



## **Release Notes for Cisco NCS 540 Series Routers, Cisco IOS XR Release 7.11.21**

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# What's New in Cisco IOS XR Release 7.11.21

Cisco IOS XR Release 7.11.21 is a service pack release for Cisco NCS 540 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](#).

## Restrictions and Limitations on the Cisco NCS 540 Series Router

- Autonegotiation is disabled by default on the fixed GigE - 0/0/0/0 - 0/0/0/4 copper ports of N540X-16Z4G8Q2C-A/D and N540X-12Z16G-SYS-A/D router variants. To enable autonegotiation, use the **negotiation auto** command.
- If you're migrating from previous XR versions, then you must enable autonegotiation for fixed copper ports using the **negotiation auto** command before performing the software upgrade to avoid any links going down.

## IOS XR Base Images and Optional Packages

For more information on system setup and software installation process, see [System Setup and Software Installation Guide for Cisco NCS 540 Series Routers](#).

For general and ordering information see:

- [Cisco Network Convergence System 540 Fronthaul Routers Data Sheet](#)
- [Cisco Network Convergence System 540 Large Density Router Data Sheet](#)
- [Cisco Network Convergence System 540 Medium Density Routers Data Sheet](#)
- [Cisco Network Convergence System 540 Small Density Router Data Sheet](#)

To install the Cisco NCS 540 Series Routers, see [Cisco NCS 540 Router Hardware Installation Guide](#).

## Release 7.11.21 Software

The following tables list the supported base images and optional packages and their corresponding file names.

- The first table lists the supported software for N540-24Z8Q2C-SYS, N540-ACC-SYS, and N540X-ACC-SYS variants.
- The second table lists the supported software for N540-24Q8L2DD-SYS, N540X-16Z4G8Q2C-A/D, N540-28Z4C-SYS-A/D, N540X-12Z16G-SYS-A/D, N540-12Z20G-SYS-A/D, N540-FH-CSR-SYS, N540X-16Z8Q2C-D and N540-FH-AGG-SYS variants.
- The third table lists the supported software for N540X-4Z14G2Q-A/D, N540X-8Z16G-SYS-A/D, N540-6Z14S-SYS-D, N540-6Z18G-SYS-A/D, and N540X-6Z18G-SYS-A/D variants.

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

**Table 1: Release 7.11.21 Software for N540-24Z8Q2C-SYS, N540-ACC-SYS, and N540X-ACC-SYS**

Base Image	Filename	Description
IOS XR Base Image	ncs540-mini-x-7.11.21.iso	IOS XR mandatory base image.
USB Boot Package	ncs540-usb_boot-7.11.21.zip	Package required to perform USB Boot. Includes the same packages as the base image.
<b>Optional Packages not included in the base image</b>		
Package	Filename	Description
IOS XR Manageability	ncs540-mgbl-1.0.0.0-r71121.x86_64.rpm	Supports Extensible Markup Language (XML) Parser, Telemetry, Netconf, gRPC and HTTP server
IOS XR MPLS	ncs540-mpls-1.0.0.0-r71121.x86_64.rpm ncs540-mpls-te-rsvp-1.0.0.0-r71121.x86_64.rpm	Supports MPLS and MPLS Traffic Engineering (MPLS-TE)
IOS XR Security	ncs540-k9sec-1.0.0.0-r71121.x86_64.rpm	Supports MACsec and 802.1X
IOS XR ISIS	ncs540-isis-1.0.0.0-r71121.x86_64.rpm	Supports ISIS
IOS XR OSPF	ncs540-ospf-1.0.0.0-r71121.x86_64.rpm	Supports OSPF
IOS XR Lawful Intercept	ncs540-li-1.0.0.0-r71121.x86_64.rpm	Supports Lawful Intercept (LI)
IOS XR Multicast	ncs540-mcast-1.0.0.0-r71121.x86_64.rpm	Supports Multicast
IOS XR EIGRP	ncs540-eigrp-1.0.0.0-r71121.x86_64.rpm	Supports EIGRP
IOS XR LI-CTRL	ncs540-lictrl-1.0.0.0-r71121.x86_64.rpm	Supports LI-CTRL

**Table 2: Release 7.11.21 Software for N540-24Q8L2DD-SYS, N540X-16Z4G8Q2C-A/D, N540-28Z4C-SYS-A/D, N540X-12Z16G-SYS-A/D, N540-12Z20G-SYS-A/D, N540-FH-CSR-SYS, N540X-16Z8Q2C-D and N540-FH-AGG-SYS**

Base Image	Filename	Description
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IOS XR Base Image	ncs540l-x64-7.11.21.iso	<p>IOS XR base image with mandatory packages.</p> <p>The base ISO image also includes the following optional packages:</p> <ul style="list-style-type: none"> <li>• xr-bgp</li> <li>• xr-cdp</li> <li>• xr-eigrp</li> <li>• xr-ipsla</li> <li>• xr-is-is</li> <li>• xr-k9sec</li> <li>• xr-lictrl</li> <li>• xr-lldp</li> <li>• xr-mcast</li> <li>• xr-mpls-oam</li> <li>• xr-netflow</li> <li>• xr-ospf</li> <li>• xr-perf-meas</li> <li>• xr-perfmgmt</li> <li>• xr-rip</li> <li>• xr-telnet</li> <li>• xr-track</li> </ul> <p>These optional packages are also included in NCS540l-iosxr-7.11.21.tar.</p>
USB Boot Package	ncs540l-usb_boot-7.11.21.zip	<p>Package required to perform USB Boot.</p> <p>Includes the same packages as the base image.</p>

**Optional Packages not included in the base image**

Package	Filename	Description
IOS XR Telnet (xr-telnet)	NCS540l-iosxr-7.11.21.tar	Supports Telnet
IOS XR EIGRP (xr-eigrp)	NCS540l-iosxr-7.11.21.tar	Supports EIGRP
IOS XR CDP (xr-cdp)	NCS540l-iosxr-7.11.21.tar	Supports CDP
IOS XR k9sec (xr-k9sec)	NCS540l-k9sec-rpms.7.11.21.tar	Supports 802.1X
IOS XR RIP (xr-rip)	NCS540l-iosxr-7.11.21.tar	Supports RIP

**Table 3: Release 7.11.21 Software for N540X-4Z14G2Q-A/D, N540X-8Z16G-SYS-A/D, N540-6Z14S-SYS-D, N540-6Z18G-SYS-A/D, and N540X-6Z18G-SYS-A/D**

<b>Base Image</b>	<b>Filename</b>	<b>Description</b>
IOS XR Base Image	ncs540l-aarch64-7.11.21.iso	<p>IOS XR base image with mandatory packages.</p> <p>The ISO image also includes the following optional packages:</p> <ul style="list-style-type: none"> <li>• xr-bgp</li> <li>• xr-cdp</li> <li>• xr-eigrp</li> <li>• xr-ipsla</li> <li>• xr-is-is</li> <li>• xr-k9sec</li> <li>• xr-lictrl</li> <li>• xr-lldp</li> <li>• xr-mcast</li> <li>• xr-mpls-oam</li> <li>• xr-ncs540l-mcast</li> <li>• xr-ncs540l-netflow</li> <li>• xr-netflow</li> <li>• xr-ospf</li> <li>• xr-perf-meas</li> <li>• xr-perfmgmt</li> <li>• xr-rip</li> <li>• xr-telnet</li> <li>• xr-track</li> </ul> <p>These optional packages are also included in NCS540l aarch64 iosxr optional rpms-7.11.21.tar.</p>
USB Boot Package	ncs540l-aarch64-usb_boot-7.11.21.zip	<p>Package required to perform USB Boot.</p> <p>Includes the same packages as the base image.</p>
<b>Optional Packages not included in the base image</b>		
<b>Package</b>	<b>Filename</b>	<b>Description</b>

IOS XR Telnet (xr-telnet)	NCS540l-aarch64-iosxr-optional-rpms-7.11.21.tar	Supports Telnet
IOS XR EIGRP (xr-eigrp)	NCS540l-aarch64-iosxr-optional-rpms-7.11.21.tar	Supports EIGRP
IOS XR CDP (xr-cdp)	NCS540l-aarch64-iosxr-optional-rpms-7.11.21.tar	Supports CDP
IOS XR k9sec (xr-k9sec)	NCS540l-aarch64-k9sec-rpms.7.11.21.tar	Supports 802.1X
IOS XR RIP (xr-rip)	NCS540l-aarch64-iosxr-optional-rpms-7.11.21.tar	Supports RIP

## Determine Software Version

Log in to the router and enter the **show version** command on the N540-24Z8Q2C-SYS, N540-ACC-SYS, and N540X-ACC-SYS variants:

```
RP/0/RP0/CPU0:Router#show version
Cisco IOS XR Software, Version 7.11.21
Copyright (c) 2013-2024 by Cisco Systems, Inc.

Build Information:
  Built By      : swtools
  Built On     : Thu Oct 17 00:01:25 PDT 2024
  Built Host   : iox-ucs-101
  Workspace    : /auto/srcarchive10/prod/7.11.21/ncs540/ws
  Version      : 7.11.21
  Location     : /opt/cisco/XR/packages/
  Label       : 7.11.21
```

```
cisco NCS-540 () processor
System uptime is 37 minutes
```

Log in to the router and enter the **show version** command on the N540X-16Z4G8Q2C-A/D, N540-28Z4C-SYS-A/D, N540X-12Z16G-SYS-A/D, and N540-12Z20G-SYS-A/D variants:

```
RP/0/RP0/CPU0:Router#show version
Cisco IOS XR Software, Version 7.11.21 LNT
Copyright (c) 2013-2024 by Cisco Systems, Inc.

Build Information:
  Built By      : swtools
  Built On     : Thu Oct 17 05:26:51 UTC 2024
  Build Host   : iox-ucs-053
  Workspace    : /auto/srcarchive10/prod/7.11.21/ncs540l/ws/
  Version      : 7.11.21
  Label       : 7.11.21
```

```
cisco NCS540L (C3708 @ 1.70GHz)
cisco N540X-16Z4G8Q2C-A (C3708 @ 1.70GHz) processor with 8GB of memory
R11_PE5_EG uptime is 16 hours, 22 minutes
Cisco NCS 540 System with 16x10G+4x1Gcu+8x25G+2x100G AC Chassis
```

Log in to the router and enter the **show version** command on the N540X-8Z16G-SYS-A/D, N540-6Z18G-SYS-A/D, N540-6Z14S-SYS-D, N540X-4Z14G2Q-A/D, and N540X-6Z18G-SYS-A/D variants:

```
RP/0/RP0/CPU0:Router#show version
Cisco IOS XR Software, Version 7.11.21 LNT
Copyright (c) 2013-2024 by Cisco Systems, Inc.
```

```
Build Information:
```

```
Built By      : swtools
Built On     : Fri Mar 29 19:18:18 UTC 2024
Build Host   : iox-lnx-157
Workspace    : /auto/srcarchive11/prod/7.11.21/ncs5401-aarch64/ws/
Version      : 7.11.21
Label       : 7.11.21
```

```
cisco NCS540L
cisco N540X-6Z18G-SYS-A processor with 8GB of memory
PE5_540L uptime is 7 minutes
Cisco NCS 540 Series Fixed Router 18x1G, 6x1/10G, AC
```

Log in to the router and enter the **show version** command on the N540-24Q8L2DD-SYS variant:

```
RP/0/RP0/CPU0:Router#show version
Cisco IOS XR Software, Version 7.11.21 LNT
Copyright (c) 2013-2024 by Cisco Systems, Inc.
```

Build Information:

```
Built By      : swtools
Built On     : Thu Mar 28 06:07:06 UTC 2024
Build Host   : iox-lnx-157
Workspace    : /auto/srcarchive11/prod/7.11.21/ncs5401/ws/
Version      : 7.11.21
Label       : 7.11.21
```

```
cisco NCS540L (D1519 @ 1.50GHz)
cisco N540-24Q8L2DD-SYS (D1519 @ 1.50GHz) processor with 16GB of memory
R18_PE9_Arches uptime is 1 hour, 55 minutes
Cisco NCS540 Series, Fixed Router 2x400G, 8x50G, 24x25G Chassis
```

Log in to the router and enter the **show version** command on the N540-FH-CSR-SYS variant:

```
RP/0/RP0/CPU0:Router#show version
Cisco IOS XR Software, Version 7.11.21 LNT
Copyright (c) 2013-2024 by Cisco Systems, Inc.
```

Build Information:

```
Built By      : swtools
Built On     : Thu Mar 28 06:07:06 UTC 2024
Build Host   : iox-lnx-157
Workspace    : /auto/srcarchive11/prod/7.11.21/ncs5401/ws/
Version      : 7.11.21
Label       : 7.11.21
```

```
cisco NCS540L (C3708 @ 1.70GHz)
cisco N540-FH-CSR-SYS (C3708 @ 1.70GHz) processor with 8GB of memory
JAGUAR_APE12 uptime is 8 minutes
Cisco NCS 540 FH with 8xCPRI+4xCPRI/10G+8x10G+6x25G+2x100G
```

## Determine Firmware Support

Use the show 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. The Golden FPDs with “NEED UPGD” can be ignored, the Golden FPDs are not upgradable.

Log in to the router and enter the **show fpd package** and **show hw-module fpd** commands on the Cisco N540-24Z8Q2C-SYS, N540X-ACC-SYS, and N540-ACC-SYS variants:



**Note** If the **Req Reload** field is mentioned as **Yes** in the output, then it indicates the need for a router reboot for the FPD's latest version to take effect.

RP/0/RP0/CPU0:Router# show fpd package

```
=====
                          Field Programmable Device Package
                          =====
Card Type                FPD Description                Req   SW   Min Req   Min Req
                          Reload Ver   SW Ver   Board Ver
=====
N540-24Z8Q2C-M          Bootloader                YES   1.16   1.16     0.0
                          CPU-IOFPGA                YES   0.10   0.10     0.0
                          MB-IOFPGA                 YES   0.28   0.28     0.0
                          SATA-INTEL_240G           NO    1132.00 1132.00   0.0
                          SATA-INTEL_480G           NO    1132.00 1132.00   0.0
                          SATA-M1100                NO    50.00   50.00    0.0
                          SATA-M500IT-MC            NO    3.00    3.00     0.0
                          SATA-M500IT-MU-A          NO    5.00    5.00     0.0
                          SATA-M500IT-MU-B          NO    4.00    4.00     0.0
                          SATA-M5100                NO    75.00   75.00    0.0
                          SATA-M600-MCT            NO    5.00    5.00     0.0
                          SATA-M600-MU              NO    6.00    6.00     0.0
                          SATA-Micron               NO    1.00    1.00     0.0
                          SATA-SMART-128G         NO   1427.00 1427.00   0.0
-----
N540-ACC-SYS            Bootloader                YES   1.16   1.16     0.0
                          CPU-IOFPGA                YES   0.10   0.10     0.0
                          MB-IOFPGA                 YES   0.28   0.28     0.0
                          SATA-INTEL_240G           NO    1132.00 1132.00   0.0
                          SATA-INTEL_480G           NO    1132.00 1132.00   0.0
                          SATA-M1100                NO    50.00   50.00    0.0
                          SATA-M500IT-MC            NO    3.00    3.00     0.0
                          SATA-M500IT-MU-A          NO    5.00    5.00     0.0
                          SATA-M500IT-MU-B          NO    4.00    4.00     0.0
                          SATA-M5100                NO    75.00   75.00    0.0
                          SATA-M600-MCT            NO    5.00    5.00     0.0
                          SATA-M600-MU              NO    6.00    6.00     0.0
                          SATA-Micron               NO    1.00    1.00     0.0
                          SATA-SMART-128G         NO   1427.00 1427.00   0.0
-----
N540-PWR400-A           LIT-PrimMCU-ACFW         NO    0.04   0.04     0.0
                          LIT-SecMCU-ACFW         NO    0.07   0.07     0.0
-----
N540-PWR400-D           LIT-PrimMCU-DCFW         NO    0.04   0.04     0.0
                          LIT-SecMCU-DCFW         NO    0.06   0.06     0.0
                          SDG-PrimMCU-DCFW         NO    1.03   1.03     0.0
                          SDG-SecMCU-DCFW         NO    1.03   1.03     0.0
-----
N540-X-24Z8Q2C-M       Bootloader                YES   1.16   1.16     0.0
                          CPU-IOFPGA                YES   0.10   0.10     0.0
                          MB-IOFPGA                 YES   0.28   0.28     0.0
                          SATA-INTEL_240G           NO    1132.00 1132.00   0.0
                          SATA-INTEL_480G           NO    1132.00 1132.00   0.0
                          SATA-M1100                NO    50.00   50.00    0.0
                          SATA-M500IT-MC            NO    3.00    3.00     0.0
                          SATA-M500IT-MU-A          NO    5.00    5.00     0.0
                          SATA-M500IT-MU-B          NO    4.00    4.00     0.0
                          SATA-M5100                NO    75.00   75.00    0.0
                          SATA-M600-MCT            NO    5.00    5.00     0.0
                          SATA-M600-MU              NO    6.00    6.00     0.0
                          SATA-Micron               NO    1.00    1.00     0.0
=====
```



	SATA-SMART-128G	NO	1427.00	1427.00	0.0
N540X-ACC-SYS	Bootloader	YES	1.16	1.16	0.0
	CPU-IOFPGA	YES	0.10	0.10	0.0
	MB-IOFPGA	YES	0.28	0.28	0.0
	SATA-INTEL_240G	NO	1132.00	1132.00	0.0
	SATA-INTEL_480G	NO	1132.00	1132.00	0.0
	SATA-M1100	NO	50.00	50.00	0.0
	SATA-M500IT-MC	NO	3.00	3.00	0.0
	SATA-M500IT-MU-A	NO	5.00	5.00	0.0
	SATA-M500IT-MU-B	NO	4.00	4.00	0.0
	SATA-M5100	NO	75.00	75.00	0.0
	SATA-M600-MCT	NO	5.00	5.00	0.0
	SATA-M600-MU	NO	6.00	6.00	0.0
	SATA-Micron	NO	1.00	1.00	0.0
	SATA-SMART-128G	NO	1427.00	1427.00	0.0

```
RP/0/RP0/CPU0:Router# show hw-module fpd
Auto-upgrade:Enabled
```

Location	Card type	HWver	FPD device	ATR Status	FPD Versions	
					Run	Program
0/RP0	N540-24Z8Q2C-M	1.0	Bootloader	CURRENT	1.17	1.17
0/RP0	N540-24Z8Q2C-M	1.0	CPU-IOFPGA	CURRENT	0.10	0.10
0/RP0	N540-24Z8Q2C-M	1.0	MB-IOFPGA	CURRENT	0.28	0.28
0/RP0	N540-24Z8Q2C-M	1.0	SATA-M500IT-MU-B	CURRENT	4.00	4.00

Log in to the router and enter the **show fpd package** and **show hw-module fpd** commands on the Cisco N540-28Z4C-SYS-A/D, N540-12Z20G-SYS-A/D, N540X-12Z16G-SYS-A/D, N540X-16Z8Q2C-D, and N540X-16Z4G8Q2C-A/D variants:

```
RP/0/RP0/CPU0:Router# show fpd package
```

```
=====
Field Programmable Device Package
=====
```

Card Type	FPD Description	Req Reload	SW Ver	Min Req SW Ver	Min Req Board Ver
N540-12Z20G-SYS-A	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
N540-12Z20G-SYS-D	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
N540-24Q8L2DD-SYS	ADM-DBConfig	NO	2.05	2.05	0.0
	ADM-MBConfig	NO	2.05	2.05	0.0
	IoFpga	YES	2.12	2.12	0.0
	IoFpgaGolden	YES	2.12	2.12	0.0

	Primary-BIOS	YES	4.07	4.07	0.0
	SsdSAMSA64G3	YES	12.41	12.41	0.0
	StdbyFpga	YES	2.59	2.59	0.0
	StdbyFpgaGolden	YES	2.56	2.39	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540-28Z4C-SYS-A	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	JMAC1-Config	YES	3.00	3.00	0.0
	JMAC2-Config	YES	3.00	3.00	0.0
	JMAC3-Config	YES	3.00	3.00	0.0
	JMAC4-Config	YES	3.00	3.00	0.0
	JMAC5-Config	YES	3.00	3.00	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540-28Z4C-SYS-D	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	JMAC1-Config	YES	3.00	3.00	0.0
	JMAC2-Config	YES	3.00	3.00	0.0
	JMAC3-Config	YES	3.00	3.00	0.0
	JMAC4-Config	YES	3.00	3.00	0.0
	JMAC5-Config	YES	3.00	3.00	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540-FH-AGG-SYS	ADM1_Config	NO	1.02	1.02	1.0
	ADM2_Config	NO	1.02	1.02	1.0
	DpFpgaCpri	YES	0.24	0.24	0.0
	DpFpgaEth	YES	1.22	1.22	0.0
	IoFpga	YES	1.30	1.30	0.0
	IoFpgaGolden	YES	1.30	1.30	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.46	0.46	0.0
	StdbyFpgaGolden	YES	0.46	0.46	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540-FH-CSR-SYS	ADM1_Config	NO	0.09	0.09	0.0
	ADM1_Config	NO	1.01	1.01	2.0
	ADM2_Config	NO	0.09	0.09	0.0
	ADM2_Config	NO	1.01	1.01	2.0
	DpFpga	YES	0.23	0.23	0.0
	IoFpga	YES	1.30	1.30	0.0
	IoFpgaGolden	YES	1.30	1.30	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.46	0.46	0.0
	StdbyFpgaGolden	YES	0.46	0.46	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540-PWR400-A	LI-PrimMCU	NO	0.04	0.04	0.0
	LI-SecMCU	NO	0.06	0.06	0.0

	PrimMCU	NO	1.02	1.02	0.0
	SecMCU	NO	1.03	1.03	0.0
-----					
N540-PWR400-D	LI-PrimMCU	NO	0.04	0.04	0.0
	LI-SecMCU	NO	0.06	0.06	0.0
	PrimMCU	NO	1.03	1.03	0.0
	SecMCU	NO	1.03	1.03	0.0
-----					
N540-PWR750-A	EM-PrimMCU	NO	1.02	1.02	0.0
	EM-SecMCU	NO	1.03	1.03	0.0
-----					
N540-PWR750-D	EM-PrimMCU	NO	1.03	1.03	0.0
	EM-SecMCU	NO	3.01	3.01	0.0
-----					
N540X-12Z16G-SYS-A	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbFpga	YES	0.50	0.50	0.0
	StdbFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-12Z16G-SYS-D	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbFpga	YES	0.50	0.50	0.0
	StdbFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-16Z4G8Q2C-A	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbFpga	YES	0.50	0.50	0.0
	StdbFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-16Z4G8Q2C-D	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbFpga	YES	0.50	0.50	0.0
	StdbFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-16Z8Q2C-A	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbFpga	YES	0.50	0.50	0.0
	StdbFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-16Z8Q2C-D	ADMConfig	NO	1.05	1.05	0.0

IoFpga	YES	3.08	3.08	0.0
IoFpgaGolden	YES	2.07	2.03	0.0
Primary-BIOS	YES	1.48	1.48	0.0
StdbyFpga	YES	0.50	0.50	0.0
StdbyFpgaGolden	YES	0.50	0.40	0.0
TamFw	YES	4.13	4.13	0.0
TamFwGolden	YES	4.13	4.11	0.0

```
RP/0/RP0/CPU0:Router# show hw-module fpd
Auto-upgrade:Enabled
Attribute codes: B golden, P protect, S secure, A Anti Theft aware
```

Location	Card type	HWver	FPD device	ATR Status	FPD Versions		Reload Loc
					Running Programd		
0/RP0/CPU0	N540X-6Z18G-SYS-D	0.2	ADMConfig	NEED UPGD	1.02	1.02	NOT REQ
0/RP0/CPU0	N540X-6Z18G-SYS-D	0.2	IoFpga	CURRENT	0.17	0.17	0/RP0
0/RP0/CPU0	N540X-6Z18G-SYS-D	0.2	IoFpgaGolden	B NEED UPGD		0.00	0/RP0
0/RP0/CPU0	N540X-6Z18G-SYS-D	0.2	Prim-BootLoader	A CURRENT	20.08	20.08	0/RP0
0/RP0/CPU0	N540X-6Z18G-SYS-D	0.2	StdbyFpga	S CURRENT	2.05	2.05	0/RP0
0/RP0/CPU0	N540X-6Z18G-SYS-D	0.2	StdbyFpgaGolden	BS NEED UPGD		0.26	0/RP0
0/RP0/CPU0	N540X-6Z18G-SYS-D	0.2	TamFw	S CURRENT	6.05	6.05	0/RP0
0/RP0/CPU0	N540X-6Z18G-SYS-D	0.2	TamFwGolden	BS CURRENT		6.05	0/RP0

Log in to the router and enter the **show fpd package** and **show hw-module fpd** commands on the Cisco N540-6Z18G-SYS-A/D, N540X-6Z18G-SYS-A/D, N540-6Z14S-SYS-D, N540X-4Z14G2Q-A/D, and N540X-8Z16G-SYS-A/D variants:

```
RP/0/RP0/CPU0:Router# show fpd package
```

Field Programmable Device Package					
Card Type	FPD Description	Req Reload	SW Ver	Min Req SW Ver	Min Req Board Ver
-----					
N540-6Z14S-SYS-D	ADMConfig	NO	5.03	5.03	0.0
	BckUp-BootLoader	YES	20.08	20.08	0.0
	IoFpga	YES	0.17	0.17	0.0
	IoFpgaGolden	YES	0.15	0.15	0.0
	Prim-BootLoader	YES	20.08	20.08	0.0
	StdbyFpga	YES	2.05	2.05	0.0
	StdbyFpgaGolden	YES	0.33	0.33	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540-6Z18G-SYS-A	ADMConfig	NO	5.03	5.03	0.0
	BckUp-BootLoader	YES	20.08	20.08	0.0
	IoFpga	YES	0.08	0.08	0.0
	IoFpgaGolden	YES	0.03	0.03	0.0
	Prim-BootLoader	YES	20.08	20.08	0.0
	StdbyFpga	YES	2.05	2.05	0.0
	StdbyFpgaGolden	YES	0.33	0.33	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540-6Z18G-SYS-D	ADMConfig	NO	5.03	5.03	0.0
	BckUp-BootLoader	YES	20.08	20.08	0.0
	IoFpga	YES	0.08	0.08	0.0
	IoFpgaGolden	YES	0.03	0.03	0.0
	Prim-BootLoader	YES	20.08	20.08	0.0
	StdbyFpga	YES	2.05	2.05	0.0
	StdbyFpgaGolden	YES	0.33	0.33	0.0
	TamFw	YES	6.05	6.05	0.0

	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540X-4Z14G2Q-A	ADMConfig	NO	5.00	5.00	0.0
	BckUp-BootLoader	YES	20.08	20.08	0.0
	IoFpga	YES	0.17	0.17	0.0
	IoFpgaGolden	YES	0.15	0.15	0.0
	Prim-BootLoader	YES	20.08	20.08	0.0
	StdbyFpga	YES	2.05	2.05	0.0
	StdbyFpgaGolden	YES	0.33	0.33	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540X-4Z14G2Q-D	ADMConfig	NO	5.00	5.00	0.0
	BckUp-BootLoader	YES	20.08	20.08	0.0
	IoFpga	YES	0.17	0.17	0.0
	IoFpgaGolden	YES	0.15	0.15	0.0
	Prim-BootLoader	YES	20.08	20.08	0.0
	StdbyFpga	YES	2.05	2.05	0.0
	StdbyFpgaGolden	YES	0.33	0.33	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540X-6Z18G-SYS-A	ADMConfig	NO	5.00	5.00	0.0
	BckUp-BootLoader	YES	20.08	20.08	0.0
	IoFpga	YES	0.17	0.17	0.0
	IoFpgaGolden	YES	0.15	0.15	0.0
	Prim-BootLoader	YES	20.08	20.08	0.0
	StdbyFpga	YES	2.05	2.05	0.0
	StdbyFpgaGolden	YES	0.33	0.33	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540X-6Z18G-SYS-D	ADMConfig	NO	5.00	5.00	0.0
	BckUp-BootLoader	YES	20.08	20.08	0.0
	IoFpga	YES	0.17	0.17	0.0
	IoFpgaGolden	YES	0.15	0.15	0.0
	Prim-BootLoader	YES	20.08	20.08	0.0
	StdbyFpga	YES	2.05	2.05	0.0
	StdbyFpgaGolden	YES	0.33	0.33	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540X-8Z16G-SYS-A	ADMConfig	NO	5.00	5.00	0.0
	BckUp-BootLoader	YES	20.08	20.08	0.0
	IoFpga	YES	0.17	0.17	0.0
	IoFpgaGolden	YES	0.15	0.15	0.0
	Prim-BootLoader	YES	20.08	20.08	0.0
	StdbyFpga	YES	2.05	2.05	0.0
	StdbyFpgaGolden	YES	0.33	0.33	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540X-8Z16G-SYS-D	ADMConfig	NO	5.00	5.00	0.0
	BckUp-BootLoader	YES	20.08	20.08	0.0
	IoFpga	YES	0.17	0.17	0.0
	IoFpgaGolden	YES	0.15	0.15	0.0
	Prim-BootLoader	YES	20.08	20.08	0.0
	StdbyFpga	YES	2.05	2.05	0.0
	StdbyFpgaGolden	YES	0.33	0.33	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0

RP/0/RP0/CPU0:Router# show hw-module fpd  
Auto-upgrade:Enabled

Attribute codes: B golden, P protect, S secure, A Anti Theft aware

Location	Card type	HWver	FPD device	ATR	Status	FPD Versions		Reload Loc
						Running	Programd	
0/RP0/CPU0	N540X-16Z4G8Q2C-A	1.0	ADM_FW		CURRENT	14.03	14.03	NOT REQ
0/RP0/CPU0	N540X-16Z4G8Q2C-A	1.0	ADMConfig		CURRENT	1.05	1.05	NOT REQ
0/RP0/CPU0	N540X-16Z4G8Q2C-A	1.0	IoFpga		CURRENT	3.08	3.08	0/RP0
0/RP0/CPU0	N540X-16Z4G8Q2C-A	1.0	IoFpgaGolden	B	NEED UPGD		1.31	0/RP0
0/RP0/CPU0	N540X-16Z4G8Q2C-A	1.0	Primary-BIOS	SA	CURRENT	1.51	1.51	0/RP0
0/RP0/CPU0	N540X-16Z4G8Q2C-A	1.0	StdbyFpga	S	CURRENT	0.50	0.50	0/RP0
0/RP0/CPU0	N540X-16Z4G8Q2C-A	1.0	StdbyFpgaGolden	BS	NEED UPGD		0.37	0/RP0
0/RP0/CPU0	N540X-16Z4G8Q2C-A	1.0	TamFw	S	CURRENT	4.13	4.13	0/RP0
0/RP0/CPU0	N540X-16Z4G8Q2C-A	1.0	TamFwGolden	BS	CURRENT		4.11	0/RP0

Log in to the router and enter the **show fpd package** and **show hw-module fpd** commands on the Cisco N540-24Q8L2DD-SYS variant:

RP/0/RP0/CPU0:Router# show fpd package

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=====
Field Programmable Device Package
=====

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Card Type	FPD Description	Req Reload	SW Ver	Min Req SW Ver	Min Req Board Ver
N540-12Z20G-SYS-A	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
N540-12Z20G-SYS-D	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
N540-24Q8L2DD-SYS	ADM-DBConfig	NO	2.05	2.05	0.0
	ADM-MBConfig	NO	2.05	2.05	0.0
	IoFpga	YES	2.12	2.12	0.0
	IoFpgaGolden	YES	2.12	2.12	0.0
	Primary-BIOS	YES	4.07	4.07	0.0
	SsdSAMSA64G3	YES	12.41	12.41	0.0
	StdbyFpga	YES	2.59	2.59	0.0
	StdbyFpgaGolden	YES	2.56	2.39	0.0
N540-28Z4C-SYS-A	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	JMAC1-Config	YES	3.00	3.00	0.0
	JMAC2-Config	YES	3.00	3.00	0.0
	JMAC3-Config	YES	3.00	3.00	0.0
	JMAC4-Config	YES	3.00	3.00	0.0

	JMAC5-Config	YES	3.00	3.00	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540-28Z4C-SYS-D	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	JMAC1-Config	YES	3.00	3.00	0.0
	JMAC2-Config	YES	3.00	3.00	0.0
	JMAC3-Config	YES	3.00	3.00	0.0
	JMAC4-Config	YES	3.00	3.00	0.0
	JMAC5-Config	YES	3.00	3.00	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540-FH-AGG-SYS	ADM1_Config	NO	1.02	1.02	1.0
	ADM2_Config	NO	1.02	1.02	1.0
	DpFpgaCpri	YES	0.24	0.24	0.0
	DpFpgaEth	YES	1.22	1.22	0.0
	IoFpga	YES	1.30	1.30	0.0
	IoFpgaGolden	YES	1.30	1.30	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.46	0.46	0.0
	StdbyFpgaGolden	YES	0.46	0.46	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540-FH-CSR-SYS	ADM1_Config	NO	0.09	0.09	0.0
	ADM1_Config	NO	1.01	1.01	2.0
	ADM2_Config	NO	0.09	0.09	0.0
	ADM2_Config	NO	1.01	1.01	2.0
	DpFpga	YES	0.23	0.23	0.0
	IoFpga	YES	1.30	1.30	0.0
	IoFpgaGolden	YES	1.30	1.30	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.46	0.46	0.0
	StdbyFpgaGolden	YES	0.46	0.46	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540-PWR400-A	LI-PrimMCU	NO	0.04	0.04	0.0
	LI-SecMCU	NO	0.06	0.06	0.0
	PrimMCU	NO	1.02	1.02	0.0
	SecMCU	NO	1.03	1.03	0.0
-----					
N540-PWR400-D	LI-PrimMCU	NO	0.04	0.04	0.0
	LI-SecMCU	NO	0.06	0.06	0.0
	PrimMCU	NO	1.03	1.03	0.0
	SecMCU	NO	1.03	1.03	0.0
-----					
N540-PWR750-A	EM-PrimMCU	NO	1.02	1.02	0.0
	EM-SecMCU	NO	1.03	1.03	0.0
-----					
N540-PWR750-D	EM-PrimMCU	NO	1.03	1.03	0.0
	EM-SecMCU	NO	3.01	3.01	0.0
-----					
N540X-12Z16G-SYS-A	ADM_FW	YES	14.03	14.03	0.0

	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-12Z16G-SYS-D	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-16Z4G8Q2C-A	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-16Z4G8Q2C-D	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-16Z8Q2C-A	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-16Z8Q2C-D	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0

RP/0/RP0/CPU0:Router# show hw-module fpd  
Auto-upgrade:Enabled  
Attribute codes: B golden, P protect, S secure, A Anti Theft aware

Location	Card type	HWver	FPD device	ATR Status	FPD Versions	
					Running Programd	Reload Loc
-----						



0/RP0/CPU0	N540-24Q8L2DD-SYS	2.0	ADM-DBConfig	CURRENT	2.05	2.05	NOT REQ	
0/RP0/CPU0	N540-24Q8L2DD-SYS	2.0	ADM-MBConfig	CURRENT	2.05	2.05	NOT REQ	
0/RP0/CPU0	N540-24Q8L2DD-SYS	2.0	IoFpga	CURRENT	2.12	2.12	0/RP0	
0/RP0/CPU0	N540-24Q8L2DD-SYS	2.0	IoFpgaGolden	B	CURRENT	2.12	0/RP0	
0/RP0/CPU0	N540-24Q8L2DD-SYS	2.0	Primary-BIOS	S	CURRENT	4.07	4.07	0/RP0
0/RP0/CPU0	N540-24Q8L2DD-SYS	2.0	SsdSAMSA64G3	S	CURRENT	12.41	12.41	0/RP0
0/RP0/CPU0	N540-24Q8L2DD-SYS	2.0	StdbyFpga	S	CURRENT	2.59	2.59	0/RP0
0/RP0/CPU0	N540-24Q8L2DD-SYS	2.0	StdbyFpgaGolden	BS	CURRENT	2.59	2.59	0/RP0
0/RP0/CPU0	N540-24Q8L2DD-SYS	2.0	TamFw	S	CURRENT	6.05	6.05	0/RP0
0/RP0/CPU0	N540-24Q8L2DD-SYS	2.0	TamFwGolden	BS	CURRENT	6.05	6.05	0/RP0
0/PM0	N540-PWR400-A	1.0	PrimMCU	CURRENT	1.02	1.02	NOT REQ	
0/PM0	N540-PWR400-A	1.0	SecMCU	CURRENT	1.03	1.03	NOT REQ	

Log in to the router and enter the **show fpd package** and **show hw-module fpd** commands on the Cisco N540-FH-CSR-SYS variant:

RP/0/RP0/CPU0:Router# show fpd package

```

=====
Field Programmable Device Package
=====

```

Card Type	FPD Description	Req Reload	SW Ver	Min Req SW Ver	Min Req Board Ver
-----					
N540-12Z20G-SYS-A	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
TamFwGolden	YES	4.13	4.11	0.0	
-----					
N540-12Z20G-SYS-D	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
TamFwGolden	YES	4.13	4.11	0.0	
-----					
N540-24Q8L2DD-SYS	ADM-DBConfig	NO	2.05	2.05	0.0
	ADM-MBConfig	NO	2.05	2.05	0.0
	IoFpga	YES	2.12	2.12	0.0
	IoFpgaGolden	YES	2.12	2.12	0.0
	Primary-BIOS	YES	4.07	4.07	0.0
	SsdSAMSA64G3	YES	12.41	12.41	0.0
	StdbyFpga	YES	2.59	2.59	0.0
	StdbyFpgaGolden	YES	2.56	2.39	0.0
	TamFw	YES	6.05	6.05	0.0
TamFwGolden	YES	6.05	6.05	0.0	
-----					
N540-28Z4C-SYS-A	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	JMAC1-Config	YES	3.00	3.00	0.0
	JMAC2-Config	YES	3.00	3.00	0.0
	JMAC3-Config	YES	3.00	3.00	0.0
	JMAC4-Config	YES	3.00	3.00	0.0
	JMAC5-Config	YES	3.00	3.00	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0

	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540-28Z4C-SYS-D	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	JMAC1-Config	YES	3.00	3.00	0.0
	JMAC2-Config	YES	3.00	3.00	0.0
	JMAC3-Config	YES	3.00	3.00	0.0
	JMAC4-Config	YES	3.00	3.00	0.0
	JMAC5-Config	YES	3.00	3.00	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.50	0.50	0.0
	StdbyFpgaGolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540-FH-AGG-SYS	ADM1_Config	NO	1.02	1.02	1.0
	ADM2_Config	NO	1.02	1.02	1.0
	DpFpgaCpri	YES	0.24	0.24	0.0
	DpFpgaEth	YES	1.22	1.22	0.0
	IoFpga	YES	1.30	1.30	0.0
	IoFpgaGolden	YES	1.30	1.30	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.46	0.46	0.0
	StdbyFpgaGolden	YES	0.46	0.46	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540-FH-CSR-SYS	ADM1_Config	NO	0.09	0.09	0.0
	ADM1_Config	NO	1.01	1.01	2.0
	ADM2_Config	NO	0.09	0.09	0.0
	ADM2_Config	NO	1.01	1.01	2.0
	DpFpga	YES	0.23	0.23	0.0
	IoFpga	YES	1.30	1.30	0.0
	IoFpgaGolden	YES	1.30	1.30	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	StdbyFpga	YES	0.46	0.46	0.0
	StdbyFpgaGolden	YES	0.46	0.46	0.0
	TamFw	YES	6.05	6.05	0.0
	TamFwGolden	YES	6.05	6.05	0.0
-----					
N540-PWR400-A	LI-PrimMCU	NO	0.04	0.04	0.0
	LI-SecMCU	NO	0.06	0.06	0.0
	PrimMCU	NO	1.02	1.02	0.0
	SecMCU	NO	1.03	1.03	0.0
-----					
N540-PWR400-D	LI-PrimMCU	NO	0.04	0.04	0.0
	LI-SecMCU	NO	0.06	0.06	0.0
	PrimMCU	NO	1.03	1.03	0.0
	SecMCU	NO	1.03	1.03	0.0
-----					
N540-PWR750-A	EM-PrimMCU	NO	1.02	1.02	0.0
	EM-SecMCU	NO	1.03	1.03	0.0
-----					
N540-PWR750-D	EM-PrimMCU	NO	1.03	1.03	0.0
	EM-SecMCU	NO	3.01	3.01	0.0
-----					
N540X-12Z16G-SYS-A	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0

	Primary-BIOS	YES	1.48	1.48	0.0
	Stdbypfpga	YES	0.50	0.50	0.0
	Stdbypfpgagolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-12Z16G-SYS-D	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	Stdbypfpga	YES	0.50	0.50	0.0
	Stdbypfpgagolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-16Z4G8Q2C-A	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	Stdbypfpga	YES	0.50	0.50	0.0
	Stdbypfpgagolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-16Z4G8Q2C-D	ADM_FW	YES	14.03	14.03	0.0
	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	Stdbypfpga	YES	0.50	0.50	0.0
	Stdbypfpgagolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-16Z8Q2C-A	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	Stdbypfpga	YES	0.50	0.50	0.0
	Stdbypfpgagolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0
-----					
N540X-16Z8Q2C-D	ADMConfig	NO	1.05	1.05	0.0
	IoFpga	YES	3.08	3.08	0.0
	IoFpgaGolden	YES	2.07	2.03	0.0
	Primary-BIOS	YES	1.48	1.48	0.0
	Stdbypfpga	YES	0.50	0.50	0.0
	Stdbypfpgagolden	YES	0.50	0.40	0.0
	TamFw	YES	4.13	4.13	0.0
	TamFwGolden	YES	4.13	4.11	0.0

RP0/RP0/CPU0:Router# show hw-module fpd  
Auto-upgrade:Enabled  
Attribute codes: B golden, P protect, S secure, A Anti Theft aware

Location	Card type	HWver	FPD device	ATR Status	FPD Versions		Reload Loc
					Running	Programd	
0/RP0/CPU0	N540-FH-CSR-SYS	1.0	ADM1_Config	CURRENT	0.09	0.09	NOT REQ
0/RP0/CPU0	N540-FH-CSR-SYS	1.0	ADM2_Config	CURRENT	0.09	0.09	NOT REQ
0/RP0/CPU0	N540-FH-CSR-SYS	1.0	DpFpga	CURRENT	0.23	0.23	0/RP0
0/RP0/CPU0	N540-FH-CSR-SYS	1.0	IoFpga	CURRENT	1.30	1.30	0/RP0

0/RP0/CPU0	N540-FH-CSR-SYS	1.0	IoFpgaGolden	B	CURRENT		1.30	0/RP0
0/RP0/CPU0	N540-FH-CSR-SYS	1.0	Primary-BIOS	SA	CURRENT	1.49	1.49	0/RP0
0/RP0/CPU0	N540-FH-CSR-SYS	1.0	StdbyFpga	S	CURRENT	0.46	0.46	0/RP0
0/RP0/CPU0	N540-FH-CSR-SYS	1.0	StdbyFpgaGolden	BS	CURRENT		0.46	0/RP0
0/RP0/CPU0	N540-FH-CSR-SYS	1.0	TamFw	S	CURRENT	6.05	6.05	0/RP0
0/RP0/CPU0	N540-FH-CSR-SYS	1.0	TamFwGolden	BS	CURRENT		6.05	0/RP0
0/PM0	N540-PWR400-A	1.1	PrimMCU		CURRENT	1.02	1.02	NOT REQ
0/PM0	N540-PWR400-A	1.1	SecMCU		CURRENT	1.03	1.03	NOT REQ

## 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 NCS540 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.

The upgrade document for N540-24Z8Q2C-SYS, N540X-ACC-SYS, and N540-ACC-SYS variants is available along with the software image in *NCS540-docs-7.11.21.tar* file.

The upgrade document for N540-28Z4C-SYS-A/D, N540-12Z20G-SYS-A/D, N540X-12Z16G-SYS-A/D, N540X-16Z4G8Q2C-A/D, N540-24Q8L2DD-SYS, N540-FH-AGG-SYS, N540X-16Z8Q2C-D, and N540-FH-CSR-SYS variants is available along with the software image in *NCS540l-docs-7.11.21.tar* file.

The upgrade document for N540X-4Z14G2Q-A/D, N540X-8Z16G-SYS-A/D, N540-6Z14S-SYS-D, N540-6Z18G-SYS-A/D, and N540X-6Z18G-SYS-A/D variants is available along with the software image in *NCS540l-aarch64-docs-7.11.21.tar* file.




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**Note** Quad configurations will be lost when you perform a software downgrade on Cisco NCS 540 Routers that support quad configurations from IOS XR Release 7.5.1 onwards to a release prior to IOS XR Release 7.5.1 due to a non-backward compatibility change. The lost configuration can be applied manually after the downgrade.

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### 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 540 router documentation is located at the following URL:

<https://www.cisco.com/c/en/us/td/docs/iosxr/ncs-540-series-routers.html>

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