



## **Release Notes for Cisco NCS 520 Series Ethernet Access Device, Cisco IOS XE Bengaluru 17.6.x**

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# CHAPTER 1

## Introduction

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

- [Cisco NCS 520 Series Ethernet Access Device Overview, on page 1](#)
- [Feature Navigator, on page 2](#)
- [Feature Matrix, on page 2](#)
- [Software Licensing Overview, on page 2](#)
- [Upgrade to Cisco IOS XE Bengaluru 17.6.x, on page 3](#)
- [Supported Packages and System Requirements, on page 6](#)
- [Limitations and Restrictions on the Cisco NCS 520 Series Ethernet Access Device, on page 7](#)

## 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)

## 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.



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**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.

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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 Bengaluru 17.6.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 Cisco IOS XE Gibraltar 16.12.x to later.

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 ROMMON Version
Cisco IOS XE Fuji 16.8.x Cisco IOS XE Fuji 16.9.x Cisco IOS XE Gibraltar 16.11.x	1.2
Cisco IOS XE Fuji 16.9.4 and later 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	1.5
Cisco IOS XE Fuji 16.9.4 and later 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 Cisco IOS XE Bengaluru 17.4.1 and later Cisco IOS XE Bengaluru 17.5.1 and later Cisco IOS XE Bengaluru 17.6.x and later	1.6

Perform the following steps to migrate to Cisco IOS XE Bengaluru 17.6.x:

### Step 1

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

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

```

Slot          CPLD Version          Firmware Version
-----
R0            0003001E            1.2(20180810:133528) [ncs520-dev] --> the ROMMON version is 1.2
F0            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 Bengaluru 17.6.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 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 succesful
```

```
%IOSXEBOOT-4-BOOTLOADER_UPGRADE: (rp/0): Boot loader upgrade succesful
```

```
%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          Type          State          Insert time (ago)
-----
0/0           4xGE-4x10GE-FIXED ok              00:00:51
R0            N520-X-4G4Z-A  ok, active     00:03:07
F0                                     ok, active     00:03:07
P0            NCS520-PSU0    ok              never
P1            NA              ok              never
P2            NCS520-FAN     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      Type              State              Insert time (ago)
-----
 0/0      4xGE-4x10GE-FIXED  ok                00:00:51
R0        N520-X-4G4Z-A      ok, active        00:03:07
F0        ok, active          00:03:07
P0        NCS520-PSU0        ok                never
P1        NA                  ok                never
P2        NCS520-FAN         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]

```

- Step 7** Set the boot variable to the Cisco IOS XE Bengaluru 17.6.x software image and delete the migration image from the bootflash. Reload the router to activate the Cisco IOS XE Bengaluru 17.6.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 Bengaluru 17.6.x image, ROMMON and FPGA will automatically upgrade and the node is reloaded. Once the node is up, the output is displayed:

```

Device#show platform
Chassis type: N520-X-20G4Z-A

Slot Type State Insert time (ago)
-----
0/0 20xGE-4x10GE-FIXED ok 1w5d
R0 N520-X-20G4Z-A ok, active 1w5d
F0 ok, active 1w5d
P0 NCS520-PSU0 ps, fail never
P1 NCS520-PSU1 ok never
P2 NCS520-FAN ok never

Slot CPLD Version Firmware Version
-----
R0 00030025 1.6(20191125:124452) [ncs520-dev]
F0 00030025 1.6(20191125:124452) [ncs520-dev]

```

# 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 Bengaluru 17.6.8	0x00030025
Cisco IOS XE Bengaluru 17.6.7	0x00030025
Cisco IOS XE Bengaluru 17.6.6a	0x00030025
Cisco IOS XE Bengaluru 17.6.6	0x00030025
Cisco IOS XE Bengaluru 17.6.5	0x00030025
Cisco IOS XE Bengaluru 17.6.4	0x00030025
Cisco IOS XE Bengaluru 17.6.3	0x00030025
Cisco IOS XE Bengaluru 17.6.2	0x00030025
Cisco IOS XE Bengaluru 17.6.1	0x00030025




---

**Note** The FPGA automatically upgrades to **0x00030025** from Cisco IOS XE Bengaluru 17.6.1 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 Bengaluru 17.6.8	1.6
Cisco IOS XE Bengaluru 17.6.7	1.6
Cisco IOS XE Bengaluru 17.6.6a	1.6
Cisco IOS XE Bengaluru 17.6.6	1.6

Supported Cisco IOS XE Release	ROMMON Version
Cisco IOS XE Bengaluru 17.6.5	1.6
Cisco IOS XE Bengaluru 17.6.4	1.6
Cisco IOS XE Bengaluru 17.6.3	1.6
Cisco IOS XE Bengaluru 17.6.2	1.6
Cisco IOS XE Bengaluru 17.6.1	1.6



**Note** ROMMON automatically upgrades to **1.6** from Cisco IOS XE Bengaluru 17.6.1 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.



## CHAPTER 2

# What's New for Cisco IOS XE Bengaluru 17.6.x

This chapter describes the new hardware and software features supported on the Cisco NCS 520 Series Ethernet Devices in Cisco IOS XE Bengaluru 17.6.x.

- [What's New in Hardware for Cisco IOS XE Bengaluru 17.6.8, on page 9](#)
- [What's New in Software for Cisco IOS XE Bengaluru 17.6.8, on page 9](#)
- [What's New in Hardware for Cisco IOS XE Bengaluru 17.6.7, on page 10](#)
- [What's New in Software for Cisco IOS XE Bengaluru 17.6.7, on page 10](#)
- [What's New in Hardware for Cisco IOS XE Bengaluru 17.6.6a, on page 10](#)
- [What's New in Software for Cisco IOS XE Bengaluru 17.6.6a, on page 10](#)
- [What's New in Hardware for Cisco IOS XE Bengaluru 17.6.6, on page 10](#)
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- [What's New in Hardware for Cisco IOS XE Bengaluru 17.6.3, on page 11](#)
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- [What's New in Hardware for Cisco IOS XE Bengaluru 17.6.1, on page 11](#)
- [What's New in Software for Cisco IOS XE Bengaluru 17.6.1, on page 11](#)

## What's New in Hardware for Cisco IOS XE Bengaluru 17.6.8

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Bengaluru 17.6.8

There are no new software features in this release.

## What's New in Hardware for Cisco IOS XE Bengaluru 17.6.7

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Bengaluru 17.6.7

There are no new software features in this release.

## What's New in Hardware for Cisco IOS XE Bengaluru 17.6.6a

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Bengaluru 17.6.6a

There are no new features in this release. This release provides a fix for CSCwh87343: Cisco IOS XE Software Web UI Privilege Escalation Vulnerability. For more information, see [cisco-sa-iosxe-webui-privesc-j22SaA4z](#).

## What's New in Hardware for Cisco IOS XE Bengaluru 17.6.6

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Bengaluru 17.6.6

There are no new software features in this release.

## What's New in Hardware for Cisco IOS XE Bengaluru 17.6.5

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Bengaluru 17.6.5

There are no new software features in this release.

## What's New in Hardware for Cisco IOS XE Bengaluru 17.6.4

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Bengaluru 17.6.4

There are no new software features in this release.

## What's New in Hardware for Cisco IOS XE Bengaluru 17.6.3

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Bengaluru 17.6.3

There are no new software features in this release.

## What's New in Hardware for Cisco IOS XE Bengaluru 17.6.2

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Bengaluru 17.6.2

There are no new software features in this release.

## What's New in Hardware for Cisco IOS XE Bengaluru 17.6.1

The following optics are supported for the Cisco IOS XE Bengaluru 17.6.1 release:

- SFP-10G-ZR-S

For more information, see the [Cisco NCS 520 Series Ethernet Access Device, Feature Optics Matrix](#).

## What's New in Software for Cisco IOS XE Bengaluru 17.6.1

Feature	Description
<b>Cisco NCS 520 Series Router</b>	
<a href="#">MAC Flap Logging</a>	This feature enables you to use the <b>mac-flap-syslog-enable</b> command to log MAC flap conditions into the console to help you debug issues.
<a href="#">Support for Dying Gasp</a>	This feature enables hardware-based support of SNMP Dying Gasp for a quicker generation of SNMP Dying Gasp traps.
<a href="#">ZTP Support for LACP</a>	Zero Touch Provisioning is now supported over EtherChannel (IEEE 802.3ad Link Bundling).

Feature	Description
<b>Carrier Ethernet</b>	
<a href="#">Unicast MAC for CCM Messages</a>	Continuity Check Messages (CCM) use multicast destination MAC address by default. This feature enables you to unicast CCM messages to a specific remote MEP (RMEP) to avoid unnecessary traffic flood on the VLAN.





## 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 Bengaluru 17.6.8, on page 14](#)
- [Open Caveats – Cisco IOS XE Bengaluru 17.6.8, on page 14](#)
- [Resolved Caveats – Cisco IOS XE Bengaluru 17.6.7, on page 14](#)
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## Resolved Caveats – Cisco IOS XE Bengaluru 17.6.8

There are no resolved caveats in this release.

## Open Caveats – Cisco IOS XE Bengaluru 17.6.8

There are no open caveats in this release.

## Resolved Caveats – Cisco IOS XE Bengaluru 17.6.7

Identifier	Headline
<a href="#">CSCwh66880</a>	netconf packet punted to CPU when service policy attached to port-channel interface.

## Open Caveats – Cisco IOS XE Bengaluru 17.6.7

There are no open caveats in this release.

## Resolved Caveats – Cisco IOS XE Bengaluru 17.6.6a

Identifier	Headline
<a href="#">CSCwh87343</a>	Cisco IOS XE Software Web UI Privilege Escalation Vulnerability

## Open Caveats – Cisco IOS XE Bengaluru 17.6.6a

There are no open caveats in this release.

## Resolved Caveats – Cisco IOS XE Bengaluru 17.6.6

There are no resolved caveats in this release.

## Open Caveats – Cisco IOS XE Bengaluru 17.6.6

There are no open caveats in this release.

## Resolved Caveats – Cisco IOS XE Bengaluru 17.6.5

Caveat ID Number	Description
<a href="#">CSCwc38933</a>	NCS520 change "no negotiation auto" to "negotiation auto" after mu

## Open Caveats – Cisco IOS XE Bengaluru 17.6.5

There are no open caveats in this release.

## Resolved Caveats – Cisco IOS XE Bengaluru 17.6.4

There are no resolved caveats in this release.

## Open Caveats – Cisco IOS XE Bengaluru 17.6.4

Caveat ID Number	Description
<a href="#">CSCwc38933</a>	NCS520 change "no negotiation auto" to "negotiation auto" after mu

## Resolved Caveats – Cisco IOS XE Bengaluru 17.6.3

There are no resolved caveats in this release.

## Open Caveats – Cisco IOS XE Bengaluru 17.6.3

There are no open caveats in this release.

## Resolved Caveats – Cisco IOS XE Bengaluru 17.6.2

Caveat ID Number	Description
<a href="#">CSCvz04772</a>	SNMP DG is not sent out if the box is power cycled just after bootup

## Resolved Caveats – Cisco IOS XE Bengaluru 17.6.2 - Platform Independent

Caveat ID Number	Description
<a href="#">CSCvz66346</a>	New Bridge-Domain are not added dynamically to POCH when TEFP-encap from-bd is configured
<a href="#">CSCvz25471</a>	NSO config push failure seen due to getconf on BD gives additional value mac learning

## Open Caveats – Cisco IOS XE Bengaluru 17.6.2

There are no open caveats in this release.

## Resolved Caveats – Cisco IOS XE Bengaluru 17.6.1

Caveat ID Number	Description
<a href="#">CSCvw13768</a>	Route-map command not visible
<a href="#">CSCvw56579</a>	Malformed IPv6 frame generated randomly
<a href="#">CSCvw66719</a>	Bridge Domain Routing does not work after interface flap

## Open Caveats – Cisco IOS XE Bengaluru 17.6.1

Caveat ID Number	Description
<a href="#">CSCvz04772</a>	SNMP Dying gasp packets are not sent out during power loss intermittently

## 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/cbsshel/help.html>