



Release Notes for Cisco NCS 520 Series Ethernet Access Device, Cisco IOS XE Amsterdam 17.2.x

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Introduction



Note

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This release notes contains information about the Cisco NCS 520 Series Ethernet Access Device, provides features information for these devices, hardware support, limitations and restrictions, and caveats.

This release notes provides information for these variants of the Cisco NCS 520 Series Ethernet Access Device:

- N520-4G4Z-A (Base)
- N520-X-4G4Z-A (Premium)
- N520-X-4G4Z-D (Premium)
- N520-20G4Z-A (Base)
- N520-20G4Z-D (Base)
- N520-X-20G4Z-A (Premium)
- N520-X-20G4Z-D (Premium)



Note

ROMMON version 1.5 is mandatory for Cisco IOS XE Amsterdam 17.1.1 and later releases. For more information see the *Upgrade to Cisco IOS XE 17.1.x* section.

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Cisco NCS 520 Series Ethernet Access Device Overview

The Cisco NCS 520 Series Ethernet Access Device is a family of low cost, fixed Carrier Ethernet Network Interface Devices (NID) and a switch that is targeted to be the next generation replacement of the Cisco ME 3400 series Access Switches. The Cisco NCS 520 Series Ethernet Access Device adds 10G NID and low-cost MBH switch to the existing Service Provider Access portfolio, with the following features:

- MEF CE 3.0 compliant
- Premium SKUs with support for extended temperature (from -40C to 65C)
- Conformal coating on the PCBAs (to be able to support installation in ventilated enclosures)

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- N520-20G4Z-D (Base)
- N520-X-20G4Z-A (Premium)
- N520-X-20G4Z-D (Premium)

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

Feature Navigator

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

Determining the Software Version

Use the following commands to verify your software version:

Consolidated Package—show version

Supported FPGA Version

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

Table 1: FPGA Versions for this release

Release	FPGA Version
Cisco IOS XE Amsterdam 17.2.1	0x00030025

Supported ROMMON Version

Table 2: Supported ROMMON Version

Supported Cisco IOS-XE Release	ROMMON Version
Cisco IOS XE Amsterdam 17.2.1	1.6

Upgrade to Cisco IOS XE 17.2.x

This section explains the procedure to upgrade the Cisco NCS 520 Series Ethernet Access Device from Cisco IOS XE Fuji 16.9.x and later to Cisco IOS XE Amsterdam 17.1.x and later.

The minimum base ROMMON version required to boot Cisco IOS XE Gibraltar 16.12.x and later release is 1.5.



Note

ROMMON version 1.5 is backward compatible. Backward compatibility is supported for the ROMMON versions for the IOS-XE versions in the following table:

Supported Cisco IOS-XE release	ROMMON Version	
16.8.x	1.2	
16.9.x		
16.11.x		
16.9.4	1.5	
16.11.2		
16.12.1 and later		
17.1.1 and later		
17.2.1 and later	1.6	

Perform the following steps to migrate to Cisco IOS XE Amsterdam 17.2.x:

Step 1 On the command prompt, run the following command to check the current ROMMON version.

State	Insert time (ago)
ok	8w5d
ok, active	8w5d
ok, active	8w5d
ok	never
ok	never
ok	never
	ok ok, active ok, active ok ok

Slot	CPLD Version	Firmware Version	mware Version	
R0	0003001E	1.2(20180810:133528) [ncs520-dev]> the ROMMON version is 1.2	(20180810:133528) [ncs520-dev]> t	2
F0	0003001E	1.2(20180810:133528) [ncs520-dev]	(20180810:133528) [ncs520-dev]	

Note Do not migrate if the ROMMON version is 1.5 or above.

Step 2 Copy the running configuration to the bootflash for backup

```
Device# copy running-config bootflash:backup_config Destination filename [backup_config]?
15549 bytes copied in 0.404 secs (38488 bytes/sec)
```

Step 3 Copy the migration image to bootflash location.

You can download the migration image from the location:

https://software.cisco.com/download/home/286320761/type/286317642/release/1.5.

```
Device# copy tftp: bootflash:
Address or name of remote host []? 10.64.99.152
Source filename []? ncs520-1.5rommon-auto-upgrade-xe.bin
Destination filename [ncs520-1.5rommon-auto-upgrade-xe.bin]?
Accessing tftp://10.64.99.152/ ncs520-1.5rommon-auto-upgrade-xe.bin...
Loading ncs520-1.5rommon-auto-upgrade-xe.bin from 10.64.99.152 (via GigabitEthernet0):!!!
```

- **Step 4** Copy the Cisco IOS XE Amsterdam 17.2.x (or later) software image to bootflash.
- **Step 5** Set the boot variable to migration image and reload the router.

```
boot system bootflash:ncs520-1.5rommon-auto-upgrade-xe.bin
```

Caution

Do not perform any power cycle or remove the power cable during the ROMMON upgrade. If there is a power loss during the upgrade, it may result in corruption of the boot image and it may require RMA of the equipment.

Step 6 Verify the ROMMON image version.

For RJ45 console: Look out for the following logs during bootup. These logs indicate successful ROMMON upgrade. After a successful ROMMON upgrade, the node auto reloads, which take at least five minutes.

```
Full Package address: 0xC79BF018 Max-Address for IOS-Pkg Allocation:0xC79BEC18
%IOSXEBOOT-4-BOOTLOADER_UPGRADE: (rp/0): ### Wed Jul 31 11:51:41 Universal 2019 PLEASE DO NOT POWER
CYCLE ### BOOT LOADER UPGRADING
%IOSXEBOOT-4-BOOTLOADER_UPGRADE: (rp/0): Boot loader golden upgrade successful
%IOSXEBOOT-4-BOOTLOADER_UPGRADE: (rp/0): Boot loader upgrade successful
%IOSXEBOOT-4-BOOTLOADER_UPGRADE: (rp/0): To activate the new Rommon , system will reload now!!!!
%IOSXEBOOT-4-BOOTLOADER_UPGRADE: (rp/0): ### After reload, PLEASE LOAD CCO IMAGE ###
N520-54-S1#show platform
Chassis type: N520-X-4G4Z-A
```

Slot	Туре	State		Insert time	e (ago)
0/0 R0	4xGE-4x10GE-FIXED N520-X-4G4Z-A	ok ok, active		00:00:51 00:03:07	
F0	1020 A 1012 H	on, accive	ok, act		00:03:07
P0	NCS520-PSU0	ok		never	
P1	NA		ok		never
P2	NCS520-FAN	ok		never	

Slot	CPLD Version	Firmware Version		
	0002001E	1 5 (20100415 101241)	[nane200 days] Natha DOMMON was in 1 E	
R0	0003001E	,	[ncs520-dev]> the ROMMON version is 1.5	
F0	0003001E	1.5(20190415:181241)	[ncs520-dev]	

For VTY Session: Wait for 30 minutes for auto upgrade to complete and the router to boot up. Reestablish the VTY session.

Device#show platform Chassis type: N520-X-4G4Z-A

Slot	Туре	State	Insert time (ago)	
0/0 R0 F0	4xGE-4x10GE-FIXED N520-X-4G4Z-A	ok ok, active	00:00:51 00:03:07	
P0 P1 P2	NCS520-PSU0 NA NCS520-FAN	ok ok ok	never never	
Slot	CPLD Version	Firmware Version		
R0 F0	0003001E 0003001E	1.5(20190415:181241) 1.5(20190415:181241)	[ncs520-dev]> the ROMMON vers	sion is 1.5

Step 7 Set the boot variable to the Cisco IOS XE Amsterdam 17.2.x image and delete the migration image from the bootflash. Reload the router to activate the Cisco IOS XE Amsterdam 17.2.x software image.

Device#conf t

Device(config) #no boot system bootflash:ncs520-1.5rommon-auto-upgrade-xe.bin
Device(config) #boot system bootflash:<CCO Image>
Device(config) #end
Device#write memory
Device#del bootflash:ncs520-1.5rommon-auto-upgrade-xe.bin

Step 8 After booting the 17.2.1 image, ROMMON and FPGA will automatically upgrade and the node will be reloaded. Once the node is up, the output will be:

Software Licensing Overview

The Cisco NCS 520 Series Ethernet Access Device supports the following types of licenses:

- Port Licensing—Port Upgrade license is available as a "Pay as you Grow" model.
 - 10G upgrade license
 - 1G upgrade license
- Metro Access (default)

The following method is used to activate the above licenses:

 Cisco Software Licensing—The Cisco Software License Activation feature is a set of processes and components to activate Cisco software feature sets by obtaining and validating fee-based Cisco software licenses.



Note

Licenses that are generated by the Cisco Software Licensing are tied to the UDI of the chassis and a corresponding watchtower device certificate (WDC) is stored in the system.

The following features are supported for the software licenses:

- QoS, with deep buffers and hierarchical QoS (HQOS)
- Layer 2: 802.1D, 802.1Q
- Ethernet Virtual Circuit (EVC)
- Ethernet OAM (802.11g, 802.3ah)
- IPv4 host connectivity
- IP Access License

Smart Licensing

If you are using Cisco IOS XE Bengaluru 17.6.1 or an earlier release version, Smart Licensing is not enabled by default. To enable Smart Licensing, see Software Activation Configuration Guide (Cisco NCS 520 Series).

Limitations and Restrictions on the Cisco NCS 520 Series Ethernet Access Device



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 interface** 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

- Adding or deleting the Trunk Ethernet flow points (TEFPs) with scaled bridge-domain, without delay causes the Cisco NCS 520 Series Ethernet Access Device to crash.
- Virtual services should be deactivated and uninstalled before performing replace operations.
- The **controller** and **nid-controller** commands are not supported.
- Cisco NCS 520 Series Ethernet Access Device displays an error in Hierarchical QoS policy while trying
 to remove the **bandwidth** and **bandwidth percent** commands from the default parent class dynamically.
 To remove the commands, you must first remove the bandwidth from child class and then from the parent
 class.
- When port is in OPER-DOWN state, applying Hierarchical QoS followed by speed change sets wrong bandwidth values on standard queues. To work around the mismatch, you must reattach the policy to the port level again.

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.

Accessibility Features in the Cisco NCS 520 Series Ethernet Access Device

For a list of accessibility features in Cisco NCS 520 Series Ethernet Access Device, 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.

Additional References

Product Information

Cisco Network Convergence System 520 Ethernet Access Device Data Sheet

Hardware Installation Guides

• Hardware Installation Guide for the Cisco NCS 520 Ethernet Access Device

Software Configuration Guides

Configuration Guides for the Cisco NCS 520 Ethernet Access Device

Regulatory Compliance and Safety Information

Regulatory Compliance and Safety Information for Cisco NCS Ethernet Access Device

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.

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MIB Support

The below tables summarize the supported MIBs on the Cisco NCS 520 Series Ethernet Access Device.

Supported Systems SNMP MIBs		
IF-MIB	CISCO-flash-mib	cisco-ENITY-ALARM

Supported Systems SNMP MIBs				
CISCO-ENTITY-EXT-MIB	CISCO-BULK-FILE-MIB	NOTIFICATION-LOG-MIB		
SNMP-COMMUNITY-MIB	CISCO-ENHANCED-MEMPOOL-MIB	CISCO-SYSLOG-MIB		
SNMP-FRAMEWORK-MIB	ENTITY-SENSOR-MIB	CISCO-CONFIG-MAN-MIB		
SNMPv2-MIB	SNMP-MPD-MIB	entity-state-mib-cisco		
CISCO-ENTITY-MIB	CISCO-ENTITY-SENSOR-MIB			

Supported Layer 2 and OAM SNMP MIBs				
DS1-MIB	CISCO-CDP-MIBCISCO-CEF-MIB			
CISCO-IPSLA-ETHERNET-MIB	CISCO-ETHER-CFM-MIB	IEEE8021-CFM-MIB		

Supported QoS SNMP MIBs		
CLASS-BASED-QOS-	CLASS-BASED-QOS-	CLASS-BASED-QOS-
POLICING-MIB	MARKING-MIB	SHAPE-MIB
CISCO-CLASS-BASED-		
QOS-MIB		



New Features

This chapter describes the new hardware and software features supported on the Cisco ASR 920 Series Routers for this release.

- Supported Hardware Features in Cisco IOS XE Amsterdam 17.2.1, on page 11
- Supported Software Features in Cisco IOS XE Amsterdam 17.2.1, on page 11

Supported Hardware Features in Cisco IOS XE Amsterdam 17.2.1

There are no hardware features supported for this release.

Supported Software Features in Cisco IOS XE Amsterdam 17.2.1

• DHCP Snooping

Dynamic Host Configuration Protocol (DHCP) Snooping is a DHCP security feature that provides network security by filtering untrusted DHCP messages and by building and maintaining a DHCP Snooping binding database, also referred to as a DHCP snooping binding table. DHCP snooping acts like a firewall between untrusted hosts and DHCP servers. DHCP Snooping is used to differentiate untrusted interfaces connected to the end user and trusted interfaces connected to the DHCP server or another router.

For more information on DHCP Snooping, see the *IP Addressing Configuration Guide, Cisco IOS XE* 17 (Cisco NCS 520 Series).

Dynamic ARP Inspection

Dynamic Address Resolution Protocol (ARP) provides IP communication within a Layer 2 broadcast domain by mapping an IP address to a MAC address. Dynamic ARP inspection also determines the validity of an ARP packet based on valid IP-to-MAC address bindings stored in a trusted database, such as the DHCP Snooping binding database.

For more information on Dynamic ARP Inspection, see the *IP Addressing Configuration Guide, Cisco IOS XE 17 (Cisco NCS 520 Series)*.

Supported Software Features in Cisco IOS XE Amsterdam 17.2.1



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, on page 13
- Open Caveats Cisco IOS XE Amsterdam 17.2.1, on page 13
- Resolved Caveats Cisco IOS XE Amsterdam 17.2.1, on page 14

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 17.2.1

There are no Open Caveats for this release.

Resolved Caveats – Cisco IOS XE Amsterdam 17.2.1

Caveat ID Number	Description
CSCvp18810	OQD drops incrementing with REP ALT ports
CSCvr25174	ZTP abort and Trivial File Transfer Protocol (TFTP) fails to download the configuration file
CSCvr25191	TFTP download time enhancement with BDI interface
CSCvr60424	PWR LED is blinking continously after upgrade to the latest image
CSCvs18938	Y1731-DMM reports a very high delay and jitter values periodically
CSCvs27183	NCS520 consumes advanced Metro IP Access licenses
CSCvs73046	Adding new VLAN causes traffic loop in REP ring