



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

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Revised: March 31, 2021

# 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**

<b>Composite Package</b>		
<b>Feature Set</b>	<b>Filename</b>	<b>Description</b>
Cisco IOS XR IP Unicast Routing Core Bundle	ncs560-mini-x-6.6.25.iso	<p>Contains base image contents that includes:</p> <ul style="list-style-type: none"> <li>• Host operating system</li> <li>• System Admin boot image</li> <li>• IOS XR boot image</li> <li>• BGP packages</li> <li>• OS</li> <li>• Admin</li> <li>• Base</li> <li>• Forwarding</li> <li>• Modular Services Card</li> <li>• Routing</li> <li>• SNMP Agent</li> <li>• Alarm Correlation</li> </ul>
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	<p>Supports Multicast</p> <p>Supports Automatic Multicast Tunneling (AMT), IGMP Multicast Listener Discovery (MLD), Multicast Source Discovery Protocol (MSDP) and PIM.</p>
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 verify 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

```

```

=====
                                Field Programmable Device Package
                                =====
Card Type           FPD Description           Req   SW   Min Req  Min Req
                        Reload Ver   SW Ver   Board Ver
=====
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
```

Location	Card type	HWver	FPD device	ATR Status	FPD Versions	
					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.

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## Cisco IOS XR Caveats Release 6.6.25

Caveat ID Number	Description
<a href="#">CSCvj78189</a>	Support for NSR
<a href="#">CSCvj90954</a>	PD support BLB and Multihop BFD
<a href="#">CSCvk74189</a>	NCS560 HA support for command hw-module location all bootmedia network reload
<a href="#">CSCvf72720</a>	Graceful handling of IM removal in IMFPGA
<a href="#">CSCvo34852</a>	Premature EOD to GRID is causing temporary traffic drop
<a href="#">CSCvp98330</a>	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
<a href="#">CSCvp84100</a>	High two way time error on 8x10G DPFPGA and Non DPFPGA port combination
<a href="#">CSCvn99774</a>	FPD upgrade does not work with the auto FPD upgrade command

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## **Cisco Bug Search Tool**

[Cisco Bug Search Tool](#) (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.





**Americas Headquarters**  
Cisco Systems, Inc.  
San Jose, CA 95134-1706  
USA

**Asia Pacific Headquarters**  
CiscoSystems(USA)Pte.Ltd.  
Singapore

**Europe Headquarters**  
CiscoSystemsInternationalBV  
Amsterdam,TheNetherlands

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