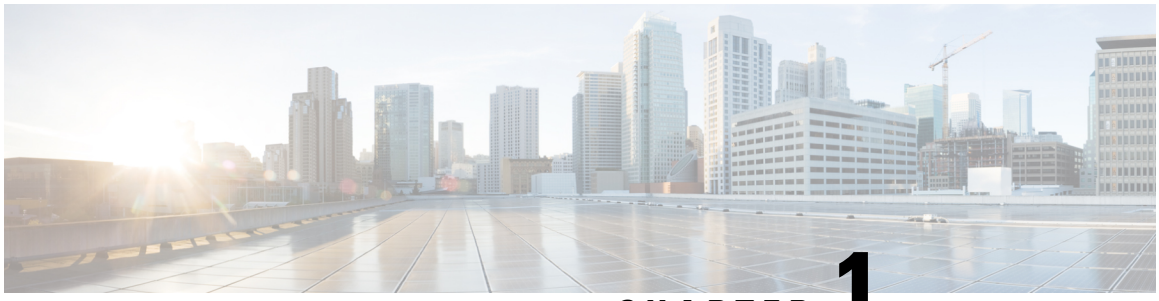
Release Notes for Cisco NCS 4201 and Cisco NCS 4202 Series, Cisco IOS XE Amsterdam 17.1.x

First Published: 2019-12-22

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

Note Explore the Content Hub, the all new portal that offers an enhanced product documentation experience.

- Use faceted search to locate content that is most relevant to you.
- Create customized PDFs for ready reference.
- Benefit from context-based recommendations.

Get started with the Content Hub at content.cisco.com to craft a personalized documentation experience.

Do provide feedback about your experience with the Content Hub.

This document provides information about the IOS XE software release for the Cisco NCS 4201 and Cisco NCS 4202 beginning with Cisco IOS XE Release 3.18SP.

Documentation Updates

Rearrangement in the Configuration Guides

- The following are the modifications in the CEM guides.
  - Introduction of the Alarm Configuring and Monitoring Guide:

    This guide provides the following information:
    - Alarms supported for SONET and SDH, and their maintenance
    - Alarm profiling feature

- Auto In-Service States for cards, ports, and transceivers

- Rearrangement of Chapter and Topics in the Alarm Configuring and Monitoring Guide:
  - The Auto In-Service States Guide is now a chapter inside the Alarms Configuring and Monitoring Guide.
  - Alarms at SONET Layers topic in the following CEM guides, is added to the Alarms Configuring and Monitoring Guide:
    - 1-Port OC-48/STM-16 or 4 port OC-12/OC-3 / STM-1/STM-4 + 12 port T1/E1 + 4 port T3/E3 CEM Interface Module Configuration Guide
  - The Alarm History and Alarm Profiling chapters are removed from the below CEM Technology guides, and added into the Alarm Configuring and Monitoring Guide:
    - 1-Port OC-48/STM-16 or 4 port OC-12/OC-3 / STM-1/STM-4 + 12 port T1/E1 + 4 port T3/E3 CEM Interface Module Configuration Guide

Cisco NCS 4201 and Cisco NCS 4202 Overview

The Cisco NCS 4201 and NCS 4202 Network Convergence Systems are full-featured, compact one-RU high converged access platforms designed for the cost-effective delivery of TDM to IP or MPLS migration services. These temperature-hardened, high-throughput, small-form-factor, low-power-consumption systems are optimized for circuit emulation (CEM) and business applications. NCS 4201 and NCS 4202 chassis allow service providers to deliver dense scale in a compact form factor and unmatched CEM and Carrier Ethernet (CE) capabilities. They also provide a comprehensive and scalable feature set, supporting both Layer 2 VPN (L2VPN) and Layer 3 VPN (L3VPN) services in a compact package .

For more information on the Cisco NCS 4201 Chassis, see the Cisco NCS 4201 Hardware Installation Guide.

For more information on the Cisco NCS 4202 Chassis, see the Cisco NCS 4202 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

NCS4201 is a fixed router and does not have any field replaceable units.

The following table lists the hardware supported for Cisco NCS 4202 chassis.

Chassis	Supported Interface Modules	Part Numbers
NCS 4202	8 port T1/E1 CEM Interface Module	NCS4200-8E1T1-CE
	1 port OC-48/STM-16 or 4 port OC-12/OC-3 / STM-1/STM-4 + 12 ports T1/E1 + 4 ports T3/E3	NCS4200-3GMS
	8-Port 1GE RJ45 and 1-Port 10GE SFP+ module	NCS4200-1T8LR-PS

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)

ROMMON Version

- NCS4201—15.6(31r)S
- NCS4202—15.6(24r)S

Bundled FPGA Versions

The following are HoFPGA versions bundled in the IOS:

- NCS4201—0X00030015
- NCS4202
  - BFD—0X0003001c
  - Netflow—0X00020008

The following is the CEM FPGA version:

- NCS4202—0x10050071

The following are HoFPGA versions bundled in IOS for 16.12.8, 16.12.7 and 16.12.6 releases:

- NCS 4201— 0X00040019
- NCS 4202
  - BFD—0X0003001b
  - Netflow—0X00020008

The following is the CEM FPGA version:

- NCS4202—NA

Limitations and Restrictions on the Cisco NCS 4201 and Cisco NCS 4202 Series

Note The error message "PLATFORM-1-NOSPACE: SD bootflash : no space alarm assert" may occur in the following scenarios:

- Any sector of SD Card gets corrupted
- Improper shut down of router
- power outage.

This issue is observed on platforms which use EXT2 file systems.

We recommend performing a reload of the router. As a result, above alarm will not be seen during the next reload due to FSCK(file systems check) execution.

However, If the error persists after a router reload, we recommend to format the bootflash or FSCK manually from IOS.

- The **default** *command-name*command is used to default the parameters under that interface. However, when speed is configured on the interface, the following error is displayed:

```
Speed is configured. Remove speed configuration before enabling auto-negotiation
```

- VCoP/TSoP smart SFPs are not supported.
- Virtual services should be deactivated and uninstalled before performing replace operations.
- IPSec is not supported on the Cisco NCS 4201 and Cisco NCS 4202 routers.
- On Cisco NCS 4202 Series, the following restrictions apply for IPSec:
  - Interface naming is from right to left. For more information, see the Cisco NCS 4200 Series Software Configuration Guide
  - Packet size greater than 1460 is not supported over IPsec Tunnel.
  - Minimal traffic drop might be seen for a moment when higher rate traffic is sent through the IPsec tunnels for the first time.
  - IPsec is only supported for TCP and UDP and is not supported for SCTP.

Important Notes

Note Port channels 61-64 are not supported in the 16.11.1a release. The range of configurable port channel interfaces is limited to 60.

Additional References

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.

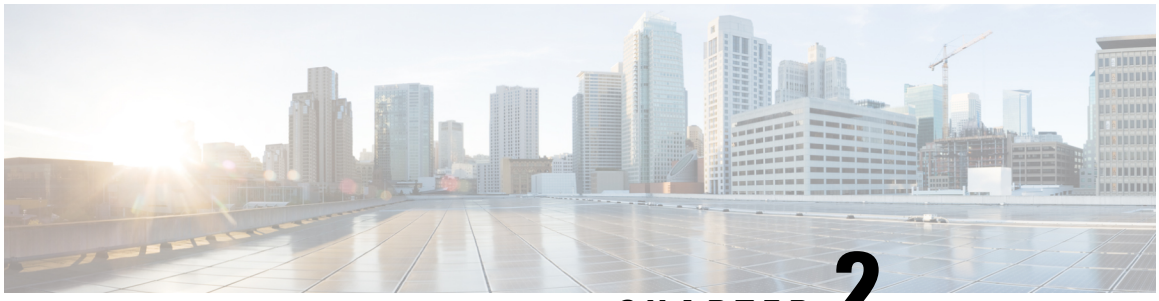
MIB Support

To view supported MIB, go to http://tools.cisco.com/ITDIT/MIBS/MainServlet.

Accessibility Features in the Cisco NCS 4201 and Cisco NCS 4202 Series

For a list of accessibility features in Cisco NCS 4201 and Cisco NCS 4202 Series, see the Voluntary Product Accessibility Template (VPAT) on the Cisco website, or contact accessibility@cisco.com.

All product documents are accessible except for images, graphics, and some charts. If you would like to receive the product documentation in audio format, braille, or large print, contact accessibility@cisco.com.



CHAPTER 2

New Features

This chapter describes the new hardware and software features that are supported on the Cisco NCS 4201 and Cisco NCS 4202 Series routers.

New Hardware Features in Cisco IOS XE Amsterdam 17.1.1

The following optics are supported for the Cisco IOS XE Amsterdam 17.1.1 release:

- ONS-SI+-10G-SR
- ONS-SI+-10G-LR
- ONS-SI+-10G-ER
- ONS-SI+-10G-ZR

For more information, see the NCS 4201-02 Optics Matrix

New Software Features in Cisco IOS XE Amsterdam 17.1.1

- **EVPN Single-Homing**

  The EVPN Single-Homing feature utilizes the functionality defined in RFC 7432 (BGP MPLS-based Ethernet VPN), to achieve single-homing between a Provider Edge (PE) and a Customer Edge (CE) device.

  For more information, see the MPLS Layer 2 VPNs Configuration Guide, Cisco IOS XE 17 (NCS 4200 Series).

- **EVPN-VPWS Single Homing over Segment Routing**

  EVPN-VPWS single homing is a BGP control plane solution for point-to-point services. It has the ability to forward traffic from one network to another using Ethernet Segment without MAC lookup. EVPN-VPWS single homing works on both IP and SR core. IP core is used to support BGP while the SR core is used to switch packets between the endpoints.

For more information, see the Segment Routing Configuration Guide, Cisco IOS XE 17 (Cisco NCS 4200 Series).

- **Facility Protocol Status Support**

  The routers report the protocol status using syslog or trap alarm notifications. Few syslogs and traps are not cleared when the router gets disconnected or reloaded. As a result, the alarms are not notified.

  To avoid this, a new command, **show facility protocol status**, is introduced that displays the output of the following routing protocols status at any interval of time:

  IS-IS, OSPF, BGP, LDP, PTP, HSRP, BFD, TE tunnels, Bundles, pseudowires, EVPN pseudowires, CFM, SYncE, and sensor threshold violations.

  For more information, see the Cisco NCS 4200 Series Software Configuration Guide, Cisco IOS XE 17 (Cisco NCS 4200 Series).

- **Programmability Features**

  The following Programmability features are supported from this release:

  - gRPC Network Management Interface (gNMI)—Model-driven configuration and retrieval of operational data using the gNMI capabilities, GET and SET RPCs.
  - Model Driven Telemetry - gNMI Dial-In—Support for telemetry subscriptions and updates over a gRPC Network Management Interface (gNMI).
  - TLS for gRPC Dial-Out—Support for TLS for gRPC dial-out.

  For more information, see the Programmability Guide, Cisco IOS XE Amsterdam 17.1.x.

- **PTP Multiprofile**

  The Precision Time Protocol (PTP) is a protocol used to synchronize clocks throughout a network. The PTP Multiprofile support is configured on a PTP boundary clock by translating one PTP profile at PTP slave port to other PTP profile at PTP master port. To translate PTP properties from one profile to other, a special type of **inter-op** clock-port is introduced. This special clock-port is configured with the required profile and domain information.

  For more information on PTP Multiprofile, see the Timing and Synchronization Configuration Guide, Cisco IOS XE 17 (Cisco NCS 4200 Series).

- **SADT Overhead Accounting**

  FPGA measures parameters such as throughput, frame loss, jitter, and delay for SADT.

  FPGA has the capability to generate and measure only 1 Gbps traffic rate and hence maximum throughput cannot be achieved.

  To overcome this limitation, use the **platform y1564 shadow-session-enable** command to replicate the packets 10 times in FPGA.

  For more information, see the IP SLAs Configuration Guide, Cisco IOS XE 17 (Cisco NCS 4200 Series).

- **Segment Routing Low Latency Network Slice**

  This feature allows the advertisement and reception of the extended TE link delay metrics without any additional configuration required in IS-IS, OSPF or BGP-IS. When the link delay values are configured, they are flooded in the PCE topology and when the path computation is requested, these values are used for path calculation.

For more information, see the Segment Routing Configuration Guide, Cisco IOS XE 17 (Cisco NCS 4200 Series).

- **Segment Routing Performance Measurement Link Delay Metrics**

  Network performance metrics such as packet loss, delay, delay variation, and bandwidth utilization is a critical measure for traffic engineering (TE) in service provider networks. These metrics provide network operators with information about characteristics of their networks for performance evaluation and helps to ensure compliance with service level agreements. The service-level agreements (SLAs) of service providers depend on the ability to measure and monitor these network performance metrics.

  For more information, see the Segment Routing Configuration Guide, Cisco IOS XE 17 (Cisco NCS 4200 Series).

- **SR-TE Policy for MPLS TE**

  The routers with Cisco RSP2 module support the newer segment routed Traffic Engineering (SR-TE) policy and you can enbale the policy using the **segment-routing traffic-eng** command.

  For more information, see the Segment Routing Configuration Guide, Cisco IOS XE 17 (Cisco NCS 4200 Series).

- **SR-TE ODN Color Extended Community for Layer 3 VPN**

  The routers with Cisco RSP2 module support the color extended community with the following feature support:

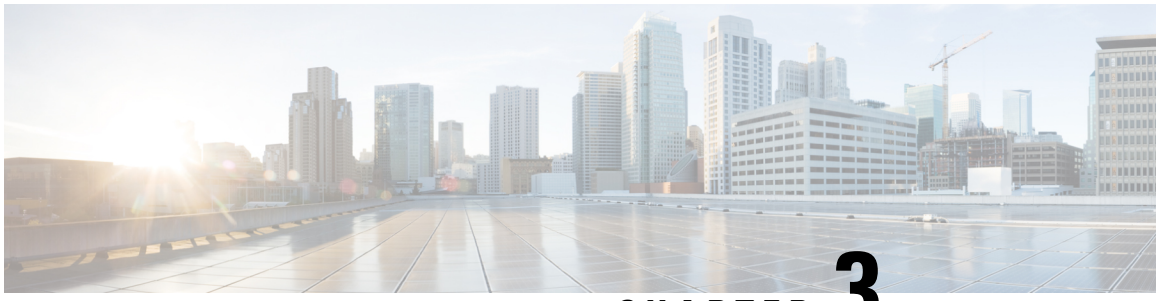
  - An egress router adds the color extended community to the BGP updates that require a Traffic-Engineered path.
  - An SR-TE policy is created on the ingress router for the color-endpoint pair.

  For more information, see the Segment Routing Configuration Guide, Cisco IOS XE 17 (Cisco NCS 4200 Series).

- **Virtual Container over Packet Smart Small Form-factor Pluggable for DS1**

  The VCoP smart SFP is now supported on DS1.

  For more information on VCoP Smart SFP, see the Time Division Multiplexing Configuration Guide, Cisco IOS XE 17 (Cisco NCS 4200 Series).



CHAPTER 3

Caveats

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 Amsterdam 17.1.1

Caveat ID Number	Description
CSCvr61371	BFD remains down when using PBR on BDI/interface
CSCvs25248	NCS4202-NCS4201 - IPSEC Not Supported in 17.1.1 and 16.11.1a.
CSCvw34109	PTP RX failure due to LSMPI buffer exhaustion

Resolved Caveats – Cisco IOS XE Amsterdam 17.1.1

Caveat ID Number	Description
CSCvp86320	Cisco ASR-920-12SZ-A and Cisco ASR-920-12SZ-D secure FPGA
CSCvr07668	FRR with Multi member POCH and LB not working