Release Notes for Cisco NCS 4201 and Cisco NCS 4202 Series, Cisco IOS XE Dublin 17.10.x

First Published: 2022-10-31

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CHAPTER 1

Introduction

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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.

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(48r)S
- NCS4202—15.6(46r)S

Upgrading to a New Software Release

Only the latest consolidated packages can be downloaded from Cisco.com; users who want to run the router using individual subpackages must first download the image from Cisco.com and extract the individual subpackages from the consolidated package.

For information about upgrading to a new software release, see the Upgrading the Software on the Cisco NCS 4200 Series Routers .

Upgrading the FPD Firmware

FPD Firmware packages are bundled with the software package. FPD upgrade is automatically performed ont the router.

If you like to manually change the FPD Firmware software, use the **upgrade hw-module subslot 0/0 fpd bundle** to perform FPD frmware upgrade.

Bundled FPGA Versions

The following are HoFPGA versions bundled in the IOS:

- NCS4201—0X0004001b
- NCS4202
  - BFD—0X0003001e
  - Netflow—0X00020008

The following is the CEM FPGA version:

- NCS4202—0x10020076

The following are HoFPGA versions bundled in the IOS for 17.7.1 release:

- NCS4201—0X0004001b
- NCS4202
  - BFD—0X0003001e
  - Netflow—0X0003001e

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.

- Embedded Packet Capture (EPC) is not supported on NCS 4200 routers.
- 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
  ```

- For VCoP, only SFP-T3F-SATOP-I is 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, Cisco IOS XE 17.
  - 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.
- One Ternary Content-Addressable Memory (TCAM) entry is utilized for Segment Routing Performance Measurement. This is required for the hardware timestamping to function.
- Before installing the Cisco IOS XE Amsterdam 17.3.1, you *must* upgrade the ROMMON to version 15_6_43r_s or higher to avoid bootup failure. This is applicable to Cisco NCS 4202 routers. This workaround is not applicable to devices installed with ROMMON version 15.6(9r)S.

- While performing an auto upgrade of ROMMON, only primary partition is upgraded. Use the **upgrade rom-mon filename** command to upgrade the secondary partition of the ROMMON. However, the router can be reloaded during the next planned reload to complete the secondary ROMMON upgrade.
- For Cisco IOS XE Amsterdam 17.3.x , a minimum diskspace of 2 MB is required in the boot flash memory file system for a successful ROMMON auto upgrade process. For a diskspace lesser than 2 MB, ROMMON auto upgrade fails and the router reboots.
- Some router models are not fully compliant with all IETF guidelines as exemplified by running the pyang tool with the lintflag. The errors and warnings exhibited by running the pyang tool with the lint flag are currently non-critical as they do not impact the semantic of the models or prevent the models from being used as part of the toolchains. A script is provided, **check-models.sh**, which runs pyang with lint validation enabled, but ignoring certain errors. This allows the developer to determine what issues may be present.

  As part of the model validation for this Cisco IOS XE Amsterdam 17.3.1 release, "LEAFREF_IDENTIFIER_NOT_FOUND" and "STRICT_XPATH_FUNCTIONS" error types are ignored.
- Starting with Cisco IOS XE Bengaluru Release 17.5.1, if IPv6 Global IP is configured as the BFD peer, and if the interface goes down, a VRRP flap may occur. This may occur because, VRRP works on the basis of Link-local IP and not global IP. As a result, VRRP flaps on the previously backed up device and prints a DAD message.

CHAPTER 2

What's New in Cisco IOS XE Dublin 17.10.x

This chapter describes the new hardware and software features supported on the Cisco ASR 920 Series routers in Cisco IOS XE Dublin 17.10.x.

For information on features supported for each release, see Feature Compatibility Matrix.

What's New in Hardware for Cisco IOS XE Dublin 17.10.x

There are no new hardware features for this release.

What's New in Software for Cisco IOS XE Dublin 17.10.x

Feature	Description
Carrier Ethernet	
Tagged Packet Support Using Link Layer Discovery Protocol (LLDP)	LLDP now supports tagged packet transmission over a service instance with dot1q encapsulation. LLDP advertises information about themselves to their network neighbors, and store the information they discover from other devices. Though both these transmitted frames go through the same physical interface, they can be uniquely identified by the information advertised in the Port ID Type-Length-Value (TLV). You can use the lldp enable command to enable LLDP over a particular service instance. Use the **show lldp neighbors** and **show lldp entry** command outputs for neighboring device details.
CEM	
Frame Relay Configuration extended to RSP2 Module	You can configure frame relay on the iMSG serial interface for the following interface modules: • 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

Feature	Description
IP	
Improved IPv6 Forwarding Failure Notification	Improvements have been made to the Cisco IOS XE platforms to maintain compliance with IETF standards as specified for the Internet Protocol, Version 6 (IPv6) in RFC 8200. The enhancements fix some common causes of IPv6 forwarding faults and notify the sender about undelivered packets to a specified target. Notifications are received as log messages that can be accessed by enabling the following debugging command: **debug ipv6** Using the notifications, you can effectively troubleshoot IPv6 forwarding issues.
IP SLAs	
SADT over VC when Access Interface is Down	You can perform Service Activation and Deactivation (SADT) over Virtual Circuit (VC) even when access interface is down.
Programmability	
Telemetry for Monitoring Optical Transceivers	The **Cisco-IOS-XE-transceiver-oper** data model contains a collection of YANG definitions for monitoring optical transceivers. Maintaining certain parameters such as the voltage, temperature, or current at a desired level ensures optimal performance of optical modules. You can now subscribe to receive telemetry data, periodically, for debugging issues related to these parameters. Based on the telemetry data, you can mitigate problems such as elevated temperatures, which can have a significant effect on the performance of optical modules.
System Logging	
Support for Disabling GARP	
Support for Disabling GARP	You can now disable Gratuitous ARPs (GARP) on your router. A Gratuitous ARP (GARP) is an ARP request that is normally unneeded according to the ARP specification (RFC 826), however is useful in specific cases such as: • Updating ARP mapping • Announcing a node's existence • Redundancy GARP is disabled by default, and is enabled using the ip arp gratuitous arp local command. You can choose to ignore the GARPs using the ip arp gratuitous ignore command. For more information, see Cisco IOS IP Addressing Services Command Reference.
YANG Support	

Feature	Description
YANG Model Support for L2VPN Operations	The **Cisco-IOS-XE-l2vpn-oper** native model is a collection of YANG definitions for L2VPN services operational data. The leaves and lists present in the following sensor paths are now supported: • Cisco-IOS-XE-l2vpn-oper\l2vpn-oper-data\l2vpn-services\l2vpn-xconnect • Cisco-IOS-XE-l2vpn-oper\l2vpn-oper-data\l2vpn-services\l2vpn-atom-vc-info With this model, you can get the L2VPN service name, service type, interface name, peer address, status, encapsulation type, and virtual circuit ID by using a NETCONF RPC. In earlier releases, you could perform this action by using the following CLIs: • **show l2vpn service xconnect peer** *peer_id* **vcid** *vcid* • **show l2vpn atom vc** **Note** The **show l2vpn atom vc details** command is not supported in this release.

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.

Resolved Caveats – Cisco IOS XE Dublin 17.10.1

Identifier	Headline
CSCwb82994	RSTP loop can be noticed when router becomes alive.
CSCwc41135	Continuous assertion and clear of LAIS on protect channel causing IPC failure.
CSCwc25182	Synchronization Status Messaging (S1) Processing and Generation issue.
CSCwb76150	STS1e -> vt-15 -> t1 -> Difference in ifName string format for controller up/down syslog messages

Open Caveats – Cisco IOS XE Dublin 17.10.1

Identifier	Headline
CSCwc77502	ASR920 Unexpected reload due to MLDPv6
CSCwc93296	ASR-920-10SZ-PD /16.9.4/port Te0/0/10 went admin down after in successive reload
CSCwd05362	Performance issue on ASR900 platform

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