Release Notes for Cisco NCS 5500 Series Routers, IOS XR Release 6.5.3

Revised: June 9, 2023

Network Convergence System 5500 Series Routers

✎
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Cisco IOS XR Release 6.5.3 contains all features released in Cisco IOS XR Release 6.5.2 and Release 6.5.1. Release 6.5.2 and Release 6.5.1 are limited availability (LA) releases.

For more information on IOS XR Release 6.5.1 features, see Release Notes for Cisco NCS 5500 Series Routers, Release 6.5.1

For more information on IOS XR Release 6.5.2 features, see Release Notes for Cisco NCS 5500 Series Routers, Release 6.5.2

Software Features Introduced in this Release

There are no new software features introduced in this release.

New Hardware Introduced in Cisco IOS XR Software Release 6.5.3

No new hardware is introduced in this release.

Supported Hardware

For a complete list of hardware and ordering information, see the *Cisco NCS 5500 Series Data Sheet*

Use the Cisco Optics-to-Device Compatibility Matrix tool to determine transceivers supported in Cisco hardware devices.

To install the Cisco NCS 5500 router, see *Hardware Installation Guide for Cisco NCS 5500 Series Routers*.

Release 6.5.3 Packages

This table lists the Cisco IOS XR Software feature set matrix (packages) with associated filenames.

Table 1: Release 6.5.3 Packages for Cisco NCS 5500 Series Router

Composite Package		
Feature Set	**Filename**	**Description**
Cisco IOS XR IP Unicast Routing Core Bundle	ncs5500-mini-x.iso	Contains base image contents that includes: • Host operating system • System Admin boot image • IOS XR boot image • BGP packages
Individually-Installable Optional Packages		
Feature Set	**Filename**	**Description**
Cisco IOS XR Manageability Package	ncs5500-mgbl-3.0.0.0-r653.x86_64.rpm	Extensible Markup Language (XML) Parser, Telemetry, Netconf, gRPC and HTTP server packages.
Cisco IOS XR MPLS Package	ncs5500-mpls-2.1.0.0-r653.x86_64.rpm ncs5500-mpls-te-rsvp-2.2.0.0-r653.x86_64.rpm	MPLS and MPLS Traffic Engineering (MPLS-TE) RPM.
Cisco IOS XR Security Package	ncs5500-k9sec-3.1.0.0-r653.x86_64.rpm	Support for Encryption, Decryption, Secure Shell (SSH), Secure Socket Layer (SSL), and Public-key infrastructure (PKI)
Cisco IOS XR ISIS package	ncs5500-isis-1.2.0.0-r653.x86_64.rpm	Support ISIS
Cisco IOS XR OSPF package	ncs5500-ospf-2.0.0.0-r653.x86_64.rpm	Support OSPF
Lawful Intercept (LI) Package	ncs5500-li-1.0.0.0-r653.x86_64.rpm	Includes LI software images
Multicast Package	ncs5500-mcast-1.0.0.0-r653.rpm	Support Multicast

Determine Software Version

Log in to the router and enter the **show version** command:

```
RP/0/RP0/CPU0:router# show version

Cisco IOS XR Software, Version 6.5.3
Copyright (c) 2013-2019 by Cisco Systems, Inc.

Build Information:
 Built By     : <username>
 Built On     : Tue Mar 26 06:46:13 PDT 2019
 Built Host   : iox-ucs-027
 Workspace    : /auto/srcarchive13/prod/6.5.3/ncs5500/ws
 Version      : 6.5.3
 Location     : /opt/cisco/XR/packages/
```

```
cisco NCS-5500 () processor
System uptime is 1 day 15 hours 1 minute
```

Caveats

Caveats describe unexpected behavior in Cisco IOS XR Software releases. Severity-1 caveats are the most critical caveats; severity-2 caveats are less critical.

Cisco IOS XR Caveats

Caveat	Description
CSCvo83125	show ssh history CLI may print warning message in syslog when SSH exceed rate limit.

Caveats Specific to the NCS 5500 Routers

Caveats describe unexpected behavior in Cisco IOS XR Software releases.

Bug ID	Headline
CSCvk00169	**show inventory raw** CLI not showing interfaces in down state and breakout interfaces for NCS-55A2-MOD
CSCvo79351	NC55-24X100G-SE: **show platform** CLI output may show slice down while all functions work.

Determine Firmware Support

Use the **show hw-module fpd** command in Admin mode to view the hardware components with their current FPD version and status. The status of the hardware must be CURRENT; Running and Programed version must be the same.

```
(sysadmin-vm)#show hw-module fpd
                                                        FPD Versions
                                                        ===============
Location  Card type          HWver FPD device     ATR Status    Run   Programd
--------------------------------------------------------------------------------
0/0       NC55-36X100G-S     1.1   MIFPGA             CURRENT    0.07  0.07
0/0       NC55-36X100G-S     1.1   Bootloader         CURRENT    1.14  1.14
0/0       NC55-36X100G-S     1.1   IOFPGA             CURRENT    0.11  0.11
0/0       NC55-36X100G-S     1.1   SATA               CURRENT    5.00  5.00
0/1       NC55-36X100G       1.1   MIFPGA             CURRENT    0.09  0.09
0/1       NC55-36X100G       1.1   Bootloader         CURRENT    1.19  1.19
0/1       NC55-36X100G       1.1   IOFPGA             CURRENT    0.15  0.15
0/1       NC55-36X100G       1.1   SATA               CURRENT    5.00  5.00
0/2       NC55-36X100G-S     0.4   MIFPGA             CURRENT    0.07  0.07
0/2       NC55-36X100G-S     0.4   Bootloader         CURRENT    1.14  1.14
0/2       NC55-36X100G-S     0.4   IOFPGA             CURRENT    0.11  0.11
0/2       NC55-36X100G-S     0.4   SATA               CURRENT    5.00  5.00
0/4       NC55-36X100G-A-SE  1.0   MIFPGA             CURRENT    0.03  0.03
0/4       NC55-36X100G-A-SE  1.0   Bootloader         CURRENT    0.14  0.14
0/4       NC55-36X100G-A-SE  1.0   DBFPGA             CURRENT    0.14  0.14
0/4       NC55-36X100G-A-SE  1.0   IOFPGA             CURRENT    0.21  0.21
0/4       NC55-36X100G-A-SE  1.0   SATA               CURRENT    5.00  5.00
0/5       NC55-36X100G-S     1.1   MIFPGA             CURRENT    0.07  0.07
```

```
0/5        NC55-36X100G-S   1.1   Bootloader      CURRENT    1.14    1.14
0/5        NC55-36X100G-S   1.1   IOFPGA          CURRENT    0.11    0.11
0/5        NC55-36X100G-S   1.1   SATA            CURRENT    5.00    5.00
0/6        NC55-24H12F-SE   1.0   MIFPGA          CURRENT    0.03    0.03
0/6        NC55-24H12F-SE   1.0   Bootloader      CURRENT    1.14    1.14
0/6        NC55-24H12F-SE   1.0   IOFPGA          CURRENT    0.09    0.09
0/6        NC55-24H12F-SE   1.0   SATA            CURRENT    5.00    5.00
0/7        NC55-6X200-DWDM-S 2.2  CFP2_PORT_0     CURRENT    5.23    5.23
0/7        NC55-6X200-DWDM-S 2.2  CFP2_PORT_2     CURRENT    5.23    5.23
0/7        NC55-6X200-DWDM-S 0.0  DENALI0         CURRENT    13.48   13.48
0/7        NC55-6X200-DWDM-S 0.0  DENALI1         CURRENT    13.48   13.48
0/7        NC55-6X200-DWDM-S 0.0  DENALI2         CURRENT    13.48   13.48
0/7        NC55-6X200-DWDM-S 0.0  MORGOTH         CURRENT    5.25    5.25
0/7        NC55-6X200-DWDM-S 0.0  MSFPGA0         CURRENT    2.22    2.22
0/7        NC55-6X200-DWDM-S 0.0  MSFPGA1         CURRENT    2.22    2.22
0/7        NC55-6X200-DWDM-S 0.0  MSFPGA2         CURRENT    2.22    2.22
0/7        NC55-6X200-DWDM-S 1.0  Bootloader      CURRENT    1.14    1.14
0/7        NC55-6X200-DWDM-S 1.0  IOFPGA          CURRENT    0.11    0.11
0/7        NC55-6X200-DWDM-S 1.0  SATA            CURRENT    5.00    5.00
0/RP0      NC55-RP          1.1   Bootloader      CURRENT    9.29    9.29
0/RP0      NC55-RP          1.1   IOFPGA          CURRENT    0.09    0.09
0/RP1      NC55-RP          1.1   Bootloader      CURRENT    9.29    9.29
0/RP1      NC55-RP          1.1   IOFPGA          CURRENT    0.09    0.09
0/FC0      NC55-5508-FC     1.2   Bootloader      CURRENT    1.74    1.74
0/FC0      NC55-5508-FC     1.2   IOFPGA          CURRENT    0.16    0.16
0/FC1      NC55-5508-FC     1.2   Bootloader      CURRENT    1.74    1.74
0/FC1      NC55-5508-FC     1.2   IOFPGA          CURRENT    0.16    0.16
0/FC2      NC55-5508-FC     1.2   Bootloader      CURRENT    1.74    1.74
0/FC2      NC55-5508-FC     1.2   IOFPGA          CURRENT    0.16    0.16
0/FC3      NC55-5508-FC     1.2   Bootloader      CURRENT    1.74    1.74
0/FC3      NC55-5508-FC     1.2   IOFPGA          CURRENT    0.16    0.16
0/FC4      NC55-5508-FC     1.2   Bootloader      CURRENT    1.74    1.74
0/FC4      NC55-5508-FC     1.2   IOFPGA          CURRENT    0.16    0.16
0/FC5      NC55-5508-FC     1.2   Bootloader      CURRENT    1.74    1.74
0/FC5      NC55-5508-FC     1.2   IOFPGA          CURRENT    0.16    0.16
0/SC0      NC55-SC          1.4   Bootloader      CURRENT    1.74    1.74
0/SC0      NC55-SC          1.4   IOFPGA          CURRENT    0.10    0.10
0/SC1      NC55-SC          1.4   Bootloader      CURRENT    1.74    1.74
0/SC1      NC55-SC          1.4   IOFPGA          CURRENT    0.10    0.10
```

Note   The FPD versions on board shipped by manufacturer may have higher versions than the FPD package integrated in the IOS XR.

Other Important Information

- After you run the **show tech ofa** command, the system prints the **easy_debug_ltrace** syslog message on the console. However, there is no functional impact on the router.

- The total number of bridge-domains (2*BDs) and GRE tunnels put together should not exceed 1518.

  Here the number 1518 represents the multi-dimensional scale value.

- MLD Snooping is not supported until Cisco IOS XR Release 6.5.3. The support will be available in future releases.

- The maximum number of Bridge-Domains that are supported in Release 6.5.3 is 250. However, the **show l2vpn capability** command displays the maximum number of BD supported as 750, which will be available in a future release.

- The offline diagnostics functionality is not supported in NCS 5500 platform. Therefore, the **hw-module service offline location** command will not work. However, you can use the **(sysadmin)# hw-module shutdown location** command to bring down the LC.

- The warning message that the smart licensing evaluation period has expired is displayed in the console every hour. There is, however, no functionality impact on the device. The issue is seen on routers that do not have the Flexible Consumption licensing model enabled. To stop the repetitive messaging, register the device with the smart licensing server and enable the Flexible Consumption model. Later load a new registration token.

  To register the device with the smart licensing server, follow the instructions provided in this link: Register and Activate Your Device.

  However, if you do not want to enable the Flexible Consumption licensing model then install the CSCvk45026 SMU to stop the repetitive messages.

Supported Transceiver Modules

To determine the transceivers that Cisco hardware device supports, refer to the Transceiver Module Group (TMG) Compatibility Matrix tool.

Supported Modular Port Adapters

For the compatibility details of Modular Port Adapters (MPAs) on the line cards, see the datasheet of that specific line card.

Upgrading Cisco IOS XR Software

Cisco IOS XR Software is installed and activated from modular packages, allowing specific features or software patches to be installed, upgraded, or downgraded without affecting unrelated processes. Software packages can be upgraded or downgraded on all supported card types, or on a single card (node).

Related Documentation

The most current Cisco Network Convergence System 5500 Series documentation is located at this URL:

http://www.cisco.com/c/en/us/support/routers/network-convergence-system-5500-series/tsd-products-support-series-home.html

The document containing Cisco IOS XR System Error Messages (SEM) is located at this URL:

https://www.cisco.com/c/en/us/td/docs/ios_xr_sw/error/message/ios-xr-sem-guide.html

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For information on production SMU types, refer the Production SMU Types section of the IOS XR Software Maintenance Updates (SMUs) guide.

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