



Release Notes for Cisco NCS 560 Series Routers, Cisco IOS XR Release 24.2.21

[What's New in Cisco IOS XR Release 24.2.21](#) 2

[Caveats](#) 2

[Release Package](#) 2

[Determine Software Version](#) 4

[Determine Firmware Support](#) 4

[Important Notes](#) 7

Revised: May 2, 2025

What's New in Cisco IOS XR Release 24.2.21

Cisco IOS XR Release 24.2.21 is a service pack release for Cisco NCS 560 Series routers. There are no new software features or hardware introduced in this release.

For more details on the Cisco IOS XR release model and associated support, see [Guidelines for Cisco IOS XR Software](#).

Caveats

There are no caveats for this release.

Release Package

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

Visit the [Cisco Software Download page](#) to download the Cisco IOS XR Service Pack.

Table 1: Release 24.2.21 Packages for Cisco NCS 560 Series Router

Composite Package		
Feature Set	Filename	Description
Cisco IOS XR IP Unicast Routing Core Bundle	ncs560-mini-x-24.2.21.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

Composite Package		
Feature Set	Filename	Description
Cisco IOS XR Manageability Package	ncs560-mgbl-1.0.0.0-r24221.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-r24221.x86_64.rpm	Supports OSPF
Cisco IOS XR Security Package	ncs560-k9sec-1.0.0.0-r24221.x86_64.rpm	k9sec is needed for IPsec or MACsec and Dot1x and for basic crypto services such as Decryption, Secure Shell (SSH), Secure Socket Layer (SSL), and Public-key infrastructure (PKI).
Multicast Package	ncs560-mcast-1.0.0.0-r24221.x86_64.rpm	Supports Multicast Supports Automatic Multicast Tunneling (AMT), IGMP Multicast Listener Discovery (MLD), Multicast Label Distribution Protocol (MLDP), Multicast Source Discovery Protocol (MSDP) and PIM.
Cisco IOS XR ISIS package	ncs560-isis-1.0.0.0-r24221.x86_64.rpm	Supports Intermediate System to Intermediate System (IS-IS).
Cisco IOS XR USB Boot Package	ncs560-usb_boot-24.2.21.zip	Supports Cisco IOS XR USB Boot Package
Cisco IOS XR MPLS Package	ncs560-mpls-1.0.0.0-r24221.x86_64.rpm ncs560-mpls-te-rsvp-1.0.0.0-r24221.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).
Cisco IOS XR LI Package	ncs560-li-1.0.0.0-r24221.x86_64.rpm	Lawful Intercept
Cisco IOS XR EIGRP Package	ncs560-eigrp-1.0.0.0-r24221.x86_64.rpm	(Optional) Includes EIGRP protocol support software

Determine Software Version

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

```
RP/0/RP0/CPU0:Router#show version
Fri May  2 13:27:23.873 IST
Cisco IOS XR Software, Version 24.2.21
Copyright (c) 2013-2025 by Cisco Systems, Inc.

Build Information:
  Built By      : swtools
  Built On     : Wed Apr 30 18:32:52 PDT 2025
  Built Host   : iox-ucs-002
  Workspace    : /auto/srcarchive10/prod/24.2.21/ncs560/ws
  Version      : 24.2.21
  Location     : /opt/cisco/XR/packages/
  Label        : 24.2.21-iso

cisco NCS-560 () processor
System uptime is 58 minutes
```

Determine Firmware Support

Log in to the router and enter the **show fpd package** command to know the release image.

```
RP/0/RP0/CPU0:Router#show fpd package
Fri May  2 13:27:48.998 IST

=====
                        Field Programmable Device Package
=====
Card Type          FPD Description          Req   SW   Min Req   Min Req
=====          =====          =====
Card Type          FPD Description          Reload Ver   SW Ver   Board Ver
=====          =====          =====
A900-IMA-8Z-L-CC    IMFPGA                      YES    1.50    1.50    0.0
-----
A900-IMA8CS1Z-CC    IMFPGA                      YES    1.115  1.115  0.0
-----
A900-IMA8CS1Z-M     IMFPGA                      YES    1.115  1.115  0.0
-----
A900-IMA8Z          IMFPGA                      YES    17.05  17.05  0.0
-----
A900-IMA8Z-CC       IMFPGA                      YES    17.05  17.05  0.0
-----
A900-IMA8Z-L        IMFPGA                      YES    1.50   1.50   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      LIT-PrimCU (A)              NO     1.27   1.27   0.0
                   LIT-SecMCU (A)              NO     1.27   1.27   0.0
-----
A900-PWR900-D2      LIT-PrimCU (A)              NO     1.82   1.82   0.0
                   LIT-SecMCU (A)              NO     1.84   1.84   0.0
-----
A907-FAN-E          PSOC (A)                    NO     1.65   1.65   0.0
                   PSOC (A)                    NO     1.66   1.66   0.4
```

A907-FAN-H	PSOC (A)	NO	1.65	1.65	0.0
ASR914-F2B-FAN	PSOC (A)	NO	44.08	44.08	0.0
N560-4-FAN-H	PSOC (A)	NO	177.02	177.02	0.0
N560-4-FAN-H-CC	PSOC (A)	NO	177.02	177.02	0.0
N560-4-FAN-H-R	PSOC (A)	NO	177.02	177.02	0.0
N560-4-PWR-FAN	PSOC (A)	NO	177.08	177.08	0.0
N560-4-PWR-FAN-CC	PSOC (A)	NO	177.08	177.08	0.0
N560-4-PWR-FAN-R	PSOC (A)	NO	177.08	177.08	0.0
N560-4-RSP4	ADM (A)	NO	1.06	1.06	0.0
	IOFPGA (A)	YES	0.69	0.69	0.0
	PRIMARY-BIOS (A)	YES	0.24	0.24	0.0
	SATA (A)	NO	2.30	2.30	0.0
	SATA_MAR (A)	NO	1.30	1.30	0.0
	SATA_MAR_B4 (A)	NO	1.10	1.10	0.0
	SATA_SMI (A)	NO	1.10	1.10	0.0
N560-4-RSP4-CC	ADM (A)	NO	1.06	1.06	0.0
	IOFPGA (A)	YES	0.69	0.69	0.0
	PRIMARY-BIOS (A)	YES	0.24	0.24	0.0
	SATA (A)	NO	2.30	2.30	0.0
	SATA_MAR (A)	NO	1.30	1.30	0.0
	SATA_MAR_B4 (A)	NO	1.10	1.10	0.0
	SATA_SMI (A)	NO	1.10	1.10	0.0
N560-4-RSP4E	ADM (A)	NO	1.06	1.06	0.0
	IOFPGA (A)	YES	0.69	0.69	0.0
	PRIMARY-BIOS (A)	YES	0.24	0.24	0.0
	SATA (A)	NO	2.30	2.30	0.0
	SATA_MAR (A)	NO	1.30	1.30	0.0
	SATA_MAR_B4 (A)	NO	1.10	1.10	0.0
	SATA_SMI (A)	NO	1.10	1.10	0.0
N560-4-RSP4E-CC	ADM (A)	NO	1.06	1.06	0.0
	IOFPGA (A)	YES	0.69	0.69	0.0
	PRIMARY-BIOS (A)	YES	0.24	0.24	0.0
	SATA (A)	NO	2.30	2.30	0.0
	SATA_MAR (A)	NO	1.30	1.30	0.0
	SATA_MAR_B4 (A)	NO	1.10	1.10	0.0
	SATA_SMI (A)	NO	1.10	1.10	0.0
N560-FAN-H	PSOC (A)	NO	2.02	2.02	0.0
N560-IMA-8Q/4L	IMFPGA	YES	1.27	1.27	0.0
N560-IMA1W	CFP2-D-DCO	NO	38.27397	38.27397	0.0
	CFP2-DE-DCO	NO	38.27397	38.27397	0.0
	CFP2-DET-DCO	NO	38.27397	38.27397	0.0
	CFP2-DETS-DCO	NO	38.27397	38.27397	0.0
	CFP2-DS-DCO	NO	38.27397	38.27397	0.0
	CFP2-DS100-DCO	NO	38.27397	38.27397	0.0
	IMFPGA	YES	1.28	1.28	0.0
N560-IMA2C	IMFPGA	YES	6.06	6.06	0.0
N560-IMA2C-CC	IMFPGA	YES	6.06	6.06	0.0

N560-IMA2C-DD	IMFPGA	YES	1.28	1.28	0.0
	QDD_100_BRT_FW_P0	NO	70.130	70.130	0.0
	QDD_100_BRT_FW_P1	NO	70.130	70.130	0.0
	QDD_100_FW_P0	NO	61.23	61.23	0.0
	QDD_100_FW_P1	NO	61.23	61.23	0.0
	QDD_400_ZRP_FW_P0	NO	161.24	161.24	0.0
	QDD_400_ZRP_FW_P1	NO	161.24	161.24	0.0
N560-IMA2C-L	IMFPGA	YES	1.28	1.28	0.0
N560-PWR1200-D-E	QCS-PrimCU (A)	NO	1.82	1.82	0.0
	QCS-SecMCU (A)	NO	1.84	1.84	0.0
N560-RSP4	ADM (A)	NO	1.06	1.06	0.0
	IOFPGA (A)	YES	0.80	0.80	0.0
	PRIMARY-BIOS (A)	YES	0.24	0.24	0.0
	SATA (A)	NO	2.30	2.30	0.0
	SATA_MAR (A)	NO	1.30	1.30	0.0
	SATA_MAR_B4 (A)	NO	1.10	1.10	0.0
	SATA_SMI (A)	NO	1.10	1.10	0.0
N560-RSP4-E	ADM (A)	NO	1.06	1.06	0.0
	IOFPGA (A)	YES	0.80	0.80	0.0
	PRIMARY-BIOS (A)	YES	0.24	0.24	0.0
	SATA (A)	NO	2.30	2.30	0.0
	SATA_MAR (A)	NO	1.30	1.30	0.0
	SATA_MAR_B4 (A)	NO	1.10	1.10	0.0
	SATA_SMI (A)	NO	1.10	1.10	0.0
NCS4200-1T16G-PS	IMFPGA	YES	1.115	1.115	0.0
NCS4200-2H-PQ	IMFPGA	YES	6.06	6.06	0.0
NCS4200-8T-PS	IMFPGA	YES	17.05	17.05	0.0
NCS4216-F2B-FAN	PSOC (A)	NO	44.08	44.08	0.0
NCS4216-RSP-800	ADM (A)	NO	1.06	1.06	0.0
	IOFPGA (A)	YES	0.02	0.02	0.0
	PRIMARY-BIOS (A)	YES	0.24	0.24	0.0
	SATA (A)	NO	2.30	2.30	0.0
	SATA_MAR (A)	NO	1.30	1.30	0.0
	SATA_MAR_B4 (A)	NO	1.10	1.10	0.0
	SATA_SMI (A)	NO	1.10	1.10	0.0

Log in to the router and enter the **show hw-module fpd** command to know the current version.

```
RP/0/RP0/CPU0:Router#show hw-module fpd
Fri May 2 13:27:30.340 IST
```

Auto-upgrade:Disabled

			FPD Versions			
			=====			
Location	Card type	HWver	FPD device	ATR Status	Running	Programd
0/0	A900-IMA8CS1Z-M	0.0	IMFPGA	CURRENT	1.115	1.115
0/2	A900-IMA8CS1Z-M	0.0	IMFPGA	CURRENT	1.115	1.115
0/4	A900-IMA8Z	0.0	IMFPGA	CURRENT	17.05	17.05
0/5	A900-IMA8Z	0.0	IMFPGA	CURRENT	17.05	17.05
0/7	N560-IMA2C	0.0	IMFPGA	CURRENT	6.06	6.06
0/9	N560-IMA2C-DD	0.0	IMFPGA	CURRENT	1.28	1.28
0/10	A900-IMA8Z-L	0.0	IMFPGA	CURRENT	1.50	1.50
0/11	N560-IMA-8Q/4L	0.0	IMFPGA	CURRENT	1.27	1.27

0/RP0	N560-RSP4-E	0.0	ADM	CURRENT	1.06	1.06
0/RP0	N560-RSP4-E	0.0	IOFPGA	CURRENT	0.80	0.80
0/RP0	N560-RSP4-E	0.0	PRIMARY-BIOS	CURRENT	0.24	0.24
0/RP0	N560-RSP4-E	0.0	SATA	CURRENT	2.30	2.30
0/RP1	N560-RSP4-E	0.0	ADM	CURRENT	1.06	1.06
0/RP1	N560-RSP4-E	0.0	IOFPGA	CURRENT	0.80	0.80
0/RP1	N560-RSP4-E	0.0	PRIMARY-BIOS	CURRENT	0.24	0.24
0/RP1	N560-RSP4-E	0.0	SATA	CURRENT	2.30	2.30
0/FT0	N560-FAN-H	1.0	PSOC	CURRENT	2.02	2.02

Important Notes

Supported Transceiver Modules

For more information on the supported transceiver modules, see [Transceiver Module Group \(TMG\) Compatibility Matrix](#). In the **Begin your Search** search box, enter the keyword NCS560 and click **Enter**.

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).

The upgrade document for Cisco NCS 560 router is available along with the software image in *NCS560_Upgrade_MOP_24.2.21.tar* file.

Production Software Maintenance Updates (SMUs)

A production SMU is a SMU that is formally requested, developed, tested, and released. Production SMUs are intended for use in a live network environment and are formally supported by the Cisco TAC and the relevant development teams. Software bugs identified through software recommendations or Bug Search Tools are not a basis for production SMU requests.

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

Related Documentation

The most current Cisco NCS 560 router documentation is located at the following URL:

<https://www.cisco.com/c/en/us/td/docs/iosxr/ncs-560-series-routers.html>

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

All printed copies and duplicate soft copies of this document are considered uncontrolled. See the current online version for the latest version.

Cisco has more than 200 offices worldwide. Addresses and phone numbers are listed on the Cisco website at www.cisco.com/go/offices.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: <https://www.cisco.com/c/en/us/about/legal/trademarks.html>. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1721R)

© 2025 Cisco Systems, Inc. All rights reserved.



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

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

Europe Headquarters
CiscoSystemsInternationalBV
Amsterdam,TheNetherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.