Release Notes for Cisco NCS 560 Series Routers, Cisco IOS XR Release 7.7.2

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What's New in Cisco IOS XR Release 7.7.2

Cisco IOS XR Release 7.7.2 is a maintenance release for Cisco NCS 560 Series routers. There are no new Hardware or Software features introduced in this release.

For more details on the Cisco IOS XR release model and associated support, see Guidelines for Cisco IOS XR Software.

New in Documentation

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 software images.

Table 1: Release 7.7.2 Packages for Cisco NCS 560 Series Router

Composite Package		
Feature Set	**Filename**	**Description**
Cisco IOS XR IP Unicast Routing Core Bundle	ncs560-mini-x-7.7.2.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-r772.x86_64.rpm	Telemetry, Extensible Markup Language (XML), Parser, and HTTP server packages, NETCONF, YANG Models, gRPC.
Cisco IOS XR OSPF package	ncs560-ospf-2.0.0.0-r772.x86_64.rpm	Supports OSPF
Cisco IOS XR Security Package	ncs560-k9sec-2.0.0.0-r772.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-r772.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.

Composite Package		
Feature Set	**Filename**	**Description**
Cisco IOS XR ISIS package	ncs560-isis-2.0.0.0-r772.x86_64.rpm	Supports Intermediate System to Intermediate System (IS-IS).
Cisco IOS XR USB Boot Package	ncs560-usb_boot-7.7.2.zip	Supports Cisco IOS XR USB Boot Package
Cisco IOS XR MPLS Package	ncs560-mpls-1.0.0.0-r772.x86_64.rpm ncs560-mpls-te-rsvp-2.0.0.0-r772.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-r772.x86_64.rpm	Lawful Intercept
Cisco IOS XR EIGRP Package	ncs560-eigrp-1.0.0.0-r772.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:R3_PE3_RSP4#show version
Cisco IOS XR Software, Version 7.7.2
Copyright (c) 2013-2022 by Cisco Systems, Inc.

Build Information:
 Built By     : ingunawa
 Built On     : Wed Oct 26 12:00:12 PDT 2022
 Built Host   : iox-ucs-030
 Workspace    : /auto/srcarchive14/prod/7.7.2/ncs560/ws
 Version      : 7.7.2
 Location     : /opt/cisco/XR/packages/
 Label        : 7.7.2

cisco NCS-560 () processor
System uptime is 1 hour 23 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:R3_PE3_RSP4#show fpd package
================================ ============================================
                                        Field Programmable Device Package
                                 ============================================
                                           Req     SW      Min Req   Min Req
Card Type            FPD Description       Reload  Ver     SW Ver  Board Ver
================== ========================= ====== ======= ======== =========
------------------------------------------------------------------------------
A900-IMA8CS1Z-CC     IMFPGA                 YES     1.113     1.113     0.0
------------------------------------------------------------------------------
A900-IMA8CS1Z-M      IMFPGA                 YES     1.113     1.113     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     1.49      1.49      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      2.04      0.04      0.0
                     LIT-SecMCU(A)          NO      1.23      1.23      0.0
------------------------------------------------------------------------------
A907-FAN-E           PSOC(A)                NO      1.65      1.65      0.0
                     PSOC(A)                NO      1.66      1.66      0.4
------------------------------------------------------------------------------
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     0.67      0.67      0.0
                     PRIMARY-BIOS(A)        YES     0.21      0.21      0.0
                     SATA(A)                NO      2.10      2.10      0.0
                     SATA_MAR(A)            NO      1.30      1.30      0.0
------------------------------------------------------------------------------
N560-4-RSP4-CC       ADM(A)                 NO      1.06      1.06      0.0
                     IOFPGA(A)              YES     0.67      0.67      0.0
                     PRIMARY-BIOS(A)        YES     0.21      0.21      0.0
                     SATA(A)                NO      2.10      2.10      0.0
                     SATA_MAR(A)            NO      1.30      1.30      0.0
------------------------------------------------------------------------------
N560-4-RSP4E         ADM(A)                 NO      1.06      1.06      0.0
                     IOFPGA(A)              YES     0.67      0.67      0.0
                     PRIMARY-BIOS(A)        YES     0.21      0.21      0.0
                     SATA(A)                NO      2.10      2.10      0.0
                     SATA_MAR(A)            NO      1.30      1.30      0.0
------------------------------------------------------------------------------
N560-4-RSP4E-CC      ADM(A)                 NO      1.06      1.06      0.0
```

```
                    IOFPGA(A)                 YES     0.67      0.67      0.0
                    PRIMARY-BIOS(A)           YES     0.21      0.21      0.0
                    SATA(A)                   NO      2.10      2.10      0.0
                    SATA_MAR(A)               NO      1.30      1.30      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_FW_P0             NO    161.10    161.10      0.0
                    QDD_100_FW_P1             NO    161.10    161.10      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     0.78      0.78      0.0
                    PRIMARY-BIOS(A)           YES     0.21      0.21      0.0
                    SATA(A)                   NO      2.10      2.10      0.0
                    SATA_MAR(A)               NO      1.30      1.30      0.0
--------------------------------------------------------------------------------
N560-RSP4-E         ADM(A)                    NO      1.06      1.06      0.0
                    IOFPGA(A)                 YES     0.78      0.78      0.0
                    PRIMARY-BIOS(A)           YES     0.21      0.21      0.0
                    SATA(A)                   NO      2.10      2.10      0.0
                    SATA_MAR(A)               NO      1.30      1.30      0.0
--------------------------------------------------------------------------------
NCS4200-1T16G-PS    IMFPGA                    YES     1.113     1.113     0.0
--------------------------------------------------------------------------------
NCS4200-2H-PQ       IMFPGA                    YES     6.06      6.06      0.0
--------------------------------------------------------------------------------
NCS4200-8T-PS       IMFPGA                    YES    17.05     17.05      0.0
```

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

```
RP/0/RP0/CPU0:R3_PE3_RSP4#show hw-module fpd
Auto-upgrade:Enabled
                                                                 FPD Versions
                                                                 ==============
Location   Card type              HWver FPD device       ATR Status    Running   Programd
--------------------------------------------------------------------------------------
0/1        A900-IMA8CS1Z-M       0.0   IMFPGA              CURRENT     1.113     1.113
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-IMA1W            66.32 CFP2-DE-DCO         CURRENT    38.27397  38.27397
0/7        N560-IMA1W            0.0   IMFPGA              CURRENT     1.28      1.28
0/9        N560-IMA2C            0.0   IMFPGA              CURRENT     6.06      6.06
0/10       A900-IMA8Z            0.0   IMFPGA              CURRENT    17.05     17.05
0/11       N560-IMA-8Q/4L        0.0   IMFPGA              CURRENT     1.27      1.27
0/13       A900-IMA8Z            0.0   IMFPGA              CURRENT    17.05     17.05
```

```
0/15        A900-IMA8CS1Z-M       0.0    IMFPGA                CURRENT     1.113      1.113
0/RP0       N560-RSP4-E           0.0    ADM                   CURRENT     1.06       1.06
0/RP0       N560-RSP4-E           0.0    IOFPGA                CURRENT     0.78       0.78
0/RP0       N560-RSP4-E           0.0    PRIMARY-BIOS          CURRENT     0.21       0.21
0/RP0       N560-RSP4-E           0.0    SATA                  CURRENT     2.10       2.10
0/RP1       N560-RSP4-E           0.0    ADM                   CURRENT     1.06       1.06
0/RP1       N560-RSP4-E           0.0    IOFPGA                CURRENT     0.78       0.78
0/RP1       N560-RSP4-E           0.0    PRIMARY-BIOS          CURRENT     0.21       0.21
0/RP1       N560-RSP4-E           0.0    SATA                  CURRENT     2.10       2.10
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_7.7.2.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/support/routers/network-convergence-system-560-series-routers/products-installation-and-configuration-guides-list.html