legacy Q.921 standards.
- APM is not supported with EPAR on CEP.
- FDL is not supported.
- STS24-c is not supported on OCx.

- Port restriction on OCx. If you have OC48 configured on a port, you cannot use the neighboring port.
- Bellcore remote loopbacks are not supported for DS1/DS3. Only T1.403 remote loopbacks are supported.
- DS3 over CEP is not supported on DS3 IM.
- CEP MIB is not supported.
- HSPW is not supported on DS3/DS1/OCX card.
- The **ip cef accounting** command is not supported on the chassis.
- Crash may be observed on the chassis when EoMPLS, CEM, ATM and IMA Pseudowire Redundancy (PW-redundancy) configurations exist while switchover and fail back of the pseudowires are being triggered, and the **show platform hardware pp active pw eompls** command is executed.
- Configuration sync does not happen on the Standby RSP when the active RSP has Cisco Software Licensing configured, and the standby RSP has Smart Licensing configured on the chassis. If the active RSP has Smart Licensing configured, the state of the standby RSP is undetermined. The state could be pending or authorized as the sync between the RSP modules is not performed.
- Evaluation mode feature licenses may not be available to use after disabling, and enabling the smart licensing on the Cisco NCS 4206. A reload of the chassis is required.
- Ingress counters are not incremented for packets of the below format on the RSP3 module for the 10 Gigabit Ethernet interfaces, 100 Gigabit Ethernet interfaces, and 40 Gigabit Ethernet interfaces:

  Packet format

  MAC header---->Vlan header---->Length/Type

  When these packets are received on the RSP3 module, the packets are not dropped, but the counters are not incremented.
- Traffic is dropped when packets of size 64 to 100 bytes are sent on 1G and 10G ports.
  - For 64-byte packets, traffic drop is seen at 70% and beyond of the line rate.
  - For 90-byte packets, traffic drop is seen at 90% and beyond of the line rate.
  - For 95-byte packets, traffic drop is seen at 95% and beyond of the line rate.

  Traffic is dropped when:
  - Traffic is sent on a VRF interface.
  - Traffic is sent across layer 2 and layer 3.

  However, traffic is not dropped when the packet size is greater than 100 bytes, even if the packets are sent bidirectionally at the line rate.

Determining the Software Version

You can use the following commands to verify your software version:

- Consolidated Package—**show version**
- Individual sub-packages—**show version installed** (lists all installed packages)

Upgrading to a New Software Release

Only Cisco IOS XE 3S consolidated packages can be downloaded from Cisco.com; users who want to run the chassis using individual subpackages must first download the image from Cisco.com and extract the individual subpackages from the consolidated package.

Supported FPGA and ROMmon Versions

Use the **show hw-module all fpd** command to display the IM FPGA version on the chassis.

Use the **show platform software agent iomd** [*slot/subslot*] **firmware cem-fpga** command to display the CEM FPGA version on the chassis.

From Cisco IOS XE Release 3.18SP onwards, the minimum recommended ROMmon version is 15.6(12r)S.

The table below lists the FPGA version for the software releases.

Note During ISSU, TDM interface modules are reset for FPGA upgrade.

Table 1: Supported FPGA and ROMmon Versions

	Cisco IOS XE Release	48 X T1/E1 CEM Interface Module FPGA	48 X T3/E3 CEM Interface Module FPGA	OC-192 Interface Module + 8-port Low Rate Interface Module FPGA	8x10G FPGA	2x40G FPGA	1x100G FPGA
IM FPGA	3.18SP	1.22	1.22	1.12	0.17 (0x1100 H)	0.22 (0x1600 H)	0.19 (0x1300 H)
CEM FPGA		4.6	4.6	6.6	—	—	—
IM FPGA	3.18.1SP	1.22	1.22	1.12	0.17 (0x1100 H)	0.22 (0x1600 H)	0.19 (0x1300 H)
CEM FPGA		4.6	4.6	7.0	—	—	—
IM FPGA	3.18.8aSP	1.22	1.22	1.15	0.17	—	—
CEM FPGA		0x46240046	0x46240046	0x10690070	—	—	—

	Cisco IOS XE Release	48 X T1/E1 CEM Interface Module FPGA	48 X T3/E3 CEM Interface Module FPGA	OC-192 Interface Module + 8-port Low Rate Interface Module FPGA	8x10G FPGA	2x40G FPGA	1x100G FPGA
IM FPGA	3.18.9SP	1.22	1.22	1.15	0.21	0.22	0.19
CEM FPGA		0x46240046	0x46240046	0x10690070	—	—	—
IM FPGA	16.5.1	1.22	1.22	1.15	0.21 (0x1500 H)	0.22 (0x1600 H)	0.20 (0x1400 H)
CEM FPGA		0x46310046	0x46310046	5G mode: 0x10070059 10G mode: 0x10050073	—	—	—

Deferrals

Cisco IOS software images are subject to deferral. We recommend that you view the deferral notices at the following location to determine whether your software release is affected: http://www.cisco.com/en/US/products/products_security_advisories_listing.html.

Field Notices and Bulletins

- Field Notices—We recommend that you view the field notices for this release to determine whether your software or hardware platforms are affected. You can find field notices at http://www.cisco.com/en/US/support/tsd_products_field_notice_summary.html.
- Bulletins—You can find bulletins at http://www.cisco.com/en/US/products/sw/iosswrel/ps5012/prod_literature.html.

MIB Support

The below table summarizes the supported MIBs on the Cisco NCS 4206 and Cisco NCS 4216.

Supported MIBs		
BGP4-MIB (RFC 1657)	CISCO-IMAGE-LICENSE-MGMT-MIB	MPLS-LDP-STD-MIB (RFC 3815)
CISCO-BGP-POLICY-ACCOUNTING-MIB	CISCO-IMAGE-MIB	MPLS-LSR-STD-MIB (RFC 3813)

Supported MIBs		
CISCO-BGP4-MIB	CISCO-IPMROUTE-MIB	MPLS-TP-MIB
CISCO-BULK-FILE-MIB	CISCO-LICENSE-MGMT-MIB	MSDP-MIB
CISCO-CBP-TARGET-MIB	CISCO-MVPN-MIB	NOTIFICATION-LOG-MIB (RFC 3014)
CISCO-CDP-MIB	CISCO-NETSYNC-MIB	OSPF-MIB (RFC 1850)
CISCO-CEF-MIB	CISCO-OSPF-MIB (draft-ietf-ospf-mib-update-05)	OSPF-TRAP-MIB (RFC 1850)
CISCO-CLASS-BASED-QOS-MIB	CISCO-OSPF-TRAP-MIB (draft-ietf-ospf-mib-update-05)	PIM-MIB (RFC 2934)
CISCO-CONFIG-COPY-MIB	CISCO-PIM-MIB	RFC1213-MIB
CISCO-CONFIG-MAN-MIB	CISCO-PROCESS-MIB	RFC2982-MIB
CISCO-DATA-COLLECTION-MIB	CISCO-PRODUCTS-MIB	RMON-MIB (RFC 1757)
CISCO-EMBEDDED-EVENT-MGR-MIB	CISCO-PTP-MIB	RSVP-MIB
CISCO-ENHANCED-MEMPOOL-MIB	CISCO-RF-MIB	SNMP-COMMUNITY-MIB (RFC 2576)
CISCO-ENTITY-ALARM-MIB	CISCO-RTTMON-MIB	SNMP-FRAMEWORK-MIB (RFC 2571)
CISCO-ENTITY-EXT-MIB	CISCO-SONET-MIB	SNMP-MPD-MIB (RFC 2572)
CISCO-ENTITY-FRU-CONTROL- MIB	CISCO-SYSLOG-MIB	SNMP-NOTIFICATION-MIB (RFC 2573)
CISCO-ENTITY-SENSOR-MIB	DS1-MIB (RFC 2495)	SNMP-PROXY-MIB (RFC 2573)
CISCO-ENTITY-VENDORTYPE-OID-MIB	ENTITY-MIB (RFC 4133)	SNMP-TARGET-MIB (RFC 2573)
CISCO-FLASH-MIB	ENTITY-SENSOR-MIB (RFC 3433)	SNMP-USM-MIB (RFC 2574)
CISCO-FTP-CLIENT-MIB	ENTITY-STATE-MIB	SNMPv2-MIB (RFC 1907)
CISCO-IETF-ISIS-MIB	EVENT-MIB (RFC 2981)	SNMPv2-SMI
CISCO-IETF-PW-ATM-MIB	ETHERLIKE-MIB (RFC 3635)	SNMP-VIEW-BASED-ACM-MIB (RFC 2575)
CISCO-IETF-PW-ENET-MIB	IF-MIB (RFC 2863)	SONET-MIB
CISCO-IETF-PW-MIB	IGMP-STD-MIB (RFC 2933)	TCP-MIB (RFC 4022)
CISCO-IETF-PW-MPLS-MIB	IP-FORWARD-MIB	TUNNEL-MIB (RFC 4087)
CISCO-IETF-PW-TDM-MIB	IP-MIB (RFC 4293)	UDP-MIB (RFC 4113)
CISCO-IF-EXTENSION-MIB	IPMROUTE-STD-MIB (RFC 2932)	CISCO-FRAME-RELAY-MIB
CISCO-IGMP-FILTER-MIB	MPLS-LDP-GENERIC-STD-MIB (RFC 3815)	

The below table summarizes the unverified and supported MIBs on the Cisco NCS 4206 and Cisco NCS 4216.

Unverified MIBs		
ATM-MIB	CISCO-IETF-DHCP-SERVER-EXT-MIB	EXPRESSION-MIB
CISCO-ATM-EXT-MIB		HC-ALARM-MIB
CISCO-ATM-IF-MIB	CISCO-IETF-PPVPN-MPLS-VPN-MIB	HC-RMON-MIB
CISCO-ATM-PVC-MIB	CISCO-IP-STAT-MIB	IEEE8021-CFM-MIB
CISCO-ATM-PVCTRAP-EXTN-MIB	CISCO-IPSLA-ETHERNET-MIB	IEEE8021-CFM-V2-MIB
CISCO-BCP-MIB	CISCO-L2-CONTROL-MIB	IEEE8023-LAG-MIB
CISCO-CALLHOME-MIB	CISCO-LAG-MIB	INT-SERV-GUARANTEED-MIB
CISCO-CIRCUIT-INTERFACE-MIB	CISCO-MAC-NOTIFICATION-MIB	INTEGRATED-SERVICES-MIB
CISCO-CONTEXT-MAPPING-MIB	CISCO-MEMORY-POOL-MIB	MPLS-L3VPN-STD-MIB (RFC 4382)
CISCO-EIGRP-MIB	CISCO-NHRP-EXT-MIB	MPLS-LDP-ATM-STD-MIB (RFC 3815)
CISCO-ERM-MIB	CISCO-NTP-MIB	MPLS-LDP-MIB
CISCO-ETHER-CFM-MIB	CISCO-PING-MIB	MPLS-TE-STD-MIB
CISCO-ETHERLIKE-EXT-MIB	CISCO-RESILIENT-ETHERNET-PROTOCOL-MIB	MPLS-VPN-MIB
CISCO-EVC-MIB	CISCO-RTTMON-ICMP-MIB	NHRP-MIB
CISCO-HSRP-EXT-MIB	CISCO-RTTMON-IP-EXT-MIB	RFC2006-MIB (MIP)
CISCO-HSRP-MIB	CISCO-RTTMON-RTP-MIB	RMON2-MIB (RFC 2021)
CISCO-IETF-ATM2-PVCTRAP-MIB	CISCO-SNMP-TARGET-EXT-MIB	SMON-MIB
CISCO-IETF-ATM2-PVCTRAP-MIB-EXTN	CISCO-TCP-MIB	VRRP-MIB
CISCO-IETF-BFD-MIB	CISCO-VRF-MIB	
CISCO-IETF-DHCP-SERVER-MIB	ETHER-WIS (RFC 3637)	

MIB Documentation

To locate and download MIBs for selected platforms, Cisco IOS and Cisco IOS XE releases, and feature sets, use Cisco MIB Locator found at the following location: http://tools.cisco.com/ITDIT/MIBS/servlet/index

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

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

Open Source License Notices

For a listing of the license notices for open source software used in Cisco IOS XE 3S Releases, see the documents accessible from the License Information page at the following location:

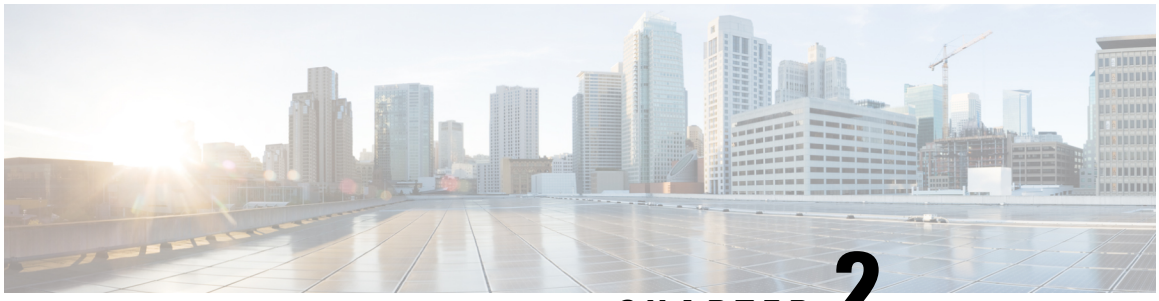
http://www.cisco.com/en/US/products/ps11174/products_licensing_information_listing.html

Communications, Services, and Additional Information

- To receive timely, relevant information from Cisco, sign up at Cisco Profile Manager.
- To get the business impact you're looking for with the technologies that matter, visit Cisco Services.
- To submit a service request, visit Cisco Support.
- To discover and browse secure, validated enterprise-class apps, products, solutions and services, visit Cisco Marketplace.
- To obtain general networking, training, and certification titles, visit Cisco Press.
- To find warranty information for a specific product or product family, access Cisco Warranty Finder.

Cisco Bug Search Tool

Cisco Bug Search Tool (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.



CHAPTER 2

New Features in Cisco IOS XE Everest 16.5.1

This chapter describes the new features supported on the Cisco NCS 4200 Series with Cisco IOS XE Everest 16.5.1.

New Software Features for NCS 4206 and NCS 4216 in Cisco IOS XE Everest 16.5.1

- **Auto In-Service States**

  The Cisco NCS 4200 Series now support configuration of interface modules in administrative configuration mode according to the Telecordia GR-1093. For more information, see Auto In-Service States.

- **BFD on IP Unnumbered Interfaces**

  The Cisco NCS 4200 Series now support BFD to run on IP unnumbered interfaces, which take the IP address from the loopback address. You can use the same loopback address on multiple interfaces. For more information, see IP Routing: BFD Configuration Guide, Cisco IOS XE Everest 16.5.1 (NCS 4200 Series).

- **Configuring 5G Traffic on 1-Port OC192/STM-64 or 8-Port OC3/12/48/STM-1/-4/-16 Interface Module**

  Effective Cisco IOS XE Everest 16.5.1, 5G traffic is supported on 1-Port OC192/STM-64 or 8-Port OC3/12/48/STM-1/-4/-16 Interface Module. Prior to this release, only 10G traffic was supported. 5G traffic mode is supported on those interface module slots that do not support 10G traffic mode.

  For more information, see Configuring 5G Traffic on 1-Port OC192/STM-64 or 8-Port OC3/12/48/STM-1/-4/-16 Interface Module.

- **Configuring Unidirectional Path Switching Ring (UPSR)**

  A Unidirectional Path Switching Ring (UPSR) is a unidirectional network with two rings, one ring used as the working ring and the other as the protection ring. The same signal flows through both rings, one clockwise and the other counterclockwise. It is called UPSR because monitoring is done at the path layer.

  For more information, see Configuring SONET on 1-Port OC192/STM-64 or 8-Port OC3/12/48/STM-1/-4/-16 Module.

- **E1 Support on 48-Port T1/E1 CEM Interface Module**

  The Cisco NCS 4200 Series now support E1 mode for voice, data, and integrated voice or data applications on the 48-Port T1/E1 Interface Module. The following features are supported on this interface module:

  - ACR and DCR Support
  - Alarm History Support
  - Loopback and BERT Support
  - Performance Monitoring

  For more information, see 48-Port T1/E1 CEM Interface Module Configuration Guide, Cisco IOS XE Everest 16.5.1 (Cisco NCS 4200 Series).

- **E3 Support on 48-Port T3/E3 CEM Interface Module**

  The Cisco NCS 4200 Series now support the channels on the E3 interfaces on the 48-Port T3/E3 Interface Module. The channels on E3 interface can be configured as either clear channel mode or channelized mode. The following features are supported on this interface module:

  - ACR and DCR Support
  - Alarm History Support
  - Loopback and BERT Support
  - Performance Monitoring
  - DS3 Channelization

  For more information, see 48-Port T3/E3 CEM Interface Module Configuration Guide, Cisco IOS XE Everest 16.5.1 (Cisco NCS 4200 Series).

- **IPv6 QoS**

  Ingress QoS features (classification, marking, and policing) is now supported for IPv6 traffic.

  For more information, see Quality of Service Configuration Guidelines, Cisco IOS XE Everest 16.5.1 (Cisco NCS 4200 Series).

- **MAC Security**

  The MAC Security feature addresses ports security with service instances by providing the capability to control and filter MAC address learning behavior service instances. For more information, see Layer 2 Configuration Guide, Cisco IOS XE Everest 16.5.1 (Cisco NCS 4200 Series).

- **MC-LAG**

  Multichassis link aggregation group (MC-LAG) is now supported.

  For more information, see Ethernet Channel Configuration Guide, Cisco IOS XE Everest 16.5.1 (Cisco NCS 4200 Series).

- **MLDPv4 and MLDPv6 Support**

  MLDP is now supported. For more information, see IP Multicast: Multicast Configuration Guide, Cisco IOS XE Everest 16.5.1 (Cisco NCS 4200 Series) .

- **OTN Wrapper**

This release introduces the support of OTN Wrapper feature for the following interface module:

- 1-port 100 Gigabit Ethernet Interface Module (1X100GE) (A900-IMA1C)—The encapsulation type is OTU4

For more information, see Cisco NCS 4200 Series Software Configuration Guide, Cisco IOS XE Everest 16.5.1.

- **SSM Support on Cisco 48-Port T3/E3 CEM Interface Module**

  SSM is transported over T3 links using proprietary method. SSM enables T3 to select the highest quality timing reference automatically and avoid the timing loops. SSM is supported on Cisco 48-Port T3/E3 CEM Interface Module. Effective Cisco IOS XE Everest 16.5.1, E3 mode is not supported.

  For more information, see https://www-author.cisco.com/c/en/us/td/docs/routers/ncs4200/configuration/guide/cem-line-cards/b-cem-ds3-xe-16-5-1-ncs4200/ssm-t3-e3.html.

- **Table Map MDT Index Optimization**

  Effective with Cisco IOS XE Everest 16.5.1, if the same table-mapping is applied on multiple interfaces, the MDT index is shared across these interfaces. Thus increased scaling of table-map is possible if table-mapping is reused.

  For more information, see Quality of Service Configuration Guidelines, Cisco IOS XE Everest 16.5.1 (Cisco NCS 4200 Series) and QoS: Classification Configuration Guide, Cisco IOS XE Everest 16.5.1 (Cisco NCS 4200 Series) .

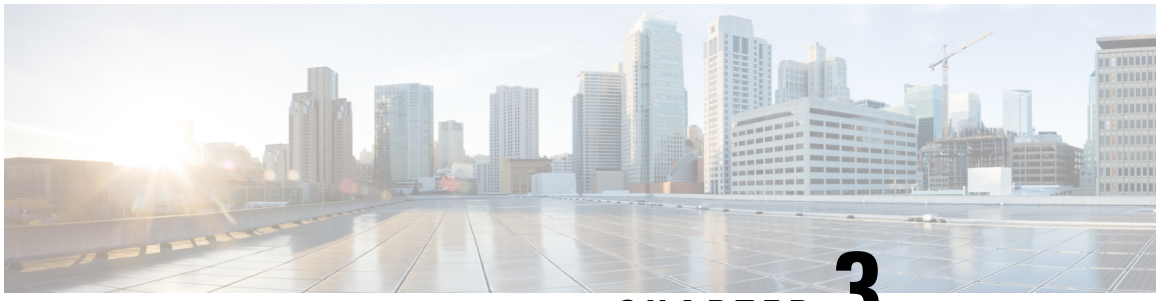
- **TWAMP Support**

  IETF Two-Way Active Measurement Protocol (TWAMP) responder on a Cisco device measures IP performance between the Cisco device and a non-Cisco TWAMP control device on the network.

  For more information, see IP SLAs Configuration Guide, Cisco IOS XE Everest 16.5.1 (Cisco NCS 4200 Series).

New Hardware Features for NCS 4206 and NCS 4216 in Cisco IOS XE Everest 16.5.1

There are no new hardware features in the Cisco IOS XE Everest 16.5.1.



CHAPTER 3

Caveats in Cisco IOS XE Everest 16.5.1

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

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

The bug IDs are sorted alphanumerically.

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

Cisco Bug Search Tool

Cisco Bug Search Tool (BST), the online successor to Bug Toolkit, is designed to improve effectiveness in network risk management and device troubleshooting. You can search for bugs based on product, release, and keyword, and aggregates key data such as bug details, product, and version. For more details on the tool, see the help page located at http://www.cisco.com/web/applicat/cbsshelp/help.html

Open Caveats – Cisco IOS XE Everest 16.5.2

Caveat ID Number	Description
CSCvb96943	Offset from master jumps to Huge value with SPAN
CSCvb99102	MH BFD session flaps on shutting interface of no relevance to BFD session.

Caveat ID Number	Description
CSCvc21158	Traffic is flapping on channel when W port is deleted from ACR group
CSCvc47098	Bilbo: Bert result for unframed E3 controller is not updated properly
CSCvc54203	Post ISSU : DCR remains in UNKNOWN state
CSCvc70246	RSP3 - VPLS Tunnel Label incorrectly programmed in ARAD
CSCvc74964	IPC channel hogging due to alarm flooding on cable looping for APS ports
CSCvd04481	The CV counter shows Negative Values at the Line Level for LOS 10 sec in EOWYN testing
CSCvd12082	RSP3-mlacp: %FMFP-3-OBJ_DWNLD_TO_DP_FAILED: SIP0: fman_fp_image: atom_xconnect xid 0x408110
CSCvd16190	Alarm flood fixes for Eowyn, bilbo, Denenthor
CSCvd33933	APS is disabled in CEM FPGA causing alarms to CEM circuits
CSCvd44667	RSP3: PREFIX Object Errored Objects on Local Core Flaps and in Parallel on Other Routers in the Core
CSCvd46410	OCx: ACR/UPSR - Virtual Controller Shut/No-Shut not working due to License rejection
CSCvd48700	BERT time Interval is getting setup to junk value after clear counters
CSCvd77735	RSP3 - Small loss (6-10ms) observed for VPLS traffic when BGP backup peer is powered down
CSCvd89421	RMEP failure due to CFM HW table corruption
CSCve05859	Exxx EIN: G.8275.1 testing: Clock loop forming between synce and ptp
CSCve07623	VZ_Sol : Concatenated controller status to be updated in show controller output
CSCve37398	RSP3-L2VPN: Load balancing is happening based on wrong fields in P node when CW is enabled.
CSCve45568	Logging Alarm with T1 Controller Admin Down
CSCve52155	RSP3: BFD Session Between 2 RSP3s Down on Reloading 1 RSP3
CSCvf03157	RSP3:PC stays in suspended state on IM OIR
CSCvf08577	RSP3 Arad not able to timestamp higher stream id packets in default profile
CSCvf09940	RSP3_2x10GE: output netsync drifting after SSO when locked to 2x10GE
CSCvf16468	RSP3-QIP: CFM H/w offloaded sessions over xconnect affecting S/w sessions configured over BD
CSCvf21748	RSP3-QIP: Traffic flowing though TEFP is shut in G8032 ring

Caveat ID Number	Description
CSCvf33633	RSP3 - [%LFD-3-CORRUPTED_PKT: lfd received corrupted packet] msg seen with adjacent node failure
CSCvf34496	RSP3-QIP:Error objects on Stby cfm_mp_ifh 16794673 sid 3001 download to CPP failed seen upon IM-OIR
CSCvf76091	FP fails to bootup with mac security configurations
CSCvf81537	cos value changes for DHCP packets on xconnect
CSCvf82663	RSP3C crashed at dl_callback
CSCvf84052	RSP3: %FMFP-3-OBJ_DWNLD_TO_CPP_FAILED when cfm service name len is 7 or more chars
CSCvf98718	Standby RSP and IM module boot failure after code upgrade

Resolved Caveats – Cisco IOS XE Everest 16.5.2

Caveat ID Number	Description
CSCva10414	IPsec doesn't work if 1G IM is not present on 900 chassis
CSCvc32082	Handling FRR for reopt cases
CSCvd00614	RSP3:BFD is flapping when removing PTP config
CSCvd02957	G8275.2: dynamic port with no peer toggles states when dut is locked to virtual port
CSCvd12047	G8275.1: syncE drift when PTP is removed from G8275.1 TBC.
CSCvd22428	RSP3 : HSPW traffic failure after SSO/IM OIR (FEC programmed as 0)
CSCvd28433	By removing and adding auto neg at Cu interfaces leads to PTP malfunction
CSCvd34080	R0/R1 matters in "output 1pps R0"
CSCvd36747	RSP3 - Native IPv6 multicast stops working with soak test
CSCvd47051	8275.1 DPLL1 Lock status OFF sometimes
CSCvd49392	SETS introducing 1pps out value in 479ms as compared to input 1pps
CSCvd69590	G8275.1_RSP3: accuracy is ~500nsec when it uses to 10GE IM on first time boot
CSCvd72847	RSP2: [SW Workaround for FPGA bug] TOD load failing with IMA8S1Z after IM-OIR
CSCvd96938	RSP3 crashes @ tbm_lookup, uea_cef_get_leaf
CSCve00932	RSP3: CF is updated in SYNC packets for 1G interface

Caveat ID Number	Description
CSCve09409	HBC Slave router doesnot choose best clock based on Clock Class
CSCve12246	RSP3: RSP3 which is locked to GNSS VP is not giving better accuracy
CSCve13089	License:unexpected rommon license boot variable&boot level metroservice configs set in standbyRSP3 .
CSCve14324	RSP3C : port level shaper is counting packets twice.
CSCve17821	G8275.x: utcOffset is not set properly when VP is selected
CSCve22123	SYNC packets are corrupted at Transit node in MPLS Network
CSCve27195	Non PTP packets getting timestamped post PTP loopback shut at PTP master
CSCve29462	BFD/ISIS stays in INIT-Down state on multiple interfaces.
CSCve45078	RSP3-CFM: MA number is not working with ID NULL for offloaded sessions
CSCve49670	RSP2 Timing THS - Interface goes down after IMOIR (v166)
CSCve54712	BFD WRAP programming removed with SADT causing tunnel flap on primary path failure
CSCve61214	G8275.1: Master disqualified even though packets are flowign fine
CSCve71908	RSP3-SOAK-Observing error objects "LB 0x938f download to DP failed" with soak
CSCve77231	RSP3:traffic failure on VRRP session and traces @ vrrp_comms_process_pak
CSCve81583	G8265.1: PTP not locking with some disturbance on master or master switch triggered
CSCvf66464	ISSU failing between 16.5.X/16.6.Y CCO builds

Open Caveats – Cisco IOS XE Everest 16.5.1

Caveat ID Number	Description
CSCuz78113	OCx HA: Traffic outage is seen during SSO for few ckts at 4K scale.
CSCuz89582	VCOP: B1/B2/B3 errors are not detected.
CSCvb98836	LOTR OCx: UPSR - Convergence time is exceeding 50ms when active work leg is unconfigured.
CSCvc21158	Traffic is flapping on channel when W port is deleted from ACR group.
CSCvc47098	Bert result for unframed E3 controller is not updated properly.
CSCvc49467	LOTR OCx:UPSR - Convergence is high with IM is having active APS and UPSR circuits is reloaded.

Caveat ID Number	Description
CSCvd02443	Scale: Copy of 8K CEM circuits take 60 mins and CEM circuits are not in sync in HA after SSO.
CSCvd11120	IOSD crash is seen when clearing alarms on OC192 port having 5K scale.
CSCvd37125	Sometime fan speed display is wrong in show environment.
CSCvd37134	Fan OIR time.

Resolved Caveats – Cisco IOS XE Everest 16.5.1

Caveat ID Number	Description
CSCuz89518	T3 AIS: Implementing structure aware DS3 SATOP.
CSCvb98561	Eowyn IM does not come up on router reload, when 13 IMs present in chassis.
CSCvb51372	CEM jitterbuffer underruns with CEM marking policy.
CSCvb55255	High PTP offset and clock state toggling.
CSCvc53794	PTP over MPLS support.
CSCvd12023	Addition of CTC component.
CSCvd52723	ISSU : IM update is missing in Phase 3 of ISSU for 8T1E1.