



Release Notes for Cisco NCS 4201 and Cisco NCS 4202 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 1

- Introduction 1
- Overview of Cisco NCS 4206 and NCS 4216 1
 - Cisco NCS 4206 1
 - Cisco NCS 4216 2
- Feature Navigator 2
- Hardware Supported 2
 - Cisco NCS 4206 Supported Interface Modules 2
 - Cisco NCS 4216 RSP Supported Interface Modules 3
- Restrictions and Limitations for Cisco NCS 4206 and Cisco NCS 4216 4
- Determining the Software Version 5
- Upgrading to a New Software Release 6
- Supported FPGA and ROMmon Versions 6
- Deferrals 7
- Field Notices and Bulletins 7
- MIB Support 7
 - MIB Documentation 9
- Open Source License Notices 10
- Communications, Services, and Additional Information 10

CHAPTER 2

New Features in Cisco IOS XE Everest 16.5.1 11

- New Features in Cisco IOS XE Everest 16.5.1 11
- New Software Features for NCS 4206 and NCS 4216 in Cisco IOS XE Everest 16.5.1 11
- New Hardware Features for NCS 4206 and NCS 4216 in Cisco IOS XE Everest 16.5.1 13

CHAPTER 3**Caveats in Cisco IOS XE Everest 16.5.1 15**

Cisco Bug Search Tool 15

Open Caveats – Cisco IOS XE Everest 16.5.2 15

Resolved Caveats – Cisco IOS XE Everest 16.5.2 16

Open Caveats – Cisco IOS XE Everest 16.5.1 17

Resolved Caveats – Cisco IOS XE Everest Release 16.5.1 17



CHAPTER 1

Introduction

This document provides information about the IOS XE software release for the Cisco NCS 4201 and Cisco NCS 4202 beginning with Cisco IOS XE Everest 16.5.1, which is the first supported release in the Release 16 Series.

- [Introduction, on page 1](#)
- [Overview of Cisco NCS 4206 and NCS 4216, on page 1](#)
- [Feature Navigator, on page 2](#)
- [Hardware Supported, on page 2](#)
- [Restrictions and Limitations for Cisco NCS 4206 and Cisco NCS 4216 , on page 4](#)
- [Determining the Software Version, on page 5](#)
- [Upgrading to a New Software Release, on page 6](#)
- [Supported FPGA and ROMmon Versions, on page 6](#)
- [Deferrals, on page 7](#)
- [Field Notices and Bulletins, on page 7](#)
- [MIB Support, on page 7](#)
- [Open Source License Notices, on page 10](#)
- [Communications, Services, and Additional Information, on page 10](#)

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 its 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 Features in Cisco IOS XE Everest 16.5.1, on page 11](#)
- [New Software Features for NCS 4206 and NCS 4216 in Cisco IOS XE Everest 16.5.1, on page 11](#)
- [New Hardware Features for NCS 4206 and NCS 4216 in Cisco IOS XE Everest 16.5.1, on page 13](#)

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-authoriz 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](#), on page 15
- [Open Caveats – Cisco IOS XE Everest 16.5.2](#), on page 15
- [Resolved Caveats – Cisco IOS XE Everest 16.5.2](#), on page 16
- [Open Caveats – Cisco IOS XE Everest 16.5.1](#), on page 17
- [Resolved Caveats – Cisco IOS XE Everest Release 16.5.1](#), on page 17

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
CSCvb13590	In OC3 IM BUS ERROR is observed due to invalid mlp multiclass number in the packet

Caveat ID Number	Description
CSCvc50710	RSP2: Standby RP Crash in HA-IDB-SYNC Process on SOAK of Delete Reconfig CEM and ACR
CSCvd08449	RSP2:BCPoMLPPP: %FMFP-3-OBJ_DWNLD_TO_DP_FAILED console logs results in pending/error object
CSCve36953	L2 Bridge-domain Forwarding Fails as Packets Dropped in PreMET
CSCve90690	L3 convergence for REP is more than 50ms, which is incorrect
CSCvf49418	mgr crash @ uea_cef_adj_modify_async
CSCvf98718	Standby RSP and IM module boot failure after code upgrade
CSCvf99074	10SZ-PD Sees Ping Loss on Built-in Te 0/0/11 Port and CRC / MAC Errors at Peer End

Resolved Caveats – Cisco IOS XE Everest 16.5.2

Caveat ID Number	Description
CSCuv11211	Temp raise syslog msg prints on console when PSU remove and insertion
CSCvc57547	Polaris RSP2: After Controller SONET Shutdown and RP SSO STM-1 POS Interface Comes Up Automatically
CSCve95602	SDH counter errors
CSCvd02957	G8275.2: dynamic port with no peer toggles states when dut is locked to virtual port
CSCvd04381	Loopback local at tug levl e1 or t1 doesnt handle the Alarm condition
CSCvd32237	RSP2 : MLDPv4 Full scale no DI programming on HE
CSCvd47051	8275.1 DPLL1 Lock status OFF sometimes
CSCvd49392	SETS introducing 1pps out value in 479ms as compared to input 1pps
CSCvd79657	ENTITY-MIB table entries missing for E1/T1 ports on the IMA16D card
CSCvd89772	Access list rejects fragmented packet
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
CSCve17821	G8275.x: utcOffset is not set properly when VP is selected
CSCve61214	G8275.1: Master disqualified even though packets are flowign fine
CSCve73831	THS:After SSO/ISSU observed AIS Alarm in SYSTEM THS with XE318SP Image

Caveat ID Number	Description
CSCve81583	G8265.1: PTP not locking with some disturbance on master or master switch triggered
CSCve96348	cmcmd and iomd crashes seen with V166 throttle, EFT images
CSCve96485	IGMP snooping: Packet drops due to IGMP leave scenario in different BD
CSCvf09882	IOMD ERR logs on auto-neg observed continuously which leads to bootflash space exhaustion
CSCvf49124	Mgmt default gateway not reachable with 16.6.1 polaris image

Open Caveats – Cisco IOS XE Everest 16.5.1

Identifier	Description
CSCvc27889	Observing media type showing unknown on few reloads

Resolved Caveats – Cisco IOS XE Everest Release 16.5.1

Identifier	Description
CSCvc52789	cylon_mgr process crashed @ bfd_oamengine_ui_get_tx_buffer_table_idx.
CSCvc67487	System crash with MVPN GRE with sdm default template.
CSCvd03059	Chunk Memory leak @ mcp_spa_tdl_alloc in XE318SP Image.
CSCvd07855	1pps under a virtual port remains down after SSO.

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

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

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

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

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

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

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

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

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

© 2017 Cisco Systems, Inc. All rights reserved.

