



Release Notes for Cisco NCS 540 Series Routers, Cisco IOS XR Release 24.1.1

First Published: 2024-03-14

Network Convergence System 540 Series Routers

What's New in Cisco IOS XR Release 24.1.1

For more details on the Cisco IOS XR release model and associated support, see [Software Lifecycle Support Statement - IOS XR](#).

Software Features Enhanced and Introduced

To learn about features introduced in other Cisco IOS XR releases, select the release from the [Documentation Landing Page](#).

The following features are supported on all the NCS 540 router variants.

Feature	Description
Licensing	
Smart Licensing Using Policy	<p>Cisco Smart Licensing Using Policy (SLP) is an enhancement to the existing Cisco Smart Licensing model. It streamlines the licensing process for Cisco IOS XR products by introducing a more flexible and automated approach. With SLP, you no longer need to register your device during installation, and there is no evaluation license state or period. This simplifies the licensing process and reduces complexity. To use SLP, your devices must establish trust and send the initial license usage report within 90 days.</p> <p>Starting with this release, cslu is the default communication transport mode.</p> <p>The feature introduces these changes:</p> <p>YANG Data Models:</p> <ul style="list-style-type: none">• Cisco-IOS-XR-smart-license-cfg.yang (see GitHub, YANG Data Models Navigator)
MPLS	

Feature	Description
Set Global RSVP Message Retransmission Interval	<p>During Fast Reroute (FRR), an RSVP router sends multiple messages to neighbors. If a neighbor fails to acknowledge the messages due to an overload of RSVP message processing or a high frequency of failures, RSVP retransmits the messages, which can result in network congestion. You can now set a longer RSVP message retransmission interval to provide sufficient processing time for neighbors, reduce signaling overhead, and prevent network congestion.</p> <p>You can set this interval for all directly connected neighbors at once or remote neighbors connected through backup tunnels. Previously, you could only enable this option per interface.</p> <p>The feature introduces these changes:</p> <p>CLI: signalling refresh reduction reliable retransmit-time</p> <p>YANG Data Model: Cisco-IOS-XR-ip-rsvp-cfg.yang (see GitHub, YANG Data Models Navigator)</p>
Interface and Hardware Component	
XR Interface Operational State in Linux Kernel	<p>You can now use the ifconfig command to determine the operational status of the XR interface in the Linux kernel when its line protocol is UP. The IFF-RUNNING (RUNNING) flag in ifconfig command indicates that the interface is ready for data transmission and reception.</p> <p>Earlier, you could see the XR interface status as UP or Down using the show interfaces command.</p>
Increased Interface Bandwidth on N540-24Q8L2DD-SYS	<p>The supported bandwidth on the Cisco N540-24Q8L2DD-SYS router has been increased from 1Tbps to 1.1Tbps. You can manually set the speed of an interface using the controller optics command.</p> <p>The usage of the breakout interfaces can be better optimized with the 1.1Tbps bandwidth by enabling port combinations from these available 1/10/25/40/100/400GE interfaces on the router.</p>
IP Addresses and Services	
View NPU Information to Troubleshoot Forwarding Issues	<p>You can now easily access NPU information such as the TCAM, Large Exact Match (LEM), Longest Prefix Match (LPM), Forwarding Equivalence Class (FEC) and Encapsulation DB (EEDB) database information for troubleshooting forwarding issues. Before this release, obtaining NPU information was a time-consuming process that required using the forwarding ASIC's diagnostic shell utility with varying commands across forwarding ASICs.</p> <p>The feature introduces these changes:</p> <p>CLI:</p> <p>This feature modifies the show mpls forwarding labels hardware command. The npu keyword is added to it.</p>
L2VPN and Ethernet Services	

Feature	Description
EVPN Non-Revertive Designated Forwarder Election	<p>In a preference-based Designated Forwarder (DF) election, non-revertive mode prevents the traffic disruption that occurs during the recovery of a node in a port-active multihomed network.</p> <p>While recovering from a link failure, an EVPN ethernet-segment (ES) performs DF re-election and re-carves the services among the multihomed nodes, which causes traffic interruption and interface flapping, leading to traffic loss. In the non-revertive mode, the EVPN ES does not re-carve the services after the recovery, thus avoiding the traffic disruption.</p> <p>The feature introduces these changes:</p> <p>CLI:</p> <ul style="list-style-type: none"> • non-revertive • revert • The ethernet-segment interface <i>interface-name</i> revert keyword is introduced in the l2vpn evpn command. <p>YANG Data Model:</p> <ul style="list-style-type: none"> • <code>Cisco-IOS-XR-evpn-oper.yang</code> • <code>Cisco-IOS-XR-l2vpn-cfg.yang</code> <p>(see GitHub, YANG Data Models Navigator)</p>
Programmability	
Certificate Common-Name For Dial-in Using gRPC Protocol	<p>You can now specify a common-name for the certificate generated by the router while using gRPC dial-in and avoid failure during certificate verification. Earlier, the common-name in the certificate was fixed.</p> <p>The feature introduces these changes:</p> <p>CLI:</p> <ul style="list-style-type: none"> • gRPC certificate common-name <p>YANG Data Model:</p> <ul style="list-style-type: none"> • <code>Cisco-IOS-XR-um-grpc-cfg.yang</code> • <code>Cisco-IOS-XR-man-ems-cfg</code> <p>(see GitHub, YANG Data Models Navigator)</p>
View Inconsistent OpenConfig Configuration	<p>OpenConfig infrastructure now provides an operational data YANG model, <code>Cisco-IOS-XR-yiny-oper</code>, which can be queried to view the inconsistent OpenConfig configuration caused due to activities such as interface breakout operations, installation activities or insertion of a new line card.</p> <p>See GitHub, YANG Data Models Navigator</p>

Feature	Description
gRPC Authentication Modes	This feature lists the four types of authentication mechanisms for Extensible Manageability Services (EMS) to ensure the security and integrity of data exchange are: Metadata with TLS, Metadata without TLS, Metadata with Mutual TLS, and Certificate based.
System Security	
MACsec capability for 1GbE Optical SFPs on NCS 540 fixed port routers	<p>We now support MACsec encryption on select 1 GbE optical SFP transceivers by encrypting Ethernet frames at the link layer to secure communication for all traffic in Ethernet-based networks.</p> <p>* This feature is supported on the following hardware::</p> <ul style="list-style-type: none"> • N540-24Z8Q2C-SYS • SFP-1G-SX (optical SFP) • SFP-1G-LH (optical SFP)
Support for Post-Quantum Security	<p>The Internet Key Exchange Protocol Version 2 (IKEv2) is now enhanced to bring post-quantum security. Quantum computers are a threat to existing cryptographic algorithms, and to address this problem, Postquantum Preshared Keys (PPKs) are used. You can generate both manual and dynamic PPKs. This feature introduces the following changes:</p> <p>CLI:</p> <ul style="list-style-type: none"> • The ppk manual/dynamic keyword is introduced in the keyring command. • The keyring ppk keyword is introduced in the ikev2 profile command. <p>YANG Data Model:</p> <ul style="list-style-type: none"> • <code>Cisco-IOS-XR-um-ikev2-cfg.yang</code> <p>See (GitHub, Yang Data Models Navigator)</p> <p>Supported Platforms:</p> <ul style="list-style-type: none"> • N540X-12Z16G-SYS-D • N540X-12Z16G-SYS-A
Multi-Factor Authentication for SSH	<p>You can now deploy robust authentication mechanisms for SSH connections to your routers and reduce security risks due to compromised or weak passwords. We now support multi-factor authentication (MFA)—a secure access management solution that verifies the identity of a user using multiple verification factors—for SSH login on Cisco IOS XR routers. These verification factors include a combination of login credentials such as username and password and a token, a cryptographic device, or a mobile phone with MFA application installed.</p> <p>No new commands or data models were introduced or modified as part of this feature.</p>

Feature	Description
Pre-upload Pinned-Domain Certificate	You can now pre-upload your Pinned-Domain Certificate (PDC) credentials before requesting OV's Ownership Vouchers (OVs) from the MASA server, thus making the voucher request process easier.
Interaction with MASA through gRPC	From this release, you can use the gRPC protocol to interact with MASA APIs in addition to the current HTTP protocols. Through structured serialization of data with gRPC's Protocol Buffers, the communication between services is made more efficient, type-safe, and consistent.
DSCP Marking from TCP Connection Phase for SSH Packets	<p>We now prevent SSH client packet drops in the TCP connection (initial handshake) phase as they travel across transit routers in the network. This is because you can mark the DSCP values for SSH client packets in the TCP connection phase, which overrides the transit routers' policies to filter and drop packets with no DSCP value marked. Using a new command, you can also set the DSCP value from the TCP connection phase for SSH server packets.</p> <p>The feature introduces these changes:</p> <p>CLI:</p> <ul style="list-style-type: none"> • ssh server set-dscp-connection-phase <p>YANG Data Model:</p> <ul style="list-style-type: none"> • New XPath, <code>set-dscp-connection-phase</code>, for <code>Cisco-IOS-XR-crypto-ssh-cfg.yang</code> (see GitHub, YANG Data Models Navigator)
System Management	
Combined Frame Delay and Frame Loss Measurement for Y.1564 Service Activation Test	<p>We have enhanced the ITU-T Y.1564 Service Activation Testing (SAT) capabilities by enabling a comprehensive service quality measurement that includes network responsiveness, congestion, and other issues degrading network performance. This feature also allows a holistic testing of the QoS SLAs, which helps identify potential issues faster and troubleshoot effectively.</p> <p>This feature introduces the following change:</p> <p>CLI:</p> <p>The measurement combined keyword is added to the ethernet service-activation-test profile command.</p> <p>YANG DATA Model:</p> <ul style="list-style-type: none"> • New XPaths for <code>Cisco-IOS-XR-ethernet-sat-cfg.yang</code> (see Github, YANG Data Models Navigator)

Feature	Description
Loopback Frames for Y.1564 Service Activation Test	<p>This feature enables the redirection of test traffic from the destination router to the source router in loopback message (LBM) format. Loopback message enables the measurement of various parameters and performance metrics, such as frame delay, frame loss rates, and QoS settings, after the traffic has completed its round trip.</p> <p>Such comprehensive measurement helps identify issues within the network setup. You can also use it to ensure the service is running and meets the SLA.</p> <p>This feature introduces the following change:</p> <p>CLI:</p> <p>The packet-format lbm keyword is added to the ethernet service-activation-test profile command.</p> <p>YANG DATA Model: New XPath for Cisco-IOS-XR-ethernet-sat-cfg.yang (see Github, YANG Data Models Navigator)</p>
Optional Source MAC Address for Y.1564 Service Activation Test	<p>By specifying the source MAC address to the ITU-T Y.1564 SAT, you can ensure that the test results are relevant and applicable to the specific service configuration for use in production and before deployment for your customers.</p> <p>This feature introduces the following change:</p> <p>Modified CLI:</p> <p>The source keyword is added to the ethernet service-activation-test command.</p> <p>YANG DATA Model:</p> <ul style="list-style-type: none"> • New XPath for Cisco-IOS-XR-ethernet-sat-act.yang (see Github, YANG Data Models Navigator)
Segment Routing	
SR-MPLSv6 Traffic Engineering	<p>We have introduced the capability for SR Policy to support segment lists with IPv6 addresses, which can be either dynamically computed or explicitly set at the SRTE headend.</p>
Identical Route Distinguisher (RD) for Interworking Gateways between MPLS and SRv6 Domains	<p>You can now configure the same Route Distinguisher (RD) for interworking gateways catering to both MPLS and SRv6 domains that help conserve hardware resources, reduce the BGP table scale and minimize the processing load on routers. At the same time, it ensures seamless connectivity across SRv6 and MPLS L3 EVPN domains, thus promoting interoperability and efficiency in modern network environments.</p> <p>Previously, a unique RD was required to extend L3 services between MPLS and SRv6 domains resulting in higher router load and resource consumption, which could have affected performance.</p>
Reporting of SR-TE Policies Using BGP-Link State for SRv6	<p>You can gather the Traffic Engineering Policy information that is locally available in a node and advertise it in BGP-LS for SRv6. Previous versions only supported SR-MPLS.</p> <p>There are no changes to the configuration procedures from previous releases and works on the same configuration as the SR-MPLS feature.</p>

Feature	Description
Calculate candidate paths and SR-TE policies with IP exclusion, while enforcing affinity and disjointness constraints	<p>For new services using Pseudo-wire (PW) over SR-TE policies, you can now calculate, customize, and preview candidate paths. With this feature, you can now exclude network resources by IP address, and enforce affinity for a specific candidate path.</p> <p>Previously, affinity constraints and candidate path disjointness were mutually exclusive. The feature introduces these changes:</p> <p>CLI:</p> <ul style="list-style-type: none"> The feature introduces shortest-path and exclude-resources keywords in the segment-routing traffic-eng policy and segment-routing traffic-eng on-demand color commands. <p>YANG Data Models:</p> <ul style="list-style-type: none"> Cisco-IOS-XR-infra-xtc-oper.yang Cisco-IOS-XR-infra-xtc-agent-oper.yang Cisco-IOS-XR-infra-xtc-agent-cfg.yang
Network Synchronization	
PTP-NTP Interworking	<p>We have improved NTP synchronization and reliability to achieve nanosecond-level accuracy for applications that require high-precision timing. This is achieved by enabling NTP-PTP interworking which allows the use of PTP as the reference clock.</p> <p>As in previous releases, the NTP client continues to support polling NTP protocol-based external time servers to synchronize the local system clock and achieve accuracy within the millisecond range.</p>

YANG Data Models Introduced and Enhanced

This release introduces or enhances the following data models. For detailed information about the supported and unsupported sensor paths of all the data models, see the [Github](#) repository. To get a comprehensive list of the data models supported in a release, navigate to the Available-Content.md file for the release in the Github repository. The unsupported sensor paths are documented as deviations. For example, `openconfig-acl.yang` provides details about the supported sensor paths, whereas `cisco-xr-openconfig-acl-deviations.yang` provides the unsupported sensor paths for `openconfig-acl.yang` on Cisco IOS XR routers.

You can also view the data model definitions using the [YANG Data Models Navigator](#) tool. This GUI-based and easy-to-use tool helps you explore the nuances of the data model and view the dependencies between various containers in the model. You can view the list of models supported across Cisco IOS XR releases and platforms, locate a specific model, view the containers and their respective lists, leaves, and leaf lists presented visually in a tree structure.

To get started with using data models, see the *Programmability Configuration Guide for Cisco NCS 540 Series Routers*.

Feature	Description
Programmability	
openconfig-mpls-ldp.yang Version 3.1.0	<p>This OpenConfig data model introduces the following changes:</p> <ul style="list-style-type: none"> • Enable and authenticate LDP signalling messages using enable and authentication-key leaves globally for all interfaces or for LDP neighbors. • Configure the global and neighbor label switch identifier for the router using lsr-id leaf • Define the time for which a neighbor adjacency will be kept by the router while it waits for a new "hello" message using hello-holdtime leaf • Define the interval for sending these "hello" messages on each link LDP adjacency using hello-interval leaf • Enable and configure the address family name for IPv4 and IPv6 interfaces using enabled and afi-name leaves • Configure the list of LDP configurations for each interface using interface-id leaf where the interface referenced is based on the interface and subinterface leaves within the interface-ref container • Define the list of LDP neighbors and their attributes using label-space-id leaf • Configure the list for attributes related to address families for targeted LDP using afi-name leaf • Specify the neighbor address of the targeted LDP session using remote-address leaf • Enable or disable the acceptance of targeted LDP "hello" messages using hello-accept leaf • Enable and configure the interval for which the remote LDP peers wait for the local node to reconnect gracefully after a failure using enable and reconnect-time leaves • Configure the time interval to gracefully restart a Label Switch Router's (LSR) forwarding when in recovery mode using forwarding-holdtime leaf

Feature	Description
Cisco-IOS-XR-um-ikev2-cfg.yang	<p>This unified data model is enhanced to support post-quantum security enablement on IKEv2 encryption. The following data model changes will apply to the IKEv2 configuration on the initiator and responder of the IPsec tunnel:</p> <ul style="list-style-type: none"> • New container ppk to configure post-quantum security, either manually or dynamically. • New leaf keyring ppk in the ikev2profile container to include the post-quantum preshared keys for IKEv2 negotiations.
Cisco-IOS-XR-evpn-oper.yang	This YANG model is modified to enable non-revertive mode on preference based EVPN DF election.
Cisco-IOS-XR-infra-xtc-agent-oper.yang	This native data model is enhanced with a new container, <i>excluded-resources</i> to display associated resource lists for policies.
Cisco-IOS-XR-infra-xtc-oper.yang	This native data model is enhanced with a new container, <i>constraints-information</i> , to exclude IP constraints for candidate paths and includes the shortest-path flag in the disjoint constraints.
Cisco-IOS-XR-infra-xtc-agent-cfg.yang	This native data model is enhanced with a new container, <i>resources</i> , and a new leaf, <i>exclude-resource-rule</i> in the <i>resources-rule-table</i> container to configure and associate resource lists as constraints to policies. Additionally, new leaves such as <i>shortest-path</i> and <i>fallback-disable</i> are added in the <i>disjoint-path</i> container to extend the disjoint constraint configuration.

Hardware Introduced



Note Before you install the Cisco router, you must prepare your site for the installation, for more details on site planning and environmental requirements, see [Hardware Installation Guide](#).

Hardware	Description
Cisco PON OLT SFP	<p>This release supports configuration and management of the Cisco PON 10G OLT SFP+ transceiver on the following Cisco NCS 540 Series Routers:</p> <ul style="list-style-type: none"> • N540-24Z8Q2C-SYS • N540-ACC-SYS • N540X-16Z4G8Q2C-A/D • N540-28Z4C-SYS-A/D • N540-24Q8L2DD-SYS <p>The transceiver module plugs into the 10G port on the router. The combination of the transceiver, PON Manager, PON Controller, and the MongoDB creates a network management solution for monitoring and managing OLTs and ONU devices in the network. With the help of the transceiver, the router functions as an OLT, this removes the requirement of a separate OLT Chassis.</p> <p>For more information, refer to Release Notes for <i>Cisco Routed PON, Cisco IOS XR Release 24.1.1</i>.</p>
Optics	<p>This release launches the following new optics on selective hardware within the product portfolio. For details and other new supported transceivers, refer to the Transceiver Module Group (TMG) Compatibility Matrix.</p> <p>Cisco 25GBASE SFP28 Modules</p> <ul style="list-style-type: none"> • SFP-25G-BX40D-I • SFP-25G-BX40U-I

Behavior Changes

- From this release, the default order of authentication methods for SSH clients on Cisco IOS XR routers running Cisco IOS XR SSH is changed to: **public-key**, **keyboard-interactive**, and **password**.
Prior to this release, the default order was: **public-key**, **password**, and **keyboard-interactive**.
- Cisco Secure DDoS Edge Protection is supported from Cisco IOS XR Release 7.10.1 on Cisco NCS 540 series routers. But the smart licensing usage and utilization reporting for the edge protection feature remains disabled. Usage details of the edge protection functionality will be enabled only in the future release. Hence, the **Smart Account In Use** utilization report for edge protection will show as 0 (zero) consumed.
- Prior to Cisco IOS XR Release 7.2.1, a segment of an explicit segment list can be configured as an IPv4 address (representing a Node or a Link) using the **index indexaddress ipv4 address** command.
Starting with Cisco IOS XR Release 7.2.1, an IPv4-based segment (representing a Node or a Link) can also be configured with the new **index index mpls adjacencyaddress** command. The configuration is

stored in NVRAM in the same CLI format used to create it. There is no conversion from the old CLI to the new CLI.

Starting with Cisco IOS XR Release 7.9.1, the old CLI has been deprecated. Old configurations stored in NVRAM will be rejected at boot-up.

As a result, explicit segment lists with IPv4-based segments using the old CLI must be re-configured using the new CLI.

There are no CLI changes for segments configured as MPLS labels using the **index index mpls label label** command.

- If you are on a release before Cisco IOS XR Release 7.4.1, you can configure SR-ODN with Flexible Algorithm constraints using the **segment-routing traffic-eng on-demand color color dynamic sid-algorithm algorithm-number** command.

Starting with Cisco IOS XR Release 7.4.1, you can also configure SR-ODN with Flexible Algorithm constraints using the new **segment-routing traffic-eng on-demand color color constraints segments sid-algorithm algorithm-number** command.

From Cisco IOS XR Release 7.9.1, the **segment-routing traffic-eng on-demand color color dynamic sid-algorithm algorithm-number** command is deprecated. Previous configurations stored in NVRAM will be rejected at boot-up.

Hence, for Cisco IOS XR Release 7.9.1, you must reconfigure all SR-ODN configurations with Flexible Algorithm constraints that use the **on-demand dynamic sid-algorithm** with the **on-demand constraints** command.

Restrictions and Limitations on the Cisco NCS 540 Series Router

- Enabling or disabling frame preemption on the Time Sensitive Networking (TSN) port results in traffic drop for N540-FH-CSR-SYS. The port Twenty Five G0/0/12 is used as the TSN port.
- Fabric multicast queue stats are not supported in N540X-8Z16G-SYS-A/D, N540X-6Z18G-SYS-A/D, N540-6Z14S-SYS-D, N540-6Z18G-SYS-A/D, and N540X-4Z14G2Q-A/D variants.
- Unlabeled BGP PIC EDGE for global prefixes is not supported.
- The interface ports 0/0/0/24 to 0/0/0/31 do not support 1G Copper SFPs on N540-24Z8Q2C-SYS, N540-ACC-SYS, and N540X-ACC-SYS variants. Also, these ports do not support Auto-Negotiation with 1GE optical SFPs and they cannot act as 1GE Synchronous Ethernet sources.
- The interface ports 0/0/0/20 to 0/0/0/27 do not support 1G Copper SFPs on N540X-16Z4G8Q2C-A, N540X-16Z8Q2C-D, and N540X-16Z4G8Q2C-D variants. Also, these ports do not support Auto-Negotiation with 1GE optical SFPs and they cannot act as 1GE Synchronous Ethernet sources.
- The 1G ports on the N540-24Q8L2DD-SYS variant do not support Auto-Negotiation with 1GE optical SFPs.
- Remove the speed settings on the 1G Copper optics when 10M/100M is configured and replaced with 1G SFP optics.
- The **hw-module profile mfib statistics** command is not supported.

Caveats

Table 1: Cisco IOS XR NCS 540 Routers Specific Bugs

Bug ID	Headline
CSCwj07339	The call-home configurations displayed in the show run call-home command are missing in the show running-config command output.

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 24.1.1 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 2: Release 24.1.1 Software for N540-24Z8Q2C-SYS, N540-ACC-SYS, and N540X-ACC-SYS

Base Image	Filename	Description
IOS XR Base Image	ncs540-mini-x-24.1.1.iso	IOS XR mandatory base image.
USB Boot Package	ncs540-usb_boot-24.1.1.zip	Package required to perform USB Boot. Includes the same packages as the base image.

Optional Packages not included in the base image		
Package	Filename	Description
IOS XR Manageability	ncs540-mgbl-1.0.0.0-r2411.x86_64.rpm	Supports Extensible Markup Language (XML) Parser, Telemetry, Netconf, gRPC and HTTP server
IOS XR MPLS	ncs540-mpls-1.0.0.0-r2411.x86_64.rpm ncs540-mpls-te-rsvp-1.0.0.0-r2411.x86_64.rpm	Supports MPLS and MPLS Traffic Engineering (MPLS-TE)
IOS XR Security	ncs540-k9sec-1.0.0.0-r2411.x86_64.rpm	Supports MACsec and 802.1X
IOS XR ISIS	ncs540-isis-1.0.0.0-r2411.x86_64.rpm	Supports ISIS
IOS XR OSPF	ncs540-ospf-1.0.0.0-r2411.x86_64.rpm	Supports OSPF
IOS XR Lawful Intercept	ncs540-li-1.0.0.0-r2411.x86_64.rpm	Supports Lawful Intercept (LI)
IOS XR Multicast	ncs540-mcast-1.0.0.0-r2411.x86_64.rpm	Supports Multicast
IOS XR EIGRP	ncs540-eigrp-1.0.0.0-r2411.x86_64.rpm	Supports EIGRP
IOS XR LI-CTRL	ncs540-lictrl-1.0.0.0-r2411.x86_64.rpm	Supports LI-CTRL

Table 3: Release 24.1.1 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
-------------------	-----------------	--------------------

IOS XR Base Image	ncs540l-x64-24.1.1.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"> • xr-bgp • xr-cdp • xr-eigrp • xr-ipsla • xr-is-is • xr-k9sec • xr-lictrl • xr-lldp • xr-mcast • xr-mpls-oam • xr-netflow • xr-ospf • xr-perf-meas • xr-perfmgmt • xr-rip • xr-telnet • xr-track <p>These optional packages are also included in NCS540l-iosxr-24.1.1.tar.</p>
USB Boot Package	ncs540l-usb_boot-24.1.1.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-24.1.1.tar	Supports Telnet
IOS XR EIGRP (xr-eigrp)	NCS540l-iosxr-24.1.1.tar	Supports EIGRP
IOS XR CDP (xr-cdp)	NCS540l-iosxr-24.1.1.tar	Supports CDP
IOS XR k9sec (xr-k9sec)	NCS540l-k9sec-rpms.24.1.1.tar	Supports 802.1X

IOS XR RIP (xr-rip)	NCS540l-iosxr-24.1.1.tar	Supports RIP
---------------------	--------------------------	--------------

Table 4: Release 24.1.1 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

Base Image	Filename	Description
IOS XR Base Image	ncs540l-aarch64-24.1.1.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"> • xr-bgp • xr-cdp • xr-eigrp • xr-ipsla • xr-is-is • xr-k9sec • xr-lictrl • xr-lldp • xr-mcast • xr-mpls-oam • xr-ncs540l-mcast • xr-ncs540l-netflow • xr-netflow • xr-ospf • xr-perf-meas • xr-perfmgmt • xr-rip • xr-telnet • xr-track <p>These optional packages are also included in NCS540l aarch64 iosxr optional rpms-24.1.1.tar.</p>
USB Boot Package	ncs540l-aarch64-usb_boot-24.1.1.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-aarch64-iosxr-optional-rpms-24.1.1.tar	Supports Telnet
IOS XR EIGRP (xr-eigrp)	NCS540l-aarch64-iosxr-optional-rpms-24.1.1.tar	Supports EIGRP
IOS XR CDP (xr-cdp)	NCS540l-aarch64-iosxr-optional-rpms-24.1.1.tar	Supports CDP
IOS XR k9sec (xr-k9sec)	NCS540l-aarch64-k9sec-rpms.24.1.1.tar	Supports 802.1X
IOS XR RIP (xr-rip)	NCS540l-aarch64-iosxr-optional-rpms-24.1.1.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 24.1.1
Copyright (c) 2013-2024 by Cisco Systems, Inc.

Build Information:
  Built By      : swtools
  Built On     : Mon Mar 11 20:03:59 PDT 2024
  Built Host   : iox-ucs-047
  Workspace    : /auto/srcarchive15/prod/24.1.1/ncs540/ws
  Version     : 24.1.1
  Location    : /opt/cisco/XR/packages/
  Label      : 24.1.1-iso

cisco NCS-540 () processor
System uptime is 21 hours 19 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 24.1.1 LNT
Copyright (c) 2013-2024 by Cisco Systems, Inc.

Build Information:
  Built By      : swtools
  Built On     : Tue Mar 12 00:13:06 UTC 2024
  Build Host   : iox-ucs-054
  Workspace    : /auto/srcarchive15/prod/24.1.1/ncs540l/ws/
  Version     : 24.1.1
  Label      : 24.1.1

cisco NCS540L (C3708 @ 1.70GHz)
cisco N540X-16Z4G8Q2C-A (C3708 @ 1.70GHz) processor with 8GB of memory
NCS540L uptime is 21 hours, 11 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-4Z14G2Q-A/D, N540-6Z18G-SYS-A/D, N540X-8Z16G-SYS-A/D, N540-6Z14S-SYS-D, and N540X-6Z18G-SYS-A/D variants:

```
RP/0/RP0/CPU0:Router#show version
Cisco IOS XR Software, Version 24.1.1 LNT
```


Copyright (c) 2013-2024 by Cisco Systems, Inc.

Build Information:

```
Built By      : swtools
Built On     : Tue Mar 12 00:13:06 UTC 2024
Build Host   : iox-ucs-065
Workspace    : /auto/srcarchive15/prod/24.1.1/ncs5401-aarch64/ws/
Version     : 24.1.1
Label       : 24.1.1
```

```
cisco NCS540L
cisco N540-6Z14S-SYS-D processor with 8GB of memory
ncs5401-aarch64 uptime is 22 hours, 7 minutes
Cisco NCS 540 Series Fixed Router 10x1G, 4xCu, 6x1/10G, DC
```

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 24.1.1 LNT
Copyright (c) 2013-2024 by Cisco Systems, Inc.
```

Build Information:

```
Built By      : swtools
Built On     : Tue Mar 12 00:13:06 UTC 2024
Build Host   : iox-ucs-054
Workspace    : /auto/srcarchive15/prod/24.1.1/ncs5401/ws/
Version     : 24.1.1
Label       : 24.1.1
```

```
cisco NCS540L (D1519 @ 1.50GHz)
cisco N540-24Q8L2DD-SYS (D1519 @ 1.50GHz) processor with 16GB of memory
ARCHES uptime is 21 hours, 38 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 24.1.1 LNT
Copyright (c) 2013-2024 by Cisco Systems, Inc.
```

Build Information:

```
Built By      : swtools
Built On     : Tue Mar 12 00:13:06 UTC 2024
Build Host   : iox-ucs-054
Workspace    : /auto/srcarchive15/prod/24.1.1/ncs5401/ws/
Version     : 24.1.1
Label       : 24.1.1
```

```
cisco NCS540L (C3708 @ 1.70GHz)
cisco N540-FH-CSR-SYS (C3708 @ 1.70GHz) processor with 8GB of memory
N540-FH uptime is 20 hours, 56 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 Reload	SW Ver	Min Req SW Ver	Min Req Board Ver
N540-24Z8Q2C-M	Bootloader (A)	YES	1.17	1.17	0.0
	CPU-IOFPGA (A)	YES	0.10	0.10	0.0
	MB-IOFPGA (A)	YES	0.28	0.28	0.0
	MB-MIFPGA	YES	0.08	0.08	0.0
	SATA-INTEL_240G (A)	NO	1132.00	1132.00	0.0
	SATA-INTEL_480G (A)	NO	1132.00	1132.00	0.0
	SATA-M1100 (A)	NO	50.00	50.00	0.0
	SATA-M500IT-MC (A)	NO	3.00	3.00	0.0
	SATA-M500IT-MU-A (A)	NO	5.00	5.00	0.0
	SATA-M500IT-MU-B (A)	NO	4.00	4.00	0.0
	SATA-M5100 (A)	NO	75.00	75.00	0.0
	SATA-M600-MCT (A)	NO	5.00	5.00	0.0
	SATA-M600-MU (A)	NO	6.00	6.00	0.0
	SATA-Micron (A)	NO	1.00	1.00	0.0
	SATA-SMART-128G (A)	NO	1427.00	1427.00	0.0
	SSFP_E1F_0	NO	13.01	13.01	0.0
	SSFP_E1F_1	NO	13.01	13.01	0.0
	SSFP_E1F_10	NO	13.01	13.01	0.0
	SSFP_E1F_11	NO	13.01	13.01	0.0
	SSFP_E1F_12	NO	13.01	13.01	0.0
	SSFP_E1F_13	NO	13.01	13.01	0.0
	SSFP_E1F_14	NO	13.01	13.01	0.0
	SSFP_E1F_15	NO	13.01	13.01	0.0
	SSFP_E1F_16	NO	13.01	13.01	0.0
	SSFP_E1F_17	NO	13.01	13.01	0.0
	SSFP_E1F_18	NO	13.01	13.01	0.0
	SSFP_E1F_19	NO	13.01	13.01	0.0
	SSFP_E1F_2	NO	13.01	13.01	0.0
	SSFP_E1F_20	NO	13.01	13.01	0.0
	SSFP_E1F_21	NO	13.01	13.01	0.0
	SSFP_E1F_22	NO	13.01	13.01	0.0
	SSFP_E1F_23	NO	13.01	13.01	0.0
	SSFP_E1F_24	NO	13.01	13.01	0.0
	SSFP_E1F_25	NO	13.01	13.01	0.0
	SSFP_E1F_26	NO	13.01	13.01	0.0
	SSFP_E1F_27	NO	13.01	13.01	0.0
	SSFP_E1F_28	NO	13.01	13.01	0.0
	SSFP_E1F_29	NO	13.01	13.01	0.0
	SSFP_E1F_3	NO	13.01	13.01	0.0
	SSFP_E1F_30	NO	13.01	13.01	0.0
	SSFP_E1F_31	NO	13.01	13.01	0.0
	SSFP_E1F_32	NO	13.01	13.01	0.0
	SSFP_E1F_33	NO	13.01	13.01	0.0
	SSFP_E1F_34	NO	13.01	13.01	0.0
	SSFP_E1F_35	NO	13.01	13.01	0.0
	SSFP_E1F_36	NO	13.01	13.01	0.0
	SSFP_E1F_37	NO	13.01	13.01	0.0
	SSFP_E1F_38	NO	13.01	13.01	0.0
	SSFP_E1F_39	NO	13.01	13.01	0.0
	SSFP_E1F_4	NO	13.01	13.01	0.0

```
=====
```

SSFP_E1F_40	NO	13.01	13.01	0.0
SSFP_E1F_41	NO	13.01	13.01	0.0
SSFP_E1F_42	NO	13.01	13.01	0.0
SSFP_E1F_43	NO	13.01	13.01	0.0
SSFP_E1F_44	NO	13.01	13.01	0.0
SSFP_E1F_45	NO	13.01	13.01	0.0
SSFP_E1F_46	NO	13.01	13.01	0.0
SSFP_E1F_47	NO	13.01	13.01	0.0
SSFP_E1F_5	NO	13.01	13.01	0.0
SSFP_E1F_6	NO	13.01	13.01	0.0
SSFP_E1F_7	NO	13.01	13.01	0.0
SSFP_E1F_8	NO	13.01	13.01	0.0
SSFP_E1F_9	NO	13.01	13.01	0.0
SSFP_OC3_STM1_0	NO	12.01	12.01	0.0
SSFP_OC3_STM1_1	NO	12.01	12.01	0.0
SSFP_OC3_STM1_10	NO	12.01	12.01	0.0
SSFP_OC3_STM1_11	NO	12.01	12.01	0.0
SSFP_OC3_STM1_12	NO	12.01	12.01	0.0
SSFP_OC3_STM1_13	NO	12.01	12.01	0.0
SSFP_OC3_STM1_14	NO	12.01	12.01	0.0
SSFP_OC3_STM1_15	NO	12.01	12.01	0.0
SSFP_OC3_STM1_16	NO	12.01	12.01	0.0
SSFP_OC3_STM1_17	NO	12.01	12.01	0.0
SSFP_OC3_STM1_18	NO	12.01	12.01	0.0
SSFP_OC3_STM1_19	NO	12.01	12.01	0.0
SSFP_OC3_STM1_2	NO	12.01	12.01	0.0
SSFP_OC3_STM1_20	NO	12.01	12.01	0.0
SSFP_OC3_STM1_21	NO	12.01	12.01	0.0
SSFP_OC3_STM1_22	NO	12.01	12.01	0.0
SSFP_OC3_STM1_23	NO	12.01	12.01	0.0
SSFP_OC3_STM1_24	NO	12.01	12.01	0.0
SSFP_OC3_STM1_25	NO	12.01	12.01	0.0
SSFP_OC3_STM1_26	NO	12.01	12.01	0.0
SSFP_OC3_STM1_27	NO	12.01	12.01	0.0
SSFP_OC3_STM1_28	NO	12.01	12.01	0.0
SSFP_OC3_STM1_29	NO	12.01	12.01	0.0
SSFP_OC3_STM1_3	NO	12.01	12.01	0.0
SSFP_OC3_STM1_30	NO	12.01	12.01	0.0
SSFP_OC3_STM1_31	NO	12.01	12.01	0.0
SSFP_OC3_STM1_32	NO	12.01	12.01	0.0
SSFP_OC3_STM1_33	NO	12.01	12.01	0.0
SSFP_OC3_STM1_34	NO	12.01	12.01	0.0
SSFP_OC3_STM1_35	NO	12.01	12.01	0.0
SSFP_OC3_STM1_36	NO	12.01	12.01	0.0
SSFP_OC3_STM1_37	NO	12.01	12.01	0.0
SSFP_OC3_STM1_38	NO	12.01	12.01	0.0
SSFP_OC3_STM1_39	NO	12.01	12.01	0.0
SSFP_OC3_STM1_4	NO	12.01	12.01	0.0
SSFP_OC3_STM1_40	NO	12.01	12.01	0.0
SSFP_OC3_STM1_41	NO	12.01	12.01	0.0
SSFP_OC3_STM1_42	NO	12.01	12.01	0.0
SSFP_OC3_STM1_43	NO	12.01	12.01	0.0
SSFP_OC3_STM1_44	NO	12.01	12.01	0.0
SSFP_OC3_STM1_45	NO	12.01	12.01	0.0
SSFP_OC3_STM1_46	NO	12.01	12.01	0.0
SSFP_OC3_STM1_47	NO	12.01	12.01	0.0
SSFP_OC3_STM1_5	NO	12.01	12.01	0.0
SSFP_OC3_STM1_6	NO	12.01	12.01	0.0
SSFP_OC3_STM1_7	NO	12.01	12.01	0.0
SSFP_OC3_STM1_8	NO	12.01	12.01	0.0
SSFP_OC3_STM1_9	NO	12.01	12.01	0.0
SSFP_STM1_TSOP_0	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_1	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_10	NO	13.00	13.00	0.0

Determine Firmware Support

	SSFP_STM1_TSOP_11	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_12	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_13	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_14	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_15	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_16	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_17	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_18	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_19	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_2	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_20	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_21	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_22	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_23	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_24	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_25	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_26	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_27	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_28	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_29	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_3	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_30	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_31	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_32	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_33	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_34	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_35	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_36	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_37	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_38	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_39	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_4	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_40	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_41	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_42	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_43	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_44	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_45	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_46	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_47	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_5	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_6	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_7	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_8	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_9	NO	13.00	13.00	0.0

N540-ACC-SYS	Bootloader (A)	YES	1.17	1.17	0.0
	CPU-IOFPGA (A)	YES	0.10	0.10	0.0
	MB-IOFPGA (A)	YES	0.28	0.28	0.0
	MB-MIFPGA	YES	0.08	0.08	0.0
	SATA-INTEL_240G (A)	NO	1132.00	1132.00	0.0
	SATA-INTEL_480G (A)	NO	1132.00	1132.00	0.0
	SATA-M1100 (A)	NO	50.00	50.00	0.0
	SATA-M500IT-MC (A)	NO	3.00	3.00	0.0
	SATA-M500IT-MU-A (A)	NO	5.00	5.00	0.0
	SATA-M500IT-MU-B (A)	NO	4.00	4.00	0.0
	SATA-M5100 (A)	NO	75.00	75.00	0.0
	SATA-M600-MCT (A)	NO	5.00	5.00	0.0
	SATA-M600-MU (A)	NO	6.00	6.00	0.0
	SATA-Micron (A)	NO	1.00	1.00	0.0
	SATA-SMART-128G (A)	NO	1427.00	1427.00	0.0
	SSFP_E1F_0	NO	13.01	13.01	0.0
	SSFP_E1F_1	NO	13.01	13.01	0.0
	SSFP_E1F_10	NO	13.01	13.01	0.0

SSFP_E1F_11	NO	13.01	13.01	0.0
SSFP_E1F_12	NO	13.01	13.01	0.0
SSFP_E1F_13	NO	13.01	13.01	0.0
SSFP_E1F_14	NO	13.01	13.01	0.0
SSFP_E1F_15	NO	13.01	13.01	0.0
SSFP_E1F_16	NO	13.01	13.01	0.0
SSFP_E1F_17	NO	13.01	13.01	0.0
SSFP_E1F_18	NO	13.01	13.01	0.0
SSFP_E1F_19	NO	13.01	13.01	0.0
SSFP_E1F_2	NO	13.01	13.01	0.0
SSFP_E1F_20	NO	13.01	13.01	0.0
SSFP_E1F_21	NO	13.01	13.01	0.0
SSFP_E1F_22	NO	13.01	13.01	0.0
SSFP_E1F_23	NO	13.01	13.01	0.0
SSFP_E1F_24	NO	13.01	13.01	0.0
SSFP_E1F_25	NO	13.01	13.01	0.0
SSFP_E1F_26	NO	13.01	13.01	0.0
SSFP_E1F_27	NO	13.01	13.01	0.0
SSFP_E1F_28	NO	13.01	13.01	0.0
SSFP_E1F_29	NO	13.01	13.01	0.0
SSFP_E1F_3	NO	13.01	13.01	0.0
SSFP_E1F_30	NO	13.01	13.01	0.0
SSFP_E1F_31	NO	13.01	13.01	0.0
SSFP_E1F_32	NO	13.01	13.01	0.0
SSFP_E1F_33	NO	13.01	13.01	0.0
SSFP_E1F_34	NO	13.01	13.01	0.0
SSFP_E1F_35	NO	13.01	13.01	0.0
SSFP_E1F_36	NO	13.01	13.01	0.0
SSFP_E1F_37	NO	13.01	13.01	0.0
SSFP_E1F_38	NO	13.01	13.01	0.0
SSFP_E1F_39	NO	13.01	13.01	0.0
SSFP_E1F_4	NO	13.01	13.01	0.0
SSFP_E1F_40	NO	13.01	13.01	0.0
SSFP_E1F_41	NO	13.01	13.01	0.0
SSFP_E1F_42	NO	13.01	13.01	0.0
SSFP_E1F_43	NO	13.01	13.01	0.0
SSFP_E1F_44	NO	13.01	13.01	0.0
SSFP_E1F_45	NO	13.01	13.01	0.0
SSFP_E1F_46	NO	13.01	13.01	0.0
SSFP_E1F_47	NO	13.01	13.01	0.0
SSFP_E1F_5	NO	13.01	13.01	0.0
SSFP_E1F_6	NO	13.01	13.01	0.0
SSFP_E1F_7	NO	13.01	13.01	0.0
SSFP_E1F_8	NO	13.01	13.01	0.0
SSFP_E1F_9	NO	13.01	13.01	0.0
SSFP_OC3_STM1_0	NO	12.01	12.01	0.0
SSFP_OC3_STM1_1	NO	12.01	12.01	0.0
SSFP_OC3_STM1_10	NO	12.01	12.01	0.0
SSFP_OC3_STM1_11	NO	12.01	12.01	0.0
SSFP_OC3_STM1_12	NO	12.01	12.01	0.0
SSFP_OC3_STM1_13	NO	12.01	12.01	0.0
SSFP_OC3_STM1_14	NO	12.01	12.01	0.0
SSFP_OC3_STM1_15	NO	12.01	12.01	0.0
SSFP_OC3_STM1_16	NO	12.01	12.01	0.0
SSFP_OC3_STM1_17	NO	12.01	12.01	0.0
SSFP_OC3_STM1_18	NO	12.01	12.01	0.0
SSFP_OC3_STM1_19	NO	12.01	12.01	0.0
SSFP_OC3_STM1_2	NO	12.01	12.01	0.0
SSFP_OC3_STM1_20	NO	12.01	12.01	0.0
SSFP_OC3_STM1_21	NO	12.01	12.01	0.0
SSFP_OC3_STM1_22	NO	12.01	12.01	0.0
SSFP_OC3_STM1_23	NO	12.01	12.01	0.0
SSFP_OC3_STM1_24	NO	12.01	12.01	0.0
SSFP_OC3_STM1_25	NO	12.01	12.01	0.0

Determine Firmware Support

SSFP_OC3_STM1_26	NO	12.01	12.01	0.0
SSFP_OC3_STM1_27	NO	12.01	12.01	0.0
SSFP_OC3_STM1_28	NO	12.01	12.01	0.0
SSFP_OC3_STM1_29	NO	12.01	12.01	0.0
SSFP_OC3_STM1_3	NO	12.01	12.01	0.0
SSFP_OC3_STM1_30	NO	12.01	12.01	0.0
SSFP_OC3_STM1_31	NO	12.01	12.01	0.0
SSFP_OC3_STM1_32	NO	12.01	12.01	0.0
SSFP_OC3_STM1_33	NO	12.01	12.01	0.0
SSFP_OC3_STM1_34	NO	12.01	12.01	0.0
SSFP_OC3_STM1_35	NO	12.01	12.01	0.0
SSFP_OC3_STM1_36	NO	12.01	12.01	0.0
SSFP_OC3_STM1_37	NO	12.01	12.01	0.0
SSFP_OC3_STM1_38	NO	12.01	12.01	0.0
SSFP_OC3_STM1_39	NO	12.01	12.01	0.0
SSFP_OC3_STM1_4	NO	12.01	12.01	0.0
SSFP_OC3_STM1_40	NO	12.01	12.01	0.0
SSFP_OC3_STM1_41	NO	12.01	12.01	0.0
SSFP_OC3_STM1_42	NO	12.01	12.01	0.0
SSFP_OC3_STM1_43	NO	12.01	12.01	0.0
SSFP_OC3_STM1_44	NO	12.01	12.01	0.0
SSFP_OC3_STM1_45	NO	12.01	12.01	0.0
SSFP_OC3_STM1_46	NO	12.01	12.01	0.0
SSFP_OC3_STM1_47	NO	12.01	12.01	0.0
SSFP_OC3_STM1_5	NO	12.01	12.01	0.0
SSFP_OC3_STM1_6	NO	12.01	12.01	0.0
SSFP_OC3_STM1_7	NO	12.01	12.01	0.0
SSFP_OC3_STM1_8	NO	12.01	12.01	0.0
SSFP_OC3_STM1_9	NO	12.01	12.01	0.0
SSFP_STM1_TSOP_0	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_1	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_10	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_11	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_12	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_13	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_14	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_15	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_16	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_17	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_18	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_19	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_2	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_20	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_21	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_22	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_23	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_24	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_25	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_26	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_27	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_28	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_29	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_3	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_30	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_31	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_32	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_33	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_34	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_35	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_36	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_37	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_38	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_39	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_4	NO	13.00	13.00	0.0

	SSFP_STM1_TSOP_40	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_41	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_42	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_43	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_44	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_45	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_46	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_47	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_5	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_6	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_7	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_8	NO	13.00	13.00	0.0
	SSFP_STM1_TSOP_9	NO	13.00	13.00	0.0

N540-PWR400-A	LIT-PrimMCU-ACFW (A)	NO	0.04	0.04	0.0
	LIT-SecMCU-ACFW (A)	NO	0.07	0.07	0.0

N540-PWR400-D	LIT-PrimMCU-DCFW (A)	NO	0.04	0.04	0.0
	LIT-SecMCU-DCFW (A)	NO	0.06	0.06	0.0
	SDG-PrimMCU-DCFW (A)	NO	1.03	1.03	0.0
	SDG-SecMCU-DCFW (A)	NO	1.03	1.03	0.0

N540-X-24Z8Q2C-M	Bootloader (A)	YES	1.17	1.17	0.0
	CPU-IOFPGA (A)	YES	0.10	0.10	0.0
	MB-IOFPGA (A)	YES	0.28	0.28	0.0
	MB-MIFPGA	YES	0.08	0.08	0.0
	SATA-INTEL_240G (A)	NO	1132.00	1132.00	0.0
	SATA-INTEL_480G (A)	NO	1132.00	1132.00	0.0
	SATA-M1100 (A)	NO	50.00	50.00	0.0
	SATA-M500IT-MC (A)	NO	3.00	3.00	0.0
	SATA-M500IT-MU-A (A)	NO	5.00	5.00	0.0
	SATA-M500IT-MU-B (A)	NO	4.00	4.00	0.0
	SATA-M5100 (A)	NO	75.00	75.00	0.0
	SATA-M600-MCT (A)	NO	5.00	5.00	0.0
	SATA-M600-MU (A)	NO	6.00	6.00	0.0
	SATA-Micron (A)	NO	1.00	1.00	0.0
	SATA-SMART-128G (A)	NO	1427.00	1427.00	0.0
	SSFP_E1F_0	NO	13.01	13.01	0.0
	SSFP_E1F_1	NO	13.01	13.01	0.0
	SSFP_E1F_10	NO	13.01	13.01	0.0
	SSFP_E1F_11	NO	13.01	13.01	0.0
	SSFP_E1F_12	NO	13.01	13.01	0.0
	SSFP_E1F_13	NO	13.01	13.01	0.0
	SSFP_E1F_14	NO	13.01	13.01	0.0
	SSFP_E1F_15	NO	13.01	13.01	0.0
	SSFP_E1F_16	NO	13.01	13.01	0.0
	SSFP_E1F_17	NO	13.01	13.01	0.0
	SSFP_E1F_18	NO	13.01	13.01	0.0
	SSFP_E1F_19	NO	13.01	13.01	0.0
	SSFP_E1F_2	NO	13.01	13.01	0.0
	SSFP_E1F_20	NO	13.01	13.01	0.0
	SSFP_E1F_21	NO	13.01	13.01	0.0
	SSFP_E1F_22	NO	13.01	13.01	0.0
	SSFP_E1F_23	NO	13.01	13.01	0.0
	SSFP_E1F_24	NO	13.01	13.01	0.0
	SSFP_E1F_25	NO	13.01	13.01	0.0
	SSFP_E1F_26	NO	13.01	13.01	0.0
	SSFP_E1F_27	NO	13.01	13.01	0.0
	SSFP_E1F_28	NO	13.01	13.01	0.0
	SSFP_E1F_29	NO	13.01	13.01	0.0
	SSFP_E1F_3	NO	13.01	13.01	0.0
	SSFP_E1F_30	NO	13.01	13.01	0.0
	SSFP_E1F_31	NO	13.01	13.01	0.0
	SSFP_E1F_32	NO	13.01	13.01	0.0

Determine Firmware Support

SSFP_E1F_33	NO	13.01	13.01	0.0
SSFP_E1F_34	NO	13.01	13.01	0.0
SSFP_E1F_35	NO	13.01	13.01	0.0
SSFP_E1F_36	NO	13.01	13.01	0.0
SSFP_E1F_37	NO	13.01	13.01	0.0
SSFP_E1F_38	NO	13.01	13.01	0.0
SSFP_E1F_39	NO	13.01	13.01	0.0
SSFP_E1F_4	NO	13.01	13.01	0.0
SSFP_E1F_40	NO	13.01	13.01	0.0
SSFP_E1F_41	NO	13.01	13.01	0.0
SSFP_E1F_42	NO	13.01	13.01	0.0
SSFP_E1F_43	NO	13.01	13.01	0.0
SSFP_E1F_44	NO	13.01	13.01	0.0
SSFP_E1F_45	NO	13.01	13.01	0.0
SSFP_E1F_46	NO	13.01	13.01	0.0
SSFP_E1F_47	NO	13.01	13.01	0.0
SSFP_E1F_5	NO	13.01	13.01	0.0
SSFP_E1F_6	NO	13.01	13.01	0.0
SSFP_E1F_7	NO	13.01	13.01	0.0
SSFP_E1F_8	NO	13.01	13.01	0.0
SSFP_E1F_9	NO	13.01	13.01	0.0
SSFP_OC3_STM1_0	NO	12.01	12.01	0.0
SSFP_OC3_STM1_1	NO	12.01	12.01	0.0
SSFP_OC3_STM1_10	NO	12.01	12.01	0.0
SSFP_OC3_STM1_11	NO	12.01	12.01	0.0
SSFP_OC3_STM1_12	NO	12.01	12.01	0.0
SSFP_OC3_STM1_13	NO	12.01	12.01	0.0
SSFP_OC3_STM1_14	NO	12.01	12.01	0.0
SSFP_OC3_STM1_15	NO	12.01	12.01	0.0
SSFP_OC3_STM1_16	NO	12.01	12.01	0.0
SSFP_OC3_STM1_17	NO	12.01	12.01	0.0
SSFP_OC3_STM1_18	NO	12.01	12.01	0.0
SSFP_OC3_STM1_19	NO	12.01	12.01	0.0
SSFP_OC3_STM1_2	NO	12.01	12.01	0.0
SSFP_OC3_STM1_20	NO	12.01	12.01	0.0
SSFP_OC3_STM1_21	NO	12.01	12.01	0.0
SSFP_OC3_STM1_22	NO	12.01	12.01	0.0
SSFP_OC3_STM1_23	NO	12.01	12.01	0.0
SSFP_OC3_STM1_24	NO	12.01	12.01	0.0
SSFP_OC3_STM1_25	NO	12.01	12.01	0.0
SSFP_OC3_STM1_26	NO	12.01	12.01	0.0
SSFP_OC3_STM1_27	NO	12.01	12.01	0.0
SSFP_OC3_STM1_28	NO	12.01	12.01	0.0
SSFP_OC3_STM1_29	NO	12.01	12.01	0.0
SSFP_OC3_STM1_3	NO	12.01	12.01	0.0
SSFP_OC3_STM1_30	NO	12.01	12.01	0.0
SSFP_OC3_STM1_31	NO	12.01	12.01	0.0
SSFP_OC3_STM1_32	NO	12.01	12.01	0.0
SSFP_OC3_STM1_33	NO	12.01	12.01	0.0
SSFP_OC3_STM1_34	NO	12.01	12.01	0.0
SSFP_OC3_STM1_35	NO	12.01	12.01	0.0
SSFP_OC3_STM1_36	NO	12.01	12.01	0.0
SSFP_OC3_STM1_37	NO	12.01	12.01	0.0
SSFP_OC3_STM1_38	NO	12.01	12.01	0.0
SSFP_OC3_STM1_39	NO	12.01	12.01	0.0
SSFP_OC3_STM1_4	NO	12.01	12.01	0.0
SSFP_OC3_STM1_40	NO	12.01	12.01	0.0
SSFP_OC3_STM1_41	NO	12.01	12.01	0.0
SSFP_OC3_STM1_42	NO	12.01	12.01	0.0
SSFP_OC3_STM1_43	NO	12.01	12.01	0.0
SSFP_OC3_STM1_44	NO	12.01	12.01	0.0
SSFP_OC3_STM1_45	NO	12.01	12.01	0.0
SSFP_OC3_STM1_46	NO	12.01	12.01	0.0
SSFP_OC3_STM1_47	NO	12.01	12.01	0.0

SSFP_OC3_STM1_5	NO	12.01	12.01	0.0	
SSFP_OC3_STM1_6	NO	12.01	12.01	0.0	
SSFP_OC3_STM1_7	NO	12.01	12.01	0.0	
SSFP_OC3_STM1_8	NO	12.01	12.01	0.0	
SSFP_OC3_STM1_9	NO	12.01	12.01	0.0	
SSFP_STM1_TSOP_0	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_1	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_10	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_11	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_12	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_13	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_14	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_15	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_16	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_17	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_18	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_19	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_20	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_21	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_22	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_23	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_24	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_25	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_26	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_27	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_28	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_29	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_3	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_30	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_31	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_32	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_33	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_34	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_35	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_36	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_37	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_38	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_39	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_4	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_40	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_41	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_42	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_43	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_44	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_45	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_46	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_47	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_5	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_6	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_7	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_8	NO	13.00	13.00	0.0	
SSFP_STM1_TSOP_9	NO	13.00	13.00	0.0	

N540X-ACC-SYS	Bootloader (A)	YES	1.17	1.17	0.0
	CPU-IOFPGA (A)	YES	0.10	0.10	0.0
	MB-IOFPGA (A)	YES	0.28	0.28	0.0
	MB-MIFPGA	YES	0.08	0.08	0.0
	SATA-INTEL_240G (A)	NO	1132.00	1132.00	0.0
	SATA-INTEL_480G (A)	NO	1132.00	1132.00	0.0
	SATA-M1100 (A)	NO	50.00	50.00	0.0
	SATA-M500IT-MC (A)	NO	3.00	3.00	0.0
	SATA-M500IT-MU-A (A)	NO	5.00	5.00	0.0
	SATA-M500IT-MU-B (A)	NO	4.00	4.00	0.0

Determine Firmware Support

SATA-M5100 (A)	NO	75.00	75.00	0.0
SATA-M600-MCT (A)	NO	5.00	5.00	0.0
SATA-M600-MU (A)	NO	6.00	6.00	0.0
SATA-Micron (A)	NO	1.00	1.00	0.0
SATA-SMART-128G (A)	NO	1427.00	1427.00	0.0
SSFP_E1F_0	NO	13.01	13.01	0.0
SSFP_E1F_1	NO	13.01	13.01	0.0
SSFP_E1F_10	NO	13.01	13.01	0.0
SSFP_E1F_11	NO	13.01	13.01	0.0
SSFP_E1F_12	NO	13.01	13.01	0.0
SSFP_E1F_13	NO	13.01	13.01	0.0
SSFP_E1F_14	NO	13.01	13.01	0.0
SSFP_E1F_15	NO	13.01	13.01	0.0
SSFP_E1F_16	NO	13.01	13.01	0.0
SSFP_E1F_17	NO	13.01	13.01	0.0
SSFP_E1F_18	NO	13.01	13.01	0.0
SSFP_E1F_19	NO	13.01	13.01	0.0
SSFP_E1F_2	NO	13.01	13.01	0.0
SSFP_E1F_20	NO	13.01	13.01	0.0
SSFP_E1F_21	NO	13.01	13.01	0.0
SSFP_E1F_22	NO	13.01	13.01	0.0
SSFP_E1F_23	NO	13.01	13.01	0.0
SSFP_E1F_24	NO	13.01	13.01	0.0
SSFP_E1F_25	NO	13.01	13.01	0.0
SSFP_E1F_26	NO	13.01	13.01	0.0
SSFP_E1F_27	NO	13.01	13.01	0.0
SSFP_E1F_28	NO	13.01	13.01	0.0
SSFP_E1F_29	NO	13.01	13.01	0.0
SSFP_E1F_3	NO	13.01	13.01	0.0
SSFP_E1F_30	NO	13.01	13.01	0.0
SSFP_E1F_31	NO	13.01	13.01	0.0
SSFP_E1F_32	NO	13.01	13.01	0.0
SSFP_E1F_33	NO	13.01	13.01	0.0
SSFP_E1F_34	NO	13.01	13.01	0.0
SSFP_E1F_35	NO	13.01	13.01	0.0
SSFP_E1F_36	NO	13.01	13.01	0.0
SSFP_E1F_37	NO	13.01	13.01	0.0
SSFP_E1F_38	NO	13.01	13.01	0.0
SSFP_E1F_39	NO	13.01	13.01	0.0
SSFP_E1F_4	NO	13.01	13.01	0.0
SSFP_E1F_40	NO	13.01	13.01	0.0
SSFP_E1F_41	NO	13.01	13.01	0.0
SSFP_E1F_42	NO	13.01	13.01	0.0
SSFP_E1F_43	NO	13.01	13.01	0.0
SSFP_E1F_44	NO	13.01	13.01	0.0
SSFP_E1F_45	NO	13.01	13.01	0.0
SSFP_E1F_46	NO	13.01	13.01	0.0
SSFP_E1F_47	NO	13.01	13.01	0.0
SSFP_E1F_5	NO	13.01	13.01	0.0
SSFP_E1F_6	NO	13.01	13.01	0.0
SSFP_E1F_7	NO	13.01	13.01	0.0
SSFP_E1F_8	NO	13.01	13.01	0.0
SSFP_E1F_9	NO	13.01	13.01	0.0
SSFP_OC3_STM1_0	NO	12.01	12.01	0.0
SSFP_OC3_STM1_1	NO	12.01	12.01	0.0
SSFP_OC3_STM1_10	NO	12.01	12.01	0.0
SSFP_OC3_STM1_11	NO	12.01	12.01	0.0
SSFP_OC3_STM1_12	NO	12.01	12.01	0.0
SSFP_OC3_STM1_13	NO	12.01	12.01	0.0
SSFP_OC3_STM1_14	NO	12.01	12.01	0.0
SSFP_OC3_STM1_15	NO	12.01	12.01	0.0
SSFP_OC3_STM1_16	NO	12.01	12.01	0.0
SSFP_OC3_STM1_17	NO	12.01	12.01	0.0
SSFP_OC3_STM1_18	NO	12.01	12.01	0.0

SSFP_OC3_STM1_19	NO	12.01	12.01	0.0
SSFP_OC3_STM1_2	NO	12.01	12.01	0.0
SSFP_OC3_STM1_20	NO	12.01	12.01	0.0
SSFP_OC3_STM1_21	NO	12.01	12.01	0.0
SSFP_OC3_STM1_22	NO	12.01	12.01	0.0
SSFP_OC3_STM1_23	NO	12.01	12.01	0.0
SSFP_OC3_STM1_24	NO	12.01	12.01	0.0
SSFP_OC3_STM1_25	NO	12.01	12.01	0.0
SSFP_OC3_STM1_26	NO	12.01	12.01	0.0
SSFP_OC3_STM1_27	NO	12.01	12.01	0.0
SSFP_OC3_STM1_28	NO	12.01	12.01	0.0
SSFP_OC3_STM1_29	NO	12.01	12.01	0.0
SSFP_OC3_STM1_3	NO	12.01	12.01	0.0
SSFP_OC3_STM1_30	NO	12.01	12.01	0.0
SSFP_OC3_STM1_31	NO	12.01	12.01	0.0
SSFP_OC3_STM1_32	NO	12.01	12.01	0.0
SSFP_OC3_STM1_33	NO	12.01	12.01	0.0
SSFP_OC3_STM1_34	NO	12.01	12.01	0.0
SSFP_OC3_STM1_35	NO	12.01	12.01	0.0
SSFP_OC3_STM1_36	NO	12.01	12.01	0.0
SSFP_OC3_STM1_37	NO	12.01	12.01	0.0
SSFP_OC3_STM1_38	NO	12.01	12.01	0.0
SSFP_OC3_STM1_39	NO	12.01	12.01	0.0
SSFP_OC3_STM1_4	NO	12.01	12.01	0.0
SSFP_OC3_STM1_40	NO	12.01	12.01	0.0
SSFP_OC3_STM1_41	NO	12.01	12.01	0.0
SSFP_OC3_STM1_42	NO	12.01	12.01	0.0
SSFP_OC3_STM1_43	NO	12.01	12.01	0.0
SSFP_OC3_STM1_44	NO	12.01	12.01	0.0
SSFP_OC3_STM1_45	NO	12.01	12.01	0.0
SSFP_OC3_STM1_46	NO	12.01	12.01	0.0
SSFP_OC3_STM1_47	NO	12.01	12.01	0.0
SSFP_OC3_STM1_5	NO	12.01	12.01	0.0
SSFP_OC3_STM1_6	NO	12.01	12.01	0.0
SSFP_OC3_STM1_7	NO	12.01	12.01	0.0
SSFP_OC3_STM1_8	NO	12.01	12.01	0.0
SSFP_OC3_STM1_9	NO	12.01	12.01	0.0
SSFP_STM1_TSOP_0	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_1	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_10	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_11	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_12	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_13	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_14	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_15	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_16	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_17	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_18	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_19	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_2	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_20	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_21	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_22	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_23	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_24	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_25	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_26	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_27	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_28	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_29	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_3	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_30	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_31	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_32	NO	13.00	13.00	0.0

Determine Firmware Support

SSFP_STM1_TSOP_33	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_34	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_35	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_36	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_37	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_38	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_39	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_4	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_40	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_41	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_42	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_43	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_44	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_45	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_46	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_47	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_5	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_6	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_7	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_8	NO	13.00	13.00	0.0
SSFP_STM1_TSOP_9	NO	13.00	13.00	0.0

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

Location	Card type	HWver	FPD device	ATR Status	FPD Versions	
					Running	Programd
0/RP0	N540-ACC-SYS	1.0	MB-MIFPGA	CURRENT	0.08	0.08
0/RP0	N540-ACC-SYS	1.0	Bootloader	CURRENT	1.17	1.17
0/RP0	N540-ACC-SYS	1.0	CPU-IOFPGA	CURRENT	0.10	0.10
0/RP0	N540-ACC-SYS	1.0	MB-IOFPGA	CURRENT	0.28	0.28
0/RP0	N540-ACC-SYS	1.0	SATA-M500IT-MU-B	CURRENT	4.00	4.00
0/PM0	N540-PWR400-A		LIT-PrimMCU-ACFW	NOT READY		
0/PM0	N540-PWR400-A		LIT-SecMCU-ACFW	NOT READY		
0/PM1	N540-PWR400-A	1.0	SDG-PrimMCU-ACFW	CURRENT	0.00	0.00
0/PM1	N540-PWR400-A	1.0	SDG-SecMCU-ACFW	CURRENT	0.00	0.00

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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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

Determine Firmware Support

	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	1.49	1.49	0.0
	StdbypFpga	YES	0.46	0.46	0.0
	StdbypFpgaGolden	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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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

		FPD Versions				
		=====				
Location	Card type	HWver	FPD device	ATR Status	Running Programd	

Reload Loc						
0/RP0/CPU0	N540X-16Z4G8Q2C-A	0.3	ADM_FW	CURRENT	14.03	14.03
NOT REQ						
0/RP0/CPU0	N540X-16Z4G8Q2C-A	0.3	ADMConfig	CURRENT	1.05	1.05
NOT REQ						
0/RP0/CPU0	N540X-16Z4G8Q2C-A	0.3	IoFpga	CURRENT	3.08	3.08
0/RP0						
0/RP0/CPU0	N540X-16Z4G8Q2C-A	0.3	IoFpgaGolden	B NEED UPGD		1.31
0/RP0						
0/RP0/CPU0	N540X-16Z4G8Q2C-A	0.3	Primary-BIOS	SA CURRENT	1.49	1.49
0/RP0						
0/RP0/CPU0	N540X-16Z4G8Q2C-A	0.3	StdbyFpga	S CURRENT	0.50	0.50
0/RP0						
0/RP0/CPU0	N540X-16Z4G8Q2C-A	0.3	StdbyFpgaGolden	BS NEED UPGD		0.00
0/RP0						
0/RP0/CPU0	N540X-16Z4G8Q2C-A	0.3	TamFw	S CURRENT	4.13	4.13
0/RP0						
0/RP0/CPU0	N540X-16Z4G8Q2C-A	0.3	TamFwGolden	BS NEED UPGD		0.00
0/RP0						

Log in to the router and enter the **show fpd package** and **show hw-module fpd** commands on the Cisco N540X-4Z14G2Q-A/D, N540-6Z18G-SYS-A/D, N540X-6Z18G-SYS-A/D, N540-6Z14S-SYS-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  SW   Min Req  Min Req
                    Reloaid Ver              SW Ver  Board Ver
=====
N540-6Z14S-SYS-D  ADMConfig                NO    5.03  5.03    0.0
    
```

Determine Firmware Support

	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	
						Running	Programd
Reload Loc							
0/RP0/CPU0	N540-6Z14S-SYS-D	0.2	ADMConfig		CURRENT	5.03	5.03
NOT REQ							
0/RP0/CPU0	N540-6Z14S-SYS-D	0.2	IoFpga		CURRENT	0.17	0.17
0/RP0							
0/RP0/CPU0	N540-6Z14S-SYS-D	0.2	IoFpgaGolden	B	CURRENT		0.15
0/RP0							
0/RP0/CPU0	N540-6Z14S-SYS-D	0.2	Prim-BootLoader	A	CURRENT	20.08	20.08
0/RP0							
0/RP0/CPU0	N540-6Z14S-SYS-D	0.2	StdbyFpga	S	CURRENT	2.05	2.05
0/RP0							
0/RP0/CPU0	N540-6Z14S-SYS-D	0.2	StdbyFpgaGolden	BS	CURRENT		0.33
0/RP0							
0/RP0/CPU0	N540-6Z14S-SYS-D	0.2	TamFw	S	CURRENT	6.05	6.05
0/RP0							
0/RP0/CPU0	N540-6Z14S-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 N540-24Q8L2DD-SYS variant:

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

```

=====
Field Programmable Device Package
=====
Card Type          FPD Description          Req  SW   Min Req  Min Req
=====  =====  =====  =====  =====  =====
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

```

Determine Firmware Support

	Primary-BIOS	YES	1.49	1.49	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

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	1.49	1.49	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

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
	SsdSAMS64G3	YES	12.41	12.41	0.0
	Stdbypfpga	YES	2.59	2.59	0.0
	Stdbypfpgagolden	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	1.49	1.49	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

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	1.49	1.49	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

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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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

Determine Firmware Support

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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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

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	3.0	ADM-DBConfig		CURRENT	2.05	2.05
NOT REQ							
0/RP0/CPU0	N540-24Q8L2DD-SYS	3.0	ADM-MBConfig		CURRENT	2.05	2.05
NOT REQ							
0/RP0/CPU0	N540-24Q8L2DD-SYS	3.0	IoFpga		CURRENT	2.12	2.12
0/RP0							
0/RP0/CPU0	N540-24Q8L2DD-SYS	3.0	IoFpgaGolden	B	CURRENT		2.12
0/RP0							
0/RP0/CPU0	N540-24Q8L2DD-SYS	3.0	Primary-BIOS	S	NOT READY	1.05	1.05
N/A							
0/RP0/CPU0	N540-24Q8L2DD-SYS	3.0	StdbypFpga	S	CURRENT	2.59	2.59
0/RP0							
0/RP0/CPU0	N540-24Q8L2DD-SYS	3.0	StdbypFpgaGolden	BS	NEED UPGD		2.24
0/RP0							
0/RP0/CPU0	N540-24Q8L2DD-SYS	3.0	TamFw	S	CURRENT	6.05	6.05
0/RP0							
0/RP0/CPU0	N540-24Q8L2DD-SYS	3.0	TamFwGolden	BS	NEED UPGD		0.00
0/RP0							
0/PM1	N540-PWR400-A	1.0	PrimMCU		CURRENT	1.02	1.02
NOT REQ							
0/PM1	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	1.49	1.49	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	
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	1.49	1.49	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	
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
	StdbFpga	YES	2.59	2.59	0.0
	StdbFpgaGolden	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	1.49	1.49	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	
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	1.49	1.49	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

Determine Firmware Support

	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	1.49	1.49	0.0
	StdbypFpga	YES	0.46	0.46	0.0
	StdbypFpgaGolden	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	1.49	1.49	0.0
	StdbypFpga	YES	0.46	0.46	0.0
	StdbypFpgaGolden	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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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	1.49	1.49	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-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	NEED UPGD		1.23
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	NEED UPGD		0.43
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/PMO	N540-PWR400-A	1.0	PrimMCU	CURRENT	1.02	1.02
NOT REQ						
0/PMO	N540-PWR400-A	1.0	SecMCU	CURRENT	1.03	1.03
NOT REQ						

Important Notes

Licensing

Starting with Cisco IOS XR Release 24.1.1, Smart Licensing Using Policy (SLP) is the default Licensing model. When you upgrade to the Cisco IOS XR Release 24.1.1 release or later, the Smart Licensing Using Policy is enabled by default.

You can migrate your devices to Smart Licensing with Policy model, see *Migrating from Smart Licensing to Smart Licensing Using Policy*, [Smart Licensing Using Policy on Cisco IOS XR Routers](#).

We recommend that you update to the latest version of [SSM On-Prem](#) or [Cisco Smart Licensing Utility](#).



Note SSM On-Prem and CSSM both support SLP devices and SL devices. SLP devices and SL devices can coexist in a network. The Smart Licensing (SL) model is available in releases Cisco IOS XR Release 7.11.1 and earlier.

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



Note For software installation and upgrades, refer to the respective upgrade/downgrade docs *.tar* files based on your [540 router variant](#).

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-24.1.1.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-24.1.1.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-24.1.1.tar* file.



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.

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.

Cisco IOS XR Error messages

To view, search, compare, and download Cisco IOS XR Error Messages, refer to the [Cisco IOS XR Error messages](#) tool.

Cisco IOS XR MIBs

To determine the MIBs supported by platform and release, refer to the [Cisco IOS XR MIBs](#) tool.

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>

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 NONINFRINGEMENT 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)

© 2024 Cisco Systems, Inc. All rights reserved.