



Release Notes for Cisco NCS 520 Series Ethernet Access Device, Cisco IOS XE Cupertino 17.9.x

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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)

This release note 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 note 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)
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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.

Feature Matrix

The feature matrix lists the features supported for each platform. For more information, see the Cisco NCS 520 Ethernet Access Devices Feature Compatibility Matrix.

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).

Upgrade to Cisco IOS XE Cupertino 17.9.x

This section explains the procedure to upgrade the Cisco NCS 520 Series Ethernet Access Device from Cisco IOS XE Fuji 16.9.x to Cisco IOS XE Gibraltar 16.12.x or later versions.

ROMMON version 1.5 is backward compatible. The backward compatibility of different ROMMON versions with IOS XE versions is in the following table:

Supported Cisco IOS XE release	Supported	d ROMMON Version
Cisco IOS XE Fuji 16.8.x	1.2	
Cisco IOS XE Fuji 16.9.x		
Cisco IOS XE Gibraltar 16.11.x		
Cisco IOS XE Fuji 16.9.4 and later	1.5	
Cisco IOS XE Gibraltar 16.11.2 and later		
Cisco IOS XE Gibraltar 16.12.1 and later		
Cisco IOS XE Amsterdam 17.1.1 and later		
Cisco IOS XE Amsterdam 17.3.1 and later	1.6	
Cisco IOS XE Bengaluru 17.4.1 and later	Note	The Cisco IOS XE versions that support
Cisco IOS XE Bengaluru 17.5.1 and later		ROMMON version 1.5, are also supported for 1.6.
Cisco IOS XE Bengaluru 17.6.x and later		cupposed for the
Cisco IOS XE Cupertino 17.7.x and later		
Cisco IOS XE Cupertino 17.8.x and later		
Cisco IOS XE Cupertino 17.9.x and later		

Perform the following steps to migrate to Cisco IOS XE Cupertino 17.9.x:

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

	show platform type: N520-X-4G4Z-A		
Slot	Туре	State	Insert time (ago)
0/0 R0 F0 P0 P1 P2	4xGE-4x10GE-FIXED N520-X-4G4Z-A NCS520-PSU0 NA NCS520-FAN	ok ok, active ok, active ok ok ok	8w5d 8w5d 8w5d never never never
Slot	CPLD Version	Firmware Version	

```
R0 0003001E 1.2(20180810:133528) [ncs520-dev] --> the ROMMON version is 1.2 for 0003001E 1.2(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 a 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 Cupertino 17.9.x 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 the RJ-45 console: Check for the following logs during bootup. These logs indicate successful ROMMON upgrade. After a successful ROMMON upgrade, the node auto reloads. This action takes at least 5 minutes to complete successfully.

```
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 (ago)
0/0 R0	4xGE-4x10GE-FIXED N520-X-4G4Z-A	ok ok, active	00:00:51 00:03:07
F0 P0	NCS520-PSU0	ok, act	never
P1 P2	NA NCS520-FAN	ok ok	never
Slot	CPLD Version	Firmware Version	

```
R0 0003001E 1.5(20190415:181241) [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 (ag	10)
0/0 R0	4xGE-4x10GE-FIXED N520-X-4G4Z-A	ok ok, active	00:00:51 00:03:07	
F0 P0 P1 P2	NCS520-PSU0 NA NCS520-FAN	ok, ac ok ok ok	never never never	00:03:07
Slot	CPLD Version	Firmware Version		
R0 F0	0003001E 0003001E	1.5(20190415:181241) 1.5(20190415:181241)		the ROMMON version is 1.5

Step 7 Set the boot variable to the Cisco IOS XE Cupertino 17.9.x software image and delete the migration image from the bootflash. Reload the router to activate the Cisco IOS XE Cupertino 17.9.x software image.

```
Device#configure terminal
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 Cisco IOS XE Cupertino 17.9.x image, ROMMON and FPGA will automatically upgrade and the node is reloaded. Once the node is up, the output is displayed:

Supported Packages and System Requirements

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 Cupertino 17.9.5a	0x00030025
Cisco IOS XE Cupertino 17.9.4a	0x00030025
Cisco IOS XE Cupertino 17.9.4	0x00030025
Cisco IOS XE Cupertino 17.9.3	0x00030025
Cisco IOS XE Cupertino 17.9.2a	0x00030025
Cisco IOS XE Cupertino 17.9.1	0x00030025



Note

The FPGA automatically upgrades to **0x00030025** from Cisco IOS XE Cupertino 17.7.1 onwards.

The Cisco NCS 520 Series Ethernet Access Device will take around 210 seconds to reboot after a successful FPGA upgrade. Do not power-cycle the Ethernet Access Device during FPGA upgrade.

Supported ROMMON Version

Table 2: Supported ROMMON Version

Supported Cisco IOS XE Release	ROMMON Version	
Cisco IOS XE Cupertino 17.9.5a	1.6	
Cisco IOS XE Cupertino 17.9.4a	1.6	
Cisco IOS XE Cupertino 17.9.4	1.6	
Cisco IOS XE Cupertino 17.9.3	1.6	
Cisco IOS XE Cupertino 17.9.2a	1.6	
Cisco IOS XE Cupertino 17.9.1	1.6	



Note

ROMMON automatically upgrades to **1.6** from Cisco IOS XE Cupertino 17.7.1 onwards.

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.

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



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- What's New in Hardware for Cisco IOS XE Cupertino 17.9.4, on page 9
- What's New in Software for Cisco IOS XE Cupertino 17.9.3, on page 10
- What's New in Hardware for Cisco IOS XE Cupertino 17.9.3, on page 10
- What's New in Software for Cisco IOS XE Cupertino 17.9.2a, on page 10
- What's New in Hardware for Cisco IOS XE Cupertino 17.9.2a, on page 10
- What's New in Software for Cisco IOS XE Cupertino 17.9.1, on page 10
- What's New in Hardware for Cisco IOS XE Cupertino 17.9.1, on page 10

What's New in Software for Cisco IOS XE Cupertino 17.9.5a

There are no new software features in this release.

What's New in Hardware for Cisco IOS XE Cupertino 17.9.5a

There are no new hardware features in this release.

What's New in Software for Cisco IOS XE Cupertino 17.9.4

There are no new software features in this release.

What's New in Hardware for Cisco IOS XE Cupertino 17.9.4

There are no new hardware features in this release.

What's New in Software for Cisco IOS XE Cupertino 17.9.3

There are no new software features introduced for this release.

What's New in Hardware for Cisco IOS XE Cupertino 17.9.3

There are no new hardware features introduced for this release.

What's New in Software for Cisco IOS XE Cupertino 17.9.2a

There are no new software features introduced for this release.

What's New in Hardware for Cisco IOS XE Cupertino 17.9.2a

There are no new hardware features introduced for this release.

What's New in Software for Cisco IOS XE Cupertino 17.9.1

There are no new software features introduced for this release.

What's New in Hardware for Cisco IOS XE Cupertino 17.9.1

There are no new hardware features introduced for this release.



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 Cupertino 17.9.5a, on page 11
- Open Caveats Cisco IOS XE Cupertino 17.9.5a, on page 12
- Resolved Caveats Cisco IOS XE Cupertino 17.9.4, on page 12
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- Resolved Caveats Cisco IOS XE Cupertino 17.9.3, on page 12
- Open Caveats Cisco IOS XE Cupertino 17.9.3, on page 12
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- Resolved Caveats Cisco IOS XE Cupertino 17.9.1, on page 13
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- Cisco Bug Search Tool, on page 14

Resolved Caveats – Cisco IOS XE Cupertino 17.9.5a

There are no resolved caveats for this release.

Open Caveats – Cisco IOS XE Cupertino 17.9.5a

Identifier	Headline
CSCwc56918	NCS520:: ipv6 host functionality config fails after upgrade to latest image

Resolved Caveats - Cisco IOS XE Cupertino 17.9.4

Identifier	Headline
CSCwe53050	Misreporting Output Drops as Errors in Interface counters

Open Caveats – Cisco IOS XE Cupertino 17.9.4

There are no open caveats for this release.

Resolved Caveats - Cisco IOS XE Cupertino 17.9.3

Identifier	Headline
CSCwb77093	next hop self does changes automatically on VRF lite and ipv4
CSCwc55520	Traceback and IDB leak noticed when a RSP3 setup performs a switchover
CSCwd06972	IOS-XE 17.x - user password not saved if user attribute list is configured
CSCwd57471	Change in BGP ORF prefix-filter not being advertised from XE to XR node
CSCwd58396	NETCONF: Failed sync between Running configs and Candidate database
CSCwd66936	RSP2 UDP pseudowire stuck in Activating
CSCwe07340	Static route not programmed in CEF when more than six static routes use the same next hop ip address

Open Caveats – Cisco IOS XE Cupertino 17.9.3

Identifier	Headline
CSCwd76589	BGP On Change Notification not sent for BGP Dynamic Peers
CSCwc03907	ISIS SRLG to BGPLS export problems

Identifier	Headline
CSCwd90908	NTP packets are sent from global VRF with a source IP configured on service VRF interface

Resolved Caveats – Cisco IOS XE Cupertino 17.9.2a

Identifier	Headline
CSCwb77396	G.8032: Ring brief output doesnt display the Block port flag in Idle state
CSCwc21402	Invalid BGP update when add-paths negotiated only for label (SAFI 4) and not unicast (SAFI1)
CSCwc67367	Seeing traffic issues after clearing isis with SRTE_ODN_ISIS_Flex_Algo configs

Open Caveats – Cisco IOS XE Cupertino 17.9.2a

Identifier	Headline
CSCwc54860	EIGRP down authentication issues after upprading from 17.3 to 17.6
CSCwc03907	ISIS SRLG to BGPLS export problems
CSCwc23316	Command show snmp mib ifmib ifindex detail [IntName] truncated when it is more than 32 characters

Resolved Caveats - Cisco IOS XE Cupertino 17.9.1

Identifier	Headline
CSCwb25703	NCS520 may experience an unexpected reset when defaulting a port-channel interface
CSCwc38933	change "no negotiation auto" to "negotiation auto" after multiple power cycles

Open Caveats – Cisco IOS XE Cupertino 17.9.1

Identifier	Headline
CSCwb78907	DS3_RX_RAI is shown in both facility-alarm and facility-condition status cli

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