



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.

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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.authorcisco.com/en/us/d/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.

