



# Release Notes for Cisco NCS 540 Series Routers, Cisco IOS XR Release 25.1.1

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## Network Convergence System 540 Series Routers

### What's New in Cisco IOS XR Release 25.1.1

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](#).

All NCS 540 router variants support these features unless supported or unsupported PIDs are explicitly specified.

| Feature                                                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| System Security                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <a href="#">Alternate EAPoL Ether-Type and Destination-Address</a> | <p>You can now enhance the reliability of MACsec session establishment over a service provider network by preventing Layer 2 intermediate devices from interfering with EAPoL packets. This is achieved by allowing the configuration of an alternate EAPoL Ether-Type, destination MAC address, or both on a MACsec-enabled interface. For subinterfaces, specific configurations can be established, or they can inherit settings from the parent interface, ensuring flexibility and adaptability in managing network security.</p> <p>This feature is supported on N540-24Q8L2DD-SYS fixed port routers.</p> <p>The feature introduces these changes:</p> <p><b>CLI:</b></p> <ul style="list-style-type: none"><li>• eapol eth-type</li><li>• eapol destination-address</li></ul> |

| Feature                                                                                                                                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <a href="#">MACsec Encryption on Layer 3 Subinterfaces</a>                                                                                           | <p>You can now enhance your network security while maintaining flexibility by configuring MACsec policies on Layer 3 subinterfaces. This capability allows you to apply unique MACsec encryption and authentication settings to different L3 subinterfaces that belong to the same main physical interface. By keeping the VLAN tags unencrypted, the router enables these subinterfaces to function as MACsec endpoints. This capability adds an extra layer of security to communication between different subnets, ensuring that your data remains protected at every level while also allowing for tailored security solutions.</p> <p>This feature is supported on N540-24Q8L2DD-SYS fixed port routers.</p> <p>The feature introduces these changes:</p> <p><b>CLI:</b></p> <ul style="list-style-type: none"> <li>• <b>vlan-tags-in-clear</b></li> </ul> <p><b>YANG Data Models:</b></p> <ul style="list-style-type: none"> <li>• <code>Cisco-IOS-XR-um-macsec-cfg</code></li> <li>• <code>Cisco-IOS-XR-crypto-macsec-mka-cfg</code></li> </ul> <p>See <a href="#">GitHub</a>, <a href="#">YANG Data Models Navigator</a></p> |
| <b>Segment Routing</b>                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <a href="#">Path MTU Discovery for SRv6 Packets on Ingress Provider Edge (PE) Routers, Egress (PE) Router and Provider Core Router Transit Nodes</a> | <p>You can measure and monitor the packet loss information when one SRv6-enabled router sends an oversized packet to another. This functionality enables a router to send an ICMP error message to the source in such cases, prompting the sender to resend a packet whose size is within the MTU value, thus ensuring the packet moves ahead. The feature is critical for SRv6-enabled routers as these routers do not support packet fragmentation.</p> <p>Previously, a router dropped oversized packets without notifying the source, resulting in packet loss.</p> <p>This feature is enabled by default.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <a href="#">SRv6 policy counters (POL.CP.SL.INT.E)</a>                                                                                               | <p>The network administrators can now monitor and manage network performance, capacity planning, and traffic engineering by reviewing the policy counters (POL.CP.SL.INT.E) in SRv6-TE.</p> <p>The feature introduces these changes:</p> <p><b>CLI:</b></p> <ul style="list-style-type: none"> <li>• <b>show cef ipv6 accounting</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <a href="#">Static SRv6 pseudowire</a>                                                                                                               | <p>This feature introduces support for Static Segment Routing over IPv6 (SRv6) Pseudo-wires in the IOSXR platform. This enhancement aims to extend the existing Virtual Private Wire Service (VPWS) capabilities by incorporating SRv6, providing improved flexibility and scalability for service providers.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Network Synchronization</b>                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Feature                                                                               | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| <a href="#">Advance monitoring</a>                                                    | <p>You can now enhance the detection of network issues, such as clock failures or asymmetries, by using advanced monitoring. This optional extension to the ITU-defined PTP G.8275.1 profile offers additional capabilities for monitoring alternative time transmitter information through the PTP port.</p> <p>This feature introduces these changes:</p> <p>CLI:</p> <ul style="list-style-type: none"> <li>• <a href="#">monitor-receiver</a></li> <li>• <a href="#">monitor-sender</a></li> </ul> |
| <a href="#">Assisted partial timing support</a>                                       | <p>Assisted Partial Timing Support (APTS) is supported on:</p> <ul style="list-style-type: none"> <li>• N540-24Q2C2DD-SYS</li> </ul>                                                                                                                                                                                                                                                                                                                                                                   |
| <a href="#">ITU-T G.8275.2 and default PTP profiles over IPv6</a>                     | <p>The capability of using the ITU-T G.8275.2 and the default PTP profiles, with IPv6 encapsulation for packet transport is now supported on:</p> <ul style="list-style-type: none"> <li>• N540-24Q2C2DD-SYS</li> </ul>                                                                                                                                                                                                                                                                                |
| <a href="#">Isolate foreign timeTransmitters causing packet timing signal failure</a> | <p>The capability to isolate foreign timeTransmitters that lead to packet timing signal failures is available for:</p> <ul style="list-style-type: none"> <li>• N540-24Q2C2DD-SYS</li> </ul>                                                                                                                                                                                                                                                                                                           |
| <a href="#">PTP Phase Difference Threshold Between Passive and Secondary Ports</a>    | <p>Passive ports can participate in the Delay Request-Response Mechanism (DRRM), allowing for the observation of PTP phase differences between a passive port and a secondary port.</p> <p>This feature is now supported on:</p> <ul style="list-style-type: none"> <li>• N540-24Q2C2DD-SYS</li> </ul>                                                                                                                                                                                                 |
| <a href="#">PTP profiles support for N540-24Q2C2DD-SYS</a>                            | <p>PTP Profiles are now supported on:</p> <ul style="list-style-type: none"> <li>• N540-24Q2C2DD-SYS</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                        |
| <a href="#">Synchronous Ethernet ESMC and SSM on N540-24Q2C2DD-SYS</a>                | <p>Synchronous Ethernet ESMC and SSM are now supported on:</p> <ul style="list-style-type: none"> <li>• N540-24Q2C2DD-SYS</li> </ul> <p>For 1G ports, SyncE clock recovery is not supported.</p>                                                                                                                                                                                                                                                                                                       |
| <b>L2VPN and Ethernet Services</b>                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Feature                                                                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <a href="#">EVPN-IRB ND partial suppression mode</a>                       | <p>You can now manage and minimize Neighbor Discovery (ND) for IPv6 traffic on a network segment by configuring partial suppression mode.</p> <p>You can configure EVPN-IRB ARP and ND proxy full or partial suppression modes for these features:</p> <ul style="list-style-type: none"> <li>• EVPN-IRB multi-homing</li> <li>• VM Mobility</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <a href="#">Layer 2 fast reroute for E-Line services</a>                   | <p>You can now ensure faster convergence and uninterrupted service by redirecting the traffic using the EVPN pseudowire (PW) in an E-Line configuration when a dual-homing link fails.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <a href="#">Storm control policer profile statistics support on router</a> | <p>Storm control helps prevent LAN ports from being disrupted by a broadcast, multicast, or unicast traffic storm.</p> <p>You can now enable traffic policing using the storm control policer profile, allowing for more granular control over traffic management. This enhancement includes the ability to allocate storm control policer with highest priority directly on the router.</p> <p>This feature is now supported on:</p> <ul style="list-style-type: none"> <li>• N540-24Q8L2DD-SYS</li> </ul> <p>The feature introduces these changes:</p> <p><b>CLI:</b></p> <ul style="list-style-type: none"> <li>• <code>hw-module profile storm-control-policer enable</code></li> </ul> <p><b>YANG Data Models:</b></p> <ul style="list-style-type: none"> <li>• <code>Cisco-IOS-XR-fia-hw-profile-cfg.yang</code></li> </ul> <p>See <a href="#">GitHub</a>, <a href="#">YANG Data Models Navigator</a></p> |
| <b>Interface and Hardware Component</b>                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <a href="#">8x25G breakout port support on N540-24Q2C2DD-SYS</a>           | <p>An 8x25G breakout interface allows you to split the 400G high-density ports into multiple lower-density ports.</p> <p>Breakout port is now supported on:</p> <ul style="list-style-type: none"> <li>• N540-24Q2C2DD-SYS</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Feature                                                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <a href="#">Minimum-delay bin</a>                                         | <p>For statistics aggregation, you can now configure a distinct width for the first bin to adjust for large propagation delay. By using this feature, you can avoid wasting several bins that would be empty in some unavoidable situations such as delay due to speed of light limitations.</p> <p>The feature introduces these changes:</p> <p><b>CLI:</b></p> <ul style="list-style-type: none"> <li>The <b>minimum-delay</b> keyword is introduced in the <b>aggregate</b> command.</li> </ul> <p><b>YANG Data Models:</b> New XPaths for</p> <ul style="list-style-type: none"> <li>Cisco-IOS-XR-infra-sla-cfg.yang</li> <li>Cisco-IOS-XR-um-ethernet-sla-cfg.yang</li> <li>Cisco-IOS-XR-infra-sla-oper.yang</li> </ul> <p>(see <a href="#">GitHub</a>, <a href="#">YANG Data Models Navigator</a>)</p> |
| <b>Smart Licensing</b>                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <a href="#">Smart Licensing Using Policy support on N540-24Q2C2DD-SYS</a> | <p>Smart Licensing Using Policy support is now supported on Cisco NCS 540 router variant:</p> <ul style="list-style-type: none"> <li>N540-24Q2C2DD-SYS</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## 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 |
|------------------------|-------------|
| <b>Programmability</b> |             |

| Feature                               | Description                                                                                                                                                                                                                                   |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cisco-IOS-XR-infra-sla-cfg.yang       | This native yang data model is enhanced to support <b>BinsMinDelay</b> and <b>MinDelayMicroseconds</b> options under the existing YANG leaf:<br><code>/cfg/gi/sla/protocols/protocol/profiles/profile/statistics/statistic/aggregation</code> |
| Cisco-IOS-XR-um-ethernet-sla-cfg.yang | This unified data model is enhanced to support <b>BinsMinDelay</b> and <b>MinDelayMicroseconds</b> options under the existing YANG leaf:<br><code>/cfg/gi/sla/protocols/protocol/profiles/profile/statistics/statistic/aggregation</code>     |
| Cisco-IOS-XR-infra-sla-oper.yang      | The existing <b>bin width</b> leaf in the Cisco native data model reflects the configured minimum delay value.                                                                                                                                |

## Hardware Introduced



### Note

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

| Hardware                                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cisco N540-24Q2C2DD-SYS large density router | <p>The Cisco N540-24Q2C2DD-SYS large density router supports:</p> <ul style="list-style-type: none"> <li>• 2 x 40G/100G/200G/400G QSFP56-DD ports: <ul style="list-style-type: none"> <li>• QSFP56-DD: The Quad Small Form-factor Pluggable 56 Double Density (QSFP56-DD) is a high-density interface designed for high-speed networking applications.</li> <li>• Data rates: These ports can support data rates of 40Gbps, 100Gbps, 200Gbps, and 400Gbps, offering flexibility for different network requirements.</li> </ul> </li> <li>• 2 x 40G/100G QSFP28 ports: <ul style="list-style-type: none"> <li>• QSFP28: The Quad Small Form-factor Pluggable 28 (QSFP28) is an optical module interface typically used for 100Gbps applications.</li> <li>• Data rates: These ports support 40Gbps and 100Gbps data rates, suitable for high-speed network backbones and connections</li> </ul> </li> <li>• 24 x 1G/10G/25G SFP28 ports: <ul style="list-style-type: none"> <li>• SFP28: The Small Form-factor Pluggable 28 (SFP28) is an enhanced version of the SFP+ interface, supporting 25Gbps data rates.</li> <li>• Data rates: These ports can operate at 1Gbps, 10Gbps, and 25Gbps, providing versatility for different network tasks.</li> </ul> </li> </ul> |
| Optics                                       | <p>This release launches these new optics on selective hardware within the product portfolio. For details refer to the <a href="#">Transceiver Module Group (TMG) Compatibility Matrix</a></p> <ul style="list-style-type: none"> <li>• Cisco <b>QSFP28-100G- ZR</b> Bidirectional Pluggable Transceivers <ul style="list-style-type: none"> <li>• <a href="#">DP01QS28-E20 (C-Temp)</a></li> <li>• <a href="#">DP01QS28-E25 (I-Temp)</a></li> </ul> </li> <li>• Cisco <b>40GBASE QSFP</b> modules <ul style="list-style-type: none"> <li>• <a href="#">QSFP-H40G-ACU</a></li> <li>• <a href="#">QSFP-H40G-CU</a></li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## 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

- The statistics collection may time out due to CPU overload during route churn. In such scenarios, statistics collection will resume when the CPU becomes available after the route churn is complete.
- 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.
- 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

There are no caveats in this release.

## 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 25.1.1 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, N540-24Q2C2DD-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 25.1.1 Software for N540-24Z8Q2C-SYS, N540-ACC-SYS, and N540X-ACC-SYS**

| Base Image                                              | Filename                                                                             | Description                                                                                |
|---------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| IOS XR Base Image                                       | ncs540-mini-x-25.1.1.iso                                                             | IOS XR mandatory base image.                                                               |
| USB Boot Package                                        | ncs540-usb_boot-25.1.1.zip                                                           | Package required to perform USB Boot.<br>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-r2511.x86_64.rpm                                                 | Supports Extensible Markup Language (XML) Parser, Telemetry, Netconf, gRPC and HTTP server |
| IOS XR MPLS                                             | ncs540-mpls-1.0.0.0-r2511.x86_64.rpm<br>ncs540-mpls-te-rsvp-1.0.0.0-r2511.x86_64.rpm | Supports MPLS and MPLS Traffic Engineering (MPLS-TE)                                       |
| IOS XR Security                                         | ncs540-k9sec-1.0.0.0-r2511.x86_64.rpm                                                | Supports MACsec and 802.1X                                                                 |
| IOS XR ISIS                                             | ncs540-isis-1.0.0.0-r2511.x86_64.rpm                                                 | Supports ISIS                                                                              |
| IOS XR OSPF                                             | ncs540-ospf-1.0.0.0-r2511.x86_64.rpm                                                 | Supports OSPF                                                                              |
| IOS XR Lawful Intercept                                 | ncs540-li-1.0.0.0-r2511.x86_64.rpm                                                   | Supports Lawful Intercept (LI)                                                             |
| IOS XR Multicast                                        | ncs540-mcast-1.0.0.0-r2511.x86_64.rpm                                                | Supports Multicast                                                                         |
| IOS XR EIGRP                                            | ncs540-eigrp-1.0.0.0-r2511.x86_64.rpm                                                | Supports EIGRP                                                                             |
| IOS XR LI-CTRL                                          | ncs540-lictrl-1.0.0.0-r2511.x86_64.rpm                                               | Supports LI-CTRL                                                                           |

**Table 2: Release 25.1.1 Software for N540-24Q8L2DD-SYS, N540-24Q2C2DD-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-x64-25.1.1.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"> <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-25.1.1.tar.</p> |
|---------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USB Boot Package                                        | ncs540l-usb_boot-25.1.1.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> |                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Package                                                 | Filename                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| IOS XR Telnet (xr-telnet)                               | NCS540l-iosxr-25.1.1.tar      | Supports Telnet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IOS XR EIGRP (xr-eigrp)                                 | NCS540l-iosxr-25.1.1.tar      | Supports EIGRP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| IOS XR CDP (xr-cdp)                                     | NCS540l-iosxr-25.1.1.tar      | Supports CDP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| IOS XR k9sec (xr-k9sec)                                 | NCS540l-k9sec-rpms.25.1.1.tar | Supports 802.1X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                     |                          |              |
|---------------------|--------------------------|--------------|
| IOS XR RIP (xr-rip) | NCS540l-iosxr-25.1.1.tar | Supports RIP |
|---------------------|--------------------------|--------------|

**Table 3: Release 25.1.1 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-aarch64-25.1.1.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"> <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-25.1.1.tar.</p> |
| USB Boot Package  | ncs540l-aarch64-usb_boot-25.1.1.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-25.1.1.tar | Supports Telnet |
| IOS XR EIGRP (xr-eigrp)                          | NCS540l-aarch64-iosxr-optional-rpms-25.1.1.tar | Supports EIGRP  |
| IOS XR CDP (xr-cdp)                              | NCS540l-aarch64-iosxr-optional-rpms-25.1.1.tar | Supports CDP    |
| IOS XR k9sec (xr-k9sec)                          | NCS540l-aarch64-k9sec-rpms.25.1.1.tar          | Supports 802.1X |
| IOS XR RIP (xr-rip)                              | NCS540l-aarch64-iosxr-optional-rpms-25.1.1.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 25.1.1
Copyright (c) 2013-2024 by Cisco Systems, Inc.

Build Information:
  Built By      : swtools
  Built On      : Mon Mar 24 16:58:10 PDT 2025
  Built Host    : iox-ucs-049
  Workspace     : /auto/srcarchive12/prod/25.1.1/ncs540/ws
  Version       : 25.1.1
  Location      : /opt/cisco/XR/packages/
  Label         : 25.1.1
```

```
cisco NCS-540 () processor
System uptime is 1 hour 45 minutes
```

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

Build Information:
  Built By      : cisco
  Built On      : Mon Mar 24 19:58:08 UTC 2025
  Build Host    : iox-ucs-051
  Workspace     : /auto/srcarchive12/prod/25.1.1/ncs540l-aarch64/ws/
  Version       : 25.1.1
  Label         : 25.1.1
```

```
cisco NCS540L
cisco N540X-6Z18G-SYS-A processor with 8GB of memory
Darwin-PE66 uptime is 2 hours, 54 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
Tue Mar 25 22:09:06.793 IST
Cisco IOS XR Software, Version 25.1.1 LNT
```

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

Build Information:

```
Built By      : cisco
Built On     : Mon Mar 24 19:58:08 UTC 2025
Build Host   : iox-ucs-050
Workspace    : /auto/srcarchive12/prod/25.1.1/ncs540l/ws/
Version      : 25.1.1
Label       : 25.1.1
```

```
cisco NCS540L (C3708 @ 1.70GHz)
cisco N540X-16Z4G8Q2C-A (C3708 @ 1.70GHz) processor with 8GB of memory
EG-PE41 uptime is 2 hours, 36 minutes
Cisco NCS 540 System with 16x10G+4x1GCU+8x25G+2x100G DC
```

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
Tue Mar 25 22:09:06.793 IST
Cisco IOS XR Software, Version 25.1.1 LNT
Copyright (c) 2013-2024 by Cisco Systems, Inc.
```

Build Information:

```
Built By      : cisco
Built On     : Mon Mar 24 19:58:08 UTC 2025
Build Host   : iox-ucs-050
Workspace    : /auto/srcarchive12/prod/25.1.1/ncs540l/ws/
Version      : 25.1.1
Label       : 25.1.1
```

```
cisco NCS540L (C3708 @ 1.70GHz)
cisco N540X-16Z4G8Q2C-A (C3708 @ 1.70GHz) processor with 8GB of memory
EG-PE41 uptime is 2 hours, 36 minutes
Cisco NCS 540 System with 16x10G+4x1GCU+8x25G+2x100G DC
```

## 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        | 1.18    | 1.18           | 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 | 4.00    | 4.00    | 0.0 |
| SATA-SMART-128G (A)      | NO | 1535.00 | 1535.00 | 0.0 |
| SATA-SMART-AC1C-128G (A) | NO | 1402.00 | 1402.00 | 0.0 |
| SATA-SOLIDIGM-240G (A)   | NO | 130.00  | 130.00  | 0.0 |
| SATA-SOLIDIGM-480G (A)   | NO | 130.00  | 130.00  | 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 |

## Determine Firmware Support

|                   |    |       |       |     |
|-------------------|----|-------|-------|-----|
| 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 |
|              | 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 | 1.18    | 1.18    | 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  | 4.00    | 4.00    | 0.0 |
|              | SATA-SMART-128G (A)      | NO  | 1535.00 | 1535.00 | 0.0 |
|              | SATA-SMART-AC1C-128G (A) | NO  | 1402.00 | 1402.00 | 0.0 |
|              | SATA-SOLIDIGM-240G (A)   | NO  | 130.00  | 130.00  | 0.0 |
|              | SATA-SOLIDIGM-480G (A)   | NO  | 130.00  | 130.00  | 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 |

## Determine Firmware Support

|                  |    |       |       |     |
|------------------|----|-------|-------|-----|
| 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 |
| 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 |

## Determine Firmware Support

|                  |                          |     |         |         |     |
|------------------|--------------------------|-----|---------|---------|-----|
| N540-PWR400-A    | LIT-PrimCU-ACFW (A)      | NO  | 0.04    | 0.04    | 0.0 |
|                  | LIT-SecMCU-ACFW (A)      | NO  | 0.07    | 0.07    | 0.0 |
| N540-PWR400-D    | LIT-PrimCU-DCFW (A)      | NO  | 0.04    | 0.04    | 0.0 |
|                  | LIT-SecMCU-DCFW (A)      | NO  | 0.06    | 0.06    | 0.0 |
|                  | SDG-PrimCU-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 | 1.18    | 1.18    | 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  | 4.00    | 4.00    | 0.0 |
|                  | SATA-SMART-128G (A)      | NO  | 1535.00 | 1535.00 | 0.0 |
|                  | SATA-SMART-AC1C-128G (A) | NO  | 1402.00 | 1402.00 | 0.0 |
|                  | SATA-SOLIDIGM-240G (A)   | NO  | 130.00  | 130.00  | 0.0 |
|                  | SATA-SOLIDIGM-480G (A)   | NO  | 130.00  | 130.00  | 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 |

## Determine Firmware Support

|               |                          |     |         |         |     |
|---------------|--------------------------|-----|---------|---------|-----|
|               | 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 |
| -----         |                          |     |         |         |     |
| N540X-ACC-SYS | Bootloader (A)           | YES | 1.18    | 1.18    | 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  | 4.00    | 4.00    | 0.0 |
|               | SATA-SMART-128G (A)      | NO  | 1535.00 | 1535.00 | 0.0 |
|               | SATA-SMART-AC1C-128G (A) | NO  | 1402.00 | 1402.00 | 0.0 |
|               | SATA-SOLIDIGM-240G (A)   | NO  | 130.00  | 130.00  | 0.0 |
|               | SATA-SOLIDIGM-480G (A)   | NO  | 130.00  | 130.00  | 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 |

## Determine Firmware Support

|                   |    |       |       |     |
|-------------------|----|-------|-------|-----|
| 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 |
| 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:Enabled

| Location | Card type      | HWver | FPD device       | ATR Status | FPD Versions |          |
|----------|----------------|-------|------------------|------------|--------------|----------|
|          |                |       |                  |            | Running      | Programd |
| 0/RP0    | N540-24Z8Q2C-M | 1.0   | MB-MIFPGA        | CURRENT    | 0.08         | 0.08     |
| 0/RP0    | N540-24Z8Q2C-M | 1.0   | Bootloader       | CURRENT    | 1.18         | 1.18     |
| 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 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  
Tue Mar 25 22:09:21.305 IST

| 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        | 3.13   | 3.13           | 0.0               |  |
|                                   | IoFpgaGolden    | YES        | 2.07   | 2.03           | 0.0               |  |
|                                   | Primary-BIOS    | YES        | 1.51   | 1.51           | 0.0               |  |
|                                   | StdbyFpga       | YES        | 0.70   | 0.70           | 0.0               |  |
|                                   | StdbyFpgaGolden | YES        | 0.50   | 0.40           | 0.0               |  |
|                                   | TamFw           | YES        | 4.16   | 4.16           | 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        | 3.13   | 3.13           | 0.0               |  |
|                                   | IoFpgaGolden    | YES        | 2.07   | 2.03           | 0.0               |  |
|                                   | Primary-BIOS    | YES        | 1.51   | 1.51           | 0.0               |  |
|                                   | StdbyFpga       | YES        | 0.70   | 0.70           | 0.0               |  |
|                                   | StdbyFpgaGolden | YES        | 0.50   | 0.40           | 0.0               |  |
|                                   | TamFw           | YES        | 4.16   | 4.16           | 0.0               |  |
|                                   | TamFwGolden     | YES        | 4.13   | 4.11           | 0.0               |  |
| -----                             |                 |            |        |                |                   |  |
| N540-24Q2C2DD-SYS                 | ADM-DBConfig    | NO         | 2.05   | 2.05           | 0.0               |  |
|                                   | ADM-MBConfig    | NO         | 2.05   | 2.05           | 0.0               |  |
|                                   | IoFpga          | YES        | 3.02   | 3.02           | 0.0               |  |
|                                   | IoFpgaGolden    | YES        | 3.02   | 3.02           | 0.0               |  |

## Determine Firmware Support

|                   |                 |     |       |       |     |
|-------------------|-----------------|-----|-------|-------|-----|
|                   | Primary-BIOS    | YES | 4.07  | 4.07  | 0.0 |
|                   | SsdSAMS64G3     | YES | 12.41 | 12.41 | 0.0 |
|                   | SsdSRM24BFIM2   | YES | 14.02 | 14.02 | 0.0 |
|                   | SsdSRM24BTIM2   | YES | 13.82 | 13.82 | 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 |
| -----             |                 |     |       |       |     |
| N540-24Q8L2DD-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 |
|                   | SsdSRM24BFIM2   | YES | 14.02 | 14.02 | 0.0 |
|                   | SsdSRM24BTIM2   | YES | 13.82 | 13.82 | 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 | 3.13  | 3.13  | 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 | 1.51  | 1.51  | 0.0 |
|                   | StdbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                   | StdbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                   | TamFw           | YES | 4.16  | 4.16  | 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 | 3.13  | 3.13  | 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 | 1.51  | 1.51  | 0.0 |
|                   | StdbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                   | StdbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                   | TamFw           | YES | 4.16  | 4.16  | 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 |
|                    | StdbbyFpga       | YES | 0.46  | 0.46  | 0.0 |
|                    | StdbbyFpgaGolden | 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 | 3.13  | 3.13  | 0.0 |
|                    | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                    | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                    | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                    | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                    | TamFw            | YES | 4.16  | 4.16  | 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 | 3.13  | 3.13  | 0.0 |
|                    | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                    | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                    | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                    | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                    | TamFw            | YES | 4.16  | 4.16  | 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 | 3.13  | 3.13  | 0.0 |
|                    | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                    | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                    | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                    | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                    | TamFw            | YES | 4.16  | 4.16  | 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 | 3.13  | 3.13  | 0.0 |
|                    | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                    | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |

## Determine Firmware Support

|                 |                 |     |      |      |     |
|-----------------|-----------------|-----|------|------|-----|
|                 | StdbyFpga       | YES | 0.70 | 0.70 | 0.0 |
|                 | StdbyFpgaGolden | YES | 0.50 | 0.40 | 0.0 |
|                 | TamFw           | YES | 4.16 | 4.16 | 0.0 |
|                 | TamFwGolden     | YES | 4.13 | 4.11 | 0.0 |
| -----           |                 |     |      |      |     |
| N540X-16Z8Q2C-A | ADMConfig       | NO  | 1.05 | 1.05 | 0.0 |
|                 | IoFpga          | YES | 3.13 | 3.13 | 0.0 |
|                 | IoFpgaGolden    | YES | 2.07 | 2.03 | 0.0 |
|                 | Primary-BIOS    | YES | 1.51 | 1.51 | 0.0 |
|                 | StdbyFpga       | YES | 0.70 | 0.70 | 0.0 |
|                 | StdbyFpgaGolden | YES | 0.50 | 0.40 | 0.0 |
|                 | TamFw           | YES | 4.16 | 4.16 | 0.0 |
|                 | TamFwGolden     | YES | 4.13 | 4.11 | 0.0 |
| -----           |                 |     |      |      |     |
| N540X-16Z8Q2C-D | ADMConfig       | NO  | 1.05 | 1.05 | 0.0 |
|                 | IoFpga          | YES | 3.13 | 3.13 | 0.0 |
|                 | IoFpgaGolden    | YES | 2.07 | 2.03 | 0.0 |
|                 | Primary-BIOS    | YES | 1.51 | 1.51 | 0.0 |
|                 | StdbyFpga       | YES | 0.70 | 0.70 | 0.0 |
|                 | StdbyFpgaGolden | YES | 0.50 | 0.40 | 0.0 |
|                 | TamFw           | YES | 4.16 | 4.16 | 0.0 |
|                 | TamFwGolden     | YES | 4.13 | 4.11 | 0.0 |

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

Tue Mar 25 22:09:14.435 IST

Auto-upgrade:Enabled,PM excluded

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 | 0.2   | ADM_FW          | CURRENT      | 14.03        | 14.03    |
|            | NOT REQ           |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | ADMConfig       | CURRENT      | 1.05         | 1.05     |
|            | NOT REQ           |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | IoFpga          | CURRENT      | 3.13         | 3.13     |
|            | 0/RP0             |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | IoFpgaGolden    | B CURRENT    |              | 2.03     |
|            | 0/RP0             |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | Primary-BIOS    | SA CURRENT   | 1.51         | 1.51     |
|            | 0/RP0             |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | StdbyFpga       | S CURRENT    | 0.70         | 0.70     |
|            | 0/RP0             |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | StdbyFpgaGolden | BS NEED UPGD |              | 0.00     |
|            | 0/RP0             |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | TamFw           | S CURRENT    | 4.16         | 4.16     |
|            | 0/RP0             |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | 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 N540-24Q8L2DD-SYS variant:

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

Tue Mar 25 22:09:21.305 IST

| 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 | 3.13  | 3.13  | 0.0 |
|                   | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                   | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                   | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                   | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                   | TamFw            | YES | 4.16  | 4.16  | 0.0 |
| N540-12Z20G-SYS-D | TamFwGolden      | YES | 4.13  | 4.11  | 0.0 |
|                   | ADM_FW           | YES | 14.03 | 14.03 | 0.0 |
|                   | ADMConfig        | NO  | 1.05  | 1.05  | 0.0 |
|                   | IoFpga           | YES | 3.13  | 3.13  | 0.0 |
|                   | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                   | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                   | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                   | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
| N540-24Q2C2DD-SYS | TamFw            | YES | 4.16  | 4.16  | 0.0 |
|                   | TamFwGolden      | YES | 4.13  | 4.11  | 0.0 |
|                   | ADM-DBConfig     | NO  | 2.05  | 2.05  | 0.0 |
|                   | ADM-MBConfig     | NO  | 2.05  | 2.05  | 0.0 |
|                   | IoFpga           | YES | 3.02  | 3.02  | 0.0 |
|                   | IoFpgaGolden     | YES | 3.02  | 3.02  | 0.0 |
|                   | Primary-BIOS     | YES | 4.07  | 4.07  | 0.0 |
|                   | SsdSAMSAA64G3    | YES | 12.41 | 12.41 | 0.0 |
| N540-24Q8L2DD-SYS | SsdSRM24BFIM2    | YES | 14.02 | 14.02 | 0.0 |
|                   | SsdSRM24BTIM2    | YES | 13.82 | 13.82 | 0.0 |
|                   | StdbbyFpga       | YES | 2.59  | 2.59  | 0.0 |
|                   | StdbbyFpgaGolden | YES | 2.56  | 2.39  | 0.0 |
|                   | TamFw            | YES | 6.05  | 6.05  | 0.0 |
|                   | TamFwGolden      | YES | 6.05  | 6.05  | 0.0 |
|                   | ADM-DBConfig     | NO  | 2.05  | 2.05  | 0.0 |
|                   | ADM-MBConfig     | NO  | 2.05  | 2.05  | 0.0 |
| N540-28Z4C-SYS-A  | 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 |
|                   | SsdSAMSAA64G3    | YES | 12.41 | 12.41 | 0.0 |
|                   | SsdSRM24BFIM2    | YES | 14.02 | 14.02 | 0.0 |
|                   | SsdSRM24BTIM2    | YES | 13.82 | 13.82 | 0.0 |
|                   | StdbbyFpga       | YES | 2.59  | 2.59  | 0.0 |
|                   | StdbbyFpgaGolden | YES | 2.56  | 2.39  | 0.0 |
| N540-28Z4C-SYS-D  | TamFw            | YES | 6.05  | 6.05  | 0.0 |
|                   | TamFwGolden      | YES | 6.05  | 6.05  | 0.0 |
|                   | ADM_FW           | YES | 14.03 | 14.03 | 0.0 |
|                   | ADMConfig        | NO  | 1.05  | 1.05  | 0.0 |
|                   | IoFpga           | YES | 3.13  | 3.13  | 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 |
| N540-28Z4C-SYS-A  | 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 | 1.51  | 1.51  | 0.0 |
|                   | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                   | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                   | TamFw            | YES | 4.16  | 4.16  | 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 | 3.13  | 3.13  | 0.0 |

## Determine Firmware Support

|                    |                  |     |       |       |     |
|--------------------|------------------|-----|-------|-------|-----|
|                    | 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 | 1.51  | 1.51  | 0.0 |
|                    | StdbypFpga       | YES | 0.70  | 0.70  | 0.0 |
|                    | StdbypFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                    | TamFw            | YES | 4.16  | 4.16  | 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 |
|                    | 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 | 3.13  | 3.13  | 0.0 |
|                    | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                    | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                    | StdbypFpga       | YES | 0.70  | 0.70  | 0.0 |
|                    | StdbypFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                    | TamFw            | YES | 4.16  | 4.16  | 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 | 3.13  | 3.13  | 0.0 |
|                   | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                   | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                   | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                   | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                   | TamFw            | YES | 4.16  | 4.16  | 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 | 3.13  | 3.13  | 0.0 |
|                   | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                   | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                   | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                   | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                   | TamFw            | YES | 4.16  | 4.16  | 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 | 3.13  | 3.13  | 0.0 |
|                   | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                   | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                   | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                   | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                   | TamFw            | YES | 4.16  | 4.16  | 0.0 |
|                   | TamFwGolden      | YES | 4.13  | 4.11  | 0.0 |
| -----             |                  |     |       |       |     |
| N540X-16Z8Q2C-A   | ADMConfig        | NO  | 1.05  | 1.05  | 0.0 |
|                   | IoFpga           | YES | 3.13  | 3.13  | 0.0 |
|                   | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                   | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                   | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                   | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                   | TamFw            | YES | 4.16  | 4.16  | 0.0 |
|                   | TamFwGolden      | YES | 4.13  | 4.11  | 0.0 |
| -----             |                  |     |       |       |     |
| N540X-16Z8Q2C-D   | ADMConfig        | NO  | 1.05  | 1.05  | 0.0 |
|                   | IoFpga           | YES | 3.13  | 3.13  | 0.0 |
|                   | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                   | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                   | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                   | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                   | TamFw            | YES | 4.16  | 4.16  | 0.0 |
|                   | TamFwGolden      | YES | 4.13  | 4.11  | 0.0 |

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

Tue Mar 25 22:09:14.435 IST

Auto-upgrade:Enabled,PM excluded

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 | 0.2   | ADM_FW     | CURRENT    | 14.03        | 14.03    |
|            | NOT REQ           |       |            |            |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | ADMConfig  | CURRENT    | 1.05         | 1.05     |
|            | NOT REQ           |       |            |            |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | IoFpga     | CURRENT    | 3.13         | 3.13     |
|            | 0/RP0             |       |            |            |              |          |

## Determine Firmware Support

```

0/RP0/CPU0 N540X-16Z4G8Q2C-A 0.2 IoFpgaGolden B CURRENT 2.03
0/RP0
0/RP0/CPU0 N540X-16Z4G8Q2C-A 0.2 Primary-BIOS SA CURRENT 1.51 1.51
0/RP0
0/RP0/CPU0 N540X-16Z4G8Q2C-A 0.2 StdbypFpga S CURRENT 0.70 0.70
0/RP0
0/RP0/CPU0 N540X-16Z4G8Q2C-A 0.2 StdbypFpgaGolden BS NEED UPGD 0.00
0/RP0
0/RP0/CPU0 N540X-16Z4G8Q2C-A 0.2 TamFw S CURRENT 4.16 4.16
0/RP0
0/RP0/CPU0 N540X-16Z4G8Q2C-A 0.2 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 N540-FH-CSR-SYS variant:

```

RP/0/RP0/CPU0:Router#show fpd package
Tue Mar 25 22:09:21.305 IST

```

```

=====
Field Programmable Device Package
=====
Card Type          FPD Description          Req   SW   Min Req  Min Req
                        Reload  Ver   SW Ver   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   3.13   3.13    0.0
                        IoFpgaGolden             YES   2.07   2.03    0.0
                        Primary-BIOS             YES   1.51   1.51    0.0
                        StdbypFpga              YES   0.70   0.70    0.0
                        StdbypFpgaGolden        YES   0.50   0.40    0.0
                        TamFw                   YES   4.16   4.16    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   3.13   3.13    0.0
                        IoFpgaGolden             YES   2.07   2.03    0.0
                        Primary-BIOS             YES   1.51   1.51    0.0
                        StdbypFpga              YES   0.70   0.70    0.0
                        StdbypFpgaGolden        YES   0.50   0.40    0.0
                        TamFw                   YES   4.16   4.16    0.0
                        TamFwGolden             YES   4.13   4.11    0.0
-----
N540-24Q2C2DD-SYS  ADM-DBConfig            NO    2.05   2.05    0.0
                        ADM-MBConfig            NO    2.05   2.05    0.0
                        IoFpga                   YES   3.02   3.02    0.0
                        IoFpgaGolden             YES   3.02   3.02    0.0
                        Primary-BIOS             YES   4.07   4.07    0.0
                        SsdSAMS64G3             YES   12.41  12.41    0.0
                        SsdSRM24BFIM2           YES   14.02  14.02    0.0
                        SsdSRM24BTIM2           YES   13.82  13.82    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
-----
N540-24Q8L2DD-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 |
|                  | SsdSRM24BFIM2   | YES | 14.02 | 14.02 | 0.0 |
|                  | SsdSRM24BTIM2   | YES | 13.82 | 13.82 | 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 | 3.13  | 3.13  | 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 | 1.51  | 1.51  | 0.0 |
|                  | StdbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                  | StdbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                  | TamFw           | YES | 4.16  | 4.16  | 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 | 3.13  | 3.13  | 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 | 1.51  | 1.51  | 0.0 |
|                  | StdbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                  | StdbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                  | TamFw           | YES | 4.16  | 4.16  | 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 |

## Determine Firmware Support

|                    |                  |     |       |       |     |
|--------------------|------------------|-----|-------|-------|-----|
|                    | 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 | 3.13  | 3.13  | 0.0 |
|                    | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                    | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                    | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                    | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                    | TamFw            | YES | 4.16  | 4.16  | 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 | 3.13  | 3.13  | 0.0 |
|                    | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                    | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                    | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                    | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                    | TamFw            | YES | 4.16  | 4.16  | 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 | 3.13  | 3.13  | 0.0 |
|                    | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                    | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                    | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                    | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                    | TamFw            | YES | 4.16  | 4.16  | 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 | 3.13  | 3.13  | 0.0 |
|                    | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                    | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                    | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                    | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                    | TamFw            | YES | 4.16  | 4.16  | 0.0 |
|                    | TamFwGolden      | YES | 4.13  | 4.11  | 0.0 |
| -----              |                  |     |       |       |     |
| N540X-16Z8Q2C-A    | ADMConfig        | NO  | 1.05  | 1.05  | 0.0 |
|                    | IoFpga           | YES | 3.13  | 3.13  | 0.0 |
|                    | IoFpgaGolden     | YES | 2.07  | 2.03  | 0.0 |
|                    | Primary-BIOS     | YES | 1.51  | 1.51  | 0.0 |
|                    | StdbbyFpga       | YES | 0.70  | 0.70  | 0.0 |
|                    | StdbbyFpgaGolden | YES | 0.50  | 0.40  | 0.0 |
|                    | TamFw            | YES | 4.16  | 4.16  | 0.0 |
|                    | TamFwGolden      | YES | 4.13  | 4.11  | 0.0 |
| -----              |                  |     |       |       |     |

```

N540X-16Z8Q2C-D      ADMConfig      NO      1.05      1.05      0.0
                      IoFpga          YES     3.13      3.13      0.0
                      IoFpgaGolden    YES     2.07      2.03      0.0
                      Primary-BIOS     YES     1.51      1.51      0.0
                      StdbyFpga       YES     0.70      0.70      0.0
                      StdbyFpgaGolden YES     0.50      0.40      0.0
                      TamFw          YES     4.16      4.16      0.0
                      TamFwGolden    YES     4.13      4.11      0.0

```

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

Tue Mar 25 22:09:14.435 IST

Auto-upgrade:Enabled,PM excluded

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

| Location   | Card type         | HWver | FPD device      | ATR Status   | FPD Versions |          |
|------------|-------------------|-------|-----------------|--------------|--------------|----------|
|            |                   |       |                 |              | Running      | Programd |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | ADM_FW          | CURRENT      | 14.03        | 14.03    |
|            | NOT REQ           |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | ADMConfig       | CURRENT      | 1.05         | 1.05     |
|            | NOT REQ           |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | IoFpga          | CURRENT      | 3.13         | 3.13     |
|            | 0/RP0             |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | IoFpgaGolden    | B CURRENT    |              | 2.03     |
|            | 0/RP0             |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | Primary-BIOS    | SA CURRENT   | 1.51         | 1.51     |
|            | 0/RP0             |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | StdbyFpga       | S CURRENT    | 0.70         | 0.70     |
|            | 0/RP0             |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | StdbyFpgaGolden | BS NEED UPGD |              | 0.00     |
|            | 0/RP0             |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | TamFw           | S CURRENT    | 4.16         | 4.16     |
|            | 0/RP0             |       |                 |              |              |          |
| 0/RP0/CPU0 | N540X-16Z4G8Q2C-A | 0.2   | TamFwGolden     | BS NEED UPGD |              | 0.00     |
|            | 0/RP0             |       |                 |              |              |          |

## 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-25.1.1.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-25.1.1.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-25.1.1.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>

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