Release Notes for Cisco NCS 560 Series Routers, Cisco IOS XR Release 6.6.25

Revised: July 22, 2022

Network Convergence System 560 Series Routers

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System Requirements

All Cisco IOS XR Release Features from XR 6.0.0 - 6.6.1 are now available in general availability release IOS XR 6.6.25 for the NCS 560 router

Release 6.6.25 Packages

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

Table 1: : Release 6.6.25 Packages for Cisco NCS 560 Series Router

Composite Package		
Feature Set	**Filename**	**Description**
Cisco IOS XR IP Unicast Routing Core Bundle	ncs560-mini-x-6.6.25.iso	Contains base image contents that includes: • Host operating system • System Admin boot image • IOS XR boot image • BGP packages • OS • Admin • Base • Forwarding • Modular Services Card • Routing • SNMP Agent • Alarm Correlation
Cisco IOS XR Manageability Package	ncs560-mgbl-2.0.0.0-r6625.x86_64.rpm	Telemetry, Extensible Markup Language (XML), Parser, and HTTP server packages, NETCONF, YANG Models, gRPC.
Cisco IOS XR OSPF package	ncs560-ospf-1.0.0.0-r6625.x86_64.rpm	Supports OSPF
Cisco IOS XR Security Package	ncs560-k9sec-2.0.0.0-r6625.x86_64.rpm	Support for Encryption, Decryption, Secure Shell (SSH), Secure Socket Layer (SSL), and Public-key infrastructure (PKI)
Multicast Package	ncs560-mcast-2.0.0.0-r6625.x86_64.rpm	Supports Multicast Supports Automatic Multicast Tunneling (AMT), IGMP Multicast Listener Discovery (MLD), Multicast Source Discovery Protocol (MSDP) and PIM.
Cisco IOS XR ISIS package	ncs560-isis-2.0.0.0-r6625.x86_64.rpm	Supports Intermediate System to Intermediate System (IS-IS).
Cisco IOS XR USB Boot Package	ncs560-usb_boot-6.6.25.zip	Supports Cisco IOS XR USB Boot Package

Composite Package		
Feature Set	**Filename**	**Description**
Cisco IOS XR MPLS Package	ncs560-mpls-1.0.0.0-r6625.x86_64.rpm ncs560-mpls-te-rsvp-2.0.0.0-r6625.x86_64.rpm	Supports MPLS and MPLS Traffic Engineering (MPLS-TE) RPM. Label Distribution Protocol (LDP), MPLS Forwarding, MPLS Operations, Administration, and Maintenance (OAM), Link Manager Protocol (LMP), Optical User Network Interface (OUNI) and Layer-3 VPN. Cisco IOS XR MPLS-TE and RSVP Package MPLS Traffic Engineering (MPLS-TE) and Resource Reservation Protocol (RSVP).

Determine Software Version

To verfiy the software version running on the router, use the **show version** command in the EXEC mode.

```
RP/0/RP0/CPU0:router# show version
Wed May 29 22:22:28.639 IST
Cisco IOS XR Software, Version 6.6.25
Copyright (c) 2013-2019 by Cisco Systems, Inc.

Build Information:
 Built By     : <username>
 Built On     : Wed May 29 06:42:35 PDT 2019
 Built Host   : iox-lnx-030
 Workspace    : /auto/srcarchive13/prod/6.6.25/ncs560/ws
 Version      : 6.6.25
 Location     : /opt/cisco/XR/packages/

cisco NCS-560 () processor
System uptime is 44 minutes

RP/0/RP0/CPU0:Router# show install active
Wed May 29 22:22:34.534 IST
Node 0/RP0/CPU0 [RP]
  Boot Partition: xr_lv783
  Active Packages: 8
        ncs560-xr-6.6.25 version=6.6.25 [Boot image]
        ncs560-mcast-2.0.0.0-r6625
        ncs560-mpls-1.0.0.0-r6625
        ncs560-mgbl-2.0.0.0-r6625
        ncs560-ospf-1.0.0.0-r6625
        ncs560-mpls-te-rsvp-2.0.0.0-r6625
        ncs560-isis-2.0.0.0-r6625
        ncs560-k9sec-2.0.0.0-r6625 s

RP/0/RP1/CPU0 [RP]
  Boot Partition: xr_lv783
  Active Packages: 8
        ncs560-xr-6.6.25 version=6.6.25 [Boot image]
        ncs560-mcast-2.0.0.0-r6625
        ncs560-mpls-1.0.0.0-r6625
```

```
ncs560-mgbl-2.0.0.0-r6625
ncs560-ospf-1.0.0.0-r6625
ncs560-mpls-te-rsvp-2.0.0.0-r6625
ncs560-isis-2.0.0.0-r6625
ncs560-k9sec-2.0.0.0-r6625
```

Determine Firmware Support

Use the **show fpd package** command in Admin mode to view the hardware components with their current FPD version and status.

```
RP/0/RP0/CPU0:Router# show fpd package
Wed May 29 22:22:46.043 IST
```

Card Type	FPD Description	Req Reload	SW Ver	Min Req SW Ver	Min Req Board Ver
				Field Programmable Device Package	
A900-IMA8CS1Z-CC	IMFPGA	YES	1.76	1.76	0.0
A900-IMA8CS1Z-M	IMFPGA	YES	1.76	1.76	0.0
A900-IMA8Z	IMFPGA	YES	17.02	17.02	0.0
A900-IMA8Z-CC	IMFPGA	YES	17.02	17.02	0.0
A900-PWR1200-A	DCA-PriMCU(A)	NO	0.11	0.11	0.0
	DCA-SecMCU(A)	NO	1.04	1.04	0.0
A900-PWR1200-D	DCA-PriMCU(A)	NO	2.04	0.04	0.0
	DCA-SecMCU(A)	NO	2.04	0.04	0.0
N560-4-FAN-H	PSOC(A)	NO	2.160	2.160	0.0
N560-4-FAN-H-CC	PSOC(A)	NO	2.160	2.160	0.0
N560-4-PWR-FAN	PSOC(A)	NO	2.192	2.192	0.0
N560-4-PWR-FAN-CC	PSOC(A)	NO	2.192	2.192	0.0
N560-4-RSP4	ADM(A)	NO	1.04	1.04	0.0
	IOFPGA(A)	YES	0.53	0.53	0.0
	PRIMARY-BIOS(A)	YES	0.14	0.14	0.0
N560-4-RSP4-CC	ADM(A)	NO	1.04	1.04	0.0
	IOFPGA(A)	YES	0.53	0.53	0.0
	PRIMARY-BIOS(A)	YES	0.14	0.14	0.0
N560-4-RSP4E	ADM(A)	NO	1.04	1.04	0.0
	IOFPGA(A)	YES	0.53	0.53	0.0
	PRIMARY-BIOS(A)	YES	0.14	0.14	0.0
N560-4-RSP4E-CC	ADM(A)	NO	1.04	1.04	0.0
	IOFPGA(A)	YES	0.53	0.53	0.0
	PRIMARY-BIOS(A)	YES	0.14	0.14	0.0
N560-FAN-H	PSOC(A)	NO	2.02	2.02	0.0
N560-IMA2C-CC	IMFPGA	YES	3.04	3.04	0.0
N560-RSP4	ADM(A)	NO	1.04	1.04	0.0
	IOFPGA(A)	YES	0.53	0.53	0.0

```
                    PRIMARY-BIOS(A)              YES    0.14   0.14   0.0
------------------------------------------------------------------------------
N560-RSP4-E         ADM(A)                       NO     1.04   1.04   0.0
                    IOFPGA(A)                    YES    0.53   0.53   0.0
                    PRIMARY-BIOS(A)              YES    0.14   0.14   0.0
------------------------------------------------------------------------------
NCS560-IMA2C        IMFPGA                       YES    3.04   3.04   0.0
```

Use the **show hw-module fpd** command in EXEC 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.

```
RP/0/RP0/CPU0:Router# show hw-module fpd
                                                   FPD Versions
                                                   =================
Location   Card type         HWver FPD device     ATR Status    Running Programd
-------------------------------------------------------------------------------
0/3        A900-IMA8CS1Z-M   0.0   IMFPGA             CURRENT    1.76    1.76
0/4        A900-IMA8Z        0.0   IMFPGA             CURRENT   17.02   17.02
0/5        A900-IMA8Z        0.0   IMFPGA             CURRENT   17.02   17.02
0/7        N560-IMA2C        0.0   IMFPGA             CURRENT    3.04    3.04
0/9        N560-IMA2C        0.0   IMFPGA             CURRENT    3.04    3.04
0/10       A900-IMA8Z        0.0   IMFPGA             CURRENT   17.02   17.02
0/11       A900-IMA8Z        0.0   IMFPGA             CURRENT   17.02   17.02
0/12       NCS4200-1T16G-PS  0.0   IMFPGA             CURRENT    1.76    1.76
0/13       A900-IMA8CS1Z-M   0.0   IMFPGA             CURRENT    1.76    1.76
0/15       A900-IMA8CS1Z-M   0.0   IMFPGA             CURRENT    1.76    1.76
0/RP0      N560-RSP4-E       0.0   ADM                CURRENT    1.04    1.04
0/RP0      N560-RSP4-E       0.0   IOFPGA             CURRENT    0.53    0.53
0/RP0      N560-RSP4-E       0.0   PRIMARY-BIOS       CURRENT    0.14    0.14
0/RP1      N560-RSP4-E       0.0   ADM                CURRENT    1.04    1.04
0/RP1      N560-RSP4-E       0.0   IOFPGA             CURRENT    0.53    0.53
0/RP1      N560-RSP4-E       0.0   PRIMARY-BIOS       CURRENT    0.14    0.14
0/PM1      A900-PWR1200-A    0.0   PriMCU             NOT READY  0.00    0.00
0/PM1      A900-PWR1200-A    0.0   SecMCU             NOT READY  0.00    0.00
0/PM2      A900-PWR1200-A    0.0   PriMCU             NOT READY  0.00    0.00
0/PM2      A900-PWR1200-A    0.0   SecMCU             NOT READY  0.00    0.00
RP/0/RP0/CPU0:RSP4-R1-PE1#
```

New Hardware Features Introduced in IOS XR Release 6.6.25

The following hardware are introduced in this release:

- Chassis: Cisco NCS 560-4 Router

- Plenum: N560-4-F2B-AIR-U=

- Router Switch Processors: N560-4-RSP4 and N560-4-RSP4E

- Master Fan Tray: N560-4-PWR-FAN

- Slave Fan Tray: N560-4-FAN-H

- DC Power Supply: N560-PWR1200-D-E

- Interface Module: 2x100G Interface module (N560-IMA2C N560-IMA2C-CC)

For more information, see the *Cisco NCS 560-4 Router Hardware Installation Guide*.

Supported Optics

The following optics are supported on the Cisco NCS 560 Series router in this release:

- GLC-BX-D
- GLC-BX-U
- GLC-2BX-D
- GLC-2BX-D-I
- GLC-BX40-D-I
- GLC-BX40-DA-I
- GLC-BX40-U-I
- SFP-GE-L
- SFP-GE-S
- SFP-GE-Z
- GLC-SX-MMD
- GLC-LH-SMD
- GLC-ZX-SMD
- RCO12SV1-IITiS1M
- GLC-BX80-DI
- GLC-BX80-UI
- SFP-10G-SR-S
- SFP-10G-LR-S
- SFP-10G-LR-S
- SFP-10G-ZR-S
- SFP-10G-SR
- SFP-10G-LR
- SFP-10G-ER
- SFP-10G-ZR
- SFP-10G-SR-X
- SFP-10G-LR-X
- ONS-SC+-10G-LR
- DWDM-SFP10G-C
- ONS-SC+-10GEPxx.x
- SFP-10G-BXU-I

- SFP-10G-BX40-DI
- SFP-10G-BX40-UI
- QSFP-100G-LR4-S
- QSFP-100G-SR4-S
- QSFP-100G-CWDM4-S
- QSFP-100G-SM-SR
- QSFP-100G-ER4L-S
- QSFP-100G-PSM4-S
- SFP-10G-LR
- SFP-10G-ER
- SFP-10G-ZR
- SFP-10G-SR
- SFP-10G-BX40D-I
- SFP-10G-BX40U-I
- SFP-10G-BXD-I
- GLC-LX-SM-RGD

New Software Features Introduced in IOS XR Release 6.6.25

For more information on IOS XR Release 6.6.25 or previous release content, see Release Notes for Cisco NCS 5500 Series Routers.

For more information on IOS XR 6.6.25 configuration, see *Configuration Guides for NCS 560 Series Routers*

For information on supported software features in release 6.6.25, see the following documentation:

- BGP Configuration Guide for Cisco NCS 560 Series Routers, IOS XR Release 6.6.x
- Interface Hardware Configuration Guide for Cisco NCS 560 Series Routers, IOS XR Release 6.6.x
- IP Addresses and Services Configuration Guide for Cisco NCS 560 Series Routers, IOS XR Release 6.6.x
- L2VPN and Ethernet Services Configuration Guide for Cisco NCS 560 Series Routers, IOS XR Release 6.6.x
- L3VPN Configuration Guide for Cisco NCS 560 Series Routers, IOS XR Release 6.6.x
- Modular QoS Configuration Guide for Cisco NCS 560 Series Routers, Cisco IOS XR Release 6.6.x
- MPLS Configuration Guide for Cisco NCS 560 Series Routers, Cisco IOS XR Release 6.6.x
- Multicast Configuration Guide for Cisco NCS 560 Series Routers, Cisco IOS XR Release 6.6.x
- Network Synchronization Configuration Guide for Cisco NCS 560 Series Routers, Cisco IOS XR Release 6.6.x
- Programmability Configuration Guide for Cisco NCS 560 Series Routers, Cisco IOS XR Release 6.6.x
- Routing Configuration Guide for Cisco NCS 560 Series Routers, IOS XR Release 6.6.x

- Segment Routing Configuration Guide for Cisco NCS 560 Series Routers, IOS XR Release 6.6.x

- System Management Configuration Guide for Cisco NCS 560 Series Routers, IOS XR Release 6.6.x

- System Monitoring Configuration Guide for Cisco NCS 560 Series Routers, IOS XR Release 6.6.x

- System Security Configuration Guide for Cisco NCS 560 Series Routers, IOS XR Release 6.6.x

- System Setup and Software Installation Guide for Cisco NCS 560 Series Routers, IOS XR Release 6.6.x

- Telemetry Configuration Guide for Cisco NCS 560 Series Routers, IOS XR Release 6.6.x

Supported MIBs

The Cisco NCS 5500 MIB support list is also applicable to the Cisco NCS 560 Series Routers. For the list of supported MIBs, see the Cisco NCS5500 MIB Support List.

Behavior Change Introduced in this release

Deprecated Commands

- From this release onwards the **interface tunnel-te** *tunnel-id* **path-option pref {dynamic|explicit} segment-routing** command is deprecated. Configure Segment Routing Traffic Engineering (SR-TE) using the **segment-routing traffic-eng** command.

  For more information on the SR-TE commands and configurations, see the *Segment Routing Command Reference* and *Segment Routing Configuration Guide for Cisco NCS 560 Series Routers*.

RPKI Prefix Validation

Starting from Cisco IOS XR Release 6.5.1, origin-as validation is disabled by default, you must enable it per address family.

See Configure BGP Prefix Validation

Restrictions and Limitations on the Cisco NCS 560 Series Router

- The **show inventory** and the **show diagnostic** commands do not display the fan serial number.

- The **hw-module profile mfib statistics** command is not supported.

- Ensure that the ISIS hello interval-timer value is not greater than six seconds, otherwise it may result in an ISIS adjacency flap.

- Do not use the Cisco N560-RSP4 and Cisco N560-RSP4-E route processors together in the same router.

Caveats

This section 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.

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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 IOS XR Caveats Release 6.6.25

Caveat ID Number	Description
CSCvj78189	Support for NSR
CSCvj90954	PD support BLB and Multihop BFD
CSCvk74189	NCS560 HA support for command hw-module location all bootmedia network reload
CSCvf72720	Graceful handling of IM removal in IMFPGA
CSCvo34852	Premature EOD to GRID is causing temporary traffic drop
CSCvp98330	High variable latency is observed on the Cisco A900-IMA8CS1Z-M interface module (IM) when shut, no shut commands are executed, or when the IM Online insertion or removal is performed
CSCvp84100	High two way time error on 8x10G DPFPGA and Non DPFPGA port combination
CSCvn99774	FPD upgrade does not work with the auto FPD upgrade command

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Cisco Bug Search Tool

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