



Release Notes for Cisco NCS 1000 Series, IOS XR Release 24.1.1

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What's New in Cisco NCS 1000 Series, IOS XR Release 24.1.1

Cisco is continuously enhancing the product with every release and this section covers a brief description of key features and enhancements. You can also access the links to the detailed documented features.

Cisco NCS 1014

The following table lists the features added in the NCS 1014 guides:

Feature	Description
Hardware Installation	
NCS1K14-2.4T-X-K9 Line Card	<p>The new NCS1K14-2.4T-X-K9 line card is a single-slot Transponder and Muxponder card that delivers up to 1.2T C-band traffic at each trunk port. It has six QDD client ports that support 400GE and 4x100GE traffic on each port. This card provides two trunk ports that support 1.2T traffic on each port. The mxponder-slice and mxponder keywords in the hw-module command enable this card to operate in the following modes.</p> <ul style="list-style-type: none">• Muxponder Slice Mode—The card virtually splits into two slices in this mode. It is possible to configure both trunks to carry different data rates. The supported trunk rates are 400G, 500G, 600G, 800G, 1000G, and 1200G.• Muxponder Mode—The card acts as one unit in this mode, configuring both trunks to the same data rate. The supported trunk rates are 600G and 1000G. Additionally, the capacity of a specific shared client port is consumed by two trunk ports.
Configuration	
Bandwidth Splitting for Efficient Trunk Port Utilization	<p>The NCS1K14-2.4T-X-K9 card can split traffic on a client port between the two trunk ports. This feature is useful when you configure the line card for a trunk capacity of 600GE (supplied by two 400GE client ports) or 1000GE (supplied by three 400GE client ports), which leaves 200GE surplus data on one client port. In the Muxponder mode, the other trunk port consumes this 200GE surplus data from a specific shared client port, effectively splitting the 400GE client port capacity equally across two trunks. The shared client ports are Port 2 for 600G and Port 3 for 1000G trunk payloads.</p>

Feature	Description
NCS1K4-QXP-K9 Line Card Support on NCS 1014	NCS1K4-QXP-K9 line card delivers low cost 100G and 400G DWDM transmission with ZR+ optics on the line card. This line card can be used in both traditional Optical Networking solution and in Routed Optical Networking solution. This line card has 16 pluggable ports with eight QSFP-DD client ports and eight QSFP-DD trunk ports. For more information about the NCS1K4-QXP-K9 card, see the datasheet .
System Setup and Software Installation	
Smart Licensing Transport Mode	Smart Licensing software management solution allows you to choose the transport mode between the Client device and Cisco Smart Software Manager (CSSM) to sync Smart License usage and to install the trust certificates. In addition to the existing Call-Home mode, Cisco Smart Licensing Utility (CSLU), Smart Transport, and Offline modes are now available.

Limitation

The Bright ZRP on NCS1K4-QXP-K9 when configured with 4x100MXP in OR mode over a PSM based network configuration does not provide 50ms switching time.

Cisco NCS 1004

The following table lists the features in the NCS 1004 guides:

Feature	Description
Hardware Installation	
Pluggables Support	The ONS-QC-4X3G-LW pluggable is supported on the OTN-XP card.
Configuration	
SKIP Protocol Support for Quantum Safe IKEv2 Encryption	Traditionally, the IKEv2 encryption was vulnerable to quantum attacks. Now, IKEv2 encryption complies with RFC 8784, which specifies using postquantum preshared keys (PPK) to make it resilient to quantum attacks. You can generate both manual and dynamic PPKs. The dynamic PPKs are generated using the Cisco Secure Key Integration Protocol (SKIP). The IKEv2 encryption is configured through CLI or by the Cisco-IOS-XR-um-ikev2-cfg Yang model. CLI: <ul style="list-style-type: none"> • The ppk manual/dynamic keyword is introduced in the keyring command. • The keyring ppk keyword is introduced in the ikev2 profile command. • The sks profile command is introduced.

Cisco Optical Site Manager

The following table lists the features added in the Cisco Optical Site Manager guide:

Feature	Description
Configuration	
Enable Attention LED on Demand	You can now turn on the Attention LED by selecting true from the Attention Led for drop-down list in the Provisioning tab. The Attention LED is available for specific ports, chassis, line cards, and controller cards. Once turned on, it will help field engineers quickly identify the relevant device at the installation location for maintenance or troubleshooting.
Card Configuration Wizard	The Card Configuration Wizard is updated to select the MXP-1K muxponder mode supported by the new NCS1K14-2.4T-X-K9 card.
Transponder and Muxponder Card Detailed View	<p>You can now access a detailed graphical representation of the connection between the trunk and client ports on the transponder and muxponder cards in Map view. This view is based on the card mode configured on the cards.</p> <p>When you access the detailed view, the right-panel of the Node Functional View displays the card mode details, as well as a list of ports and their settings.</p>
Improved x509 Certificate Handling	<p>You can now upload an x509 certificate in the Personal Information Exchange (PFX) format, which improves the security of the connection between the Cisco Optical Site Manager and its server. PFX files can be password-protected, offering an extra layer of protection against potential attackers.</p> <p>The options to automatically generate and upload certificates are available in the new x509 Certificates tab under the Users & Access menu.</p>

Release 24.1.1 Packages

Packages for CISCO NCS 1014



Note The NCS 1014 packages include Cisco Optical Site Manager software.

Table 1: Packages for Cisco NCS 1014

Feature Set	Filename	Description
Composite Package		
Cisco IOS XR Core Bundle + Manageability Package	ncs1010-x64-24.1.1.iso	Contains required core packages, including operating system, Admin, Base, Forwarding, SNMP Agent, FPD, and Alarm Correlation and Netconf-yang, Telemetry, Extensible Markup Language (XML) Parser, HTTP server packages.
Individually Installable Packages		

Cisco IOS XR Telnet Package	xr-telnet-24.1.1.x86_64.rpm xr-telnet-ncs1010-24.1.1.x86_64.rpm	Install the xr-telnet-24.1.1.x86_64.rpm and xr-telnet-ncs1010-24.1.1.x86_64.rpm packages to support Telnet.
Cisco IOS XR Cisco Discovery Protocol (CDP) Package	xr-cdp-24.1.1.x86_64.rpm xr-cdp-ncs1010-24.1.1.x86_64.rpm	Install the xr-cdp-24.1.1.x86_64.rpm and xr-cdp-ncs1010-24.1.1.x86_64.rpm to support CDP.

Packages for Cisco NCS 1004

Table 2: Packages for Cisco NCS 1004

Feature Set	Filename	Description
Composite Package		
Cisco IOS XR Core Bundle + Manageability Package	ncs1004-iosxr-px-k9-24.1.1.tar	Contains required core packages, including operating system, Admin, Base, Forwarding, SNMP Agent, FPD, and Alarm Correlation and Netconf-yang, Telemetry, Extensible Markup Language (XML) Parser, HTTP server packages.
Individually Installable Packages		
Cisco IOS XR Security Package	ncs1004-k9sec-1.0.0.0-r2411.x86_64.rpm	Support for Encryption, Decryption, IP Security (IPsec), Secure Socket Layer (SSL), and Public-key infrastructure (PKI).
Cisco IOS XR OTN-XP DP Package	ncs1004-sysadmin-otn-xp-dp-24.1.1-r2411.x86_64.rpm (part of ncs1004-iosxr-px-k9-24.1.1.tar)	Install the ncs1004-sysadmin-otn-xp-dp-24.1.1-r2411.x86_64.rpm data path FPD package on the OTN-XP card. This package is mandatory for datapath bring up.
OpenROADM	ncs1004-tp-sw-1.0.0.0-r2411.rpm	Install the ncs1004-tp-sw-1.0.0.0-r2411.rpm package for OpenROADM configuration.

Caveats

Open Caveats

NCS 1014

The following table lists the open caveats for NCS 1014:

Identifier	Headline
CSCwf90494	NCS1K14-2.4T-K9 - Default Client Optics Thresholds are not correct

Identifier	Headline
CSCwi71877	"Communications Failure" alarm stuck on NCS1014 platform even when license is consumed by node
CSCwi83831	[NCS1K14-2.4T-K9] Configuring PRBS on one client affecting another client
CSCwi65037	Opt_terminal_device traceback seen during soak
CSCwh13094	CCMD-16 gain config lost post RP reload if extended gain-range config is removed, retaining gain

NCS 1004

The following table lists the open caveats for NCS 1004:

Identifier	Headline
CSCwj07777	In 1004 chassis, Unable to get env-mon values for module

Cisco Optical Site Manager

The following table lists the open caveats for Cisco Optical Site Manager:

Identifier	Headline
CSCwj24896	Not able to retrieve chassis level power information with COSM
CSCwi90819	[COSM]: On card mode reconfiguration, non-default config values not shown correctly in COSM

Using Bug Search Tool

You can use the Cisco Bug Search Tool to search for a specific bug or to search for all bugs in a release.

Procedure

-
- Step 1** Go to the <http://tools.cisco.com/bugsearch>.
- Step 2** Log in using your registered Cisco.com username and password.
The Bug Search page opens.
- Step 3** Use any of these options to search for bugs, and then press Enter (Return) to initiate the search:
- To search for a specific bug, enter the bug ID in the Search For field.
 - To search for bugs based on specific criteria, enter search criteria, such as a problem description, a feature, or a product name, in the Search For field.
 - To search for bugs based on products, enter or select a product from the Product list. For example, if you enter "WAE," you get several options from which to choose.

- To search for bugs based on releases, in the Releases list select whether to search for bugs affecting a specific release, bugs that were fixed in a specific release, or both. Then enter one or more release numbers in the Releases field.

Step 4 When the search results are displayed, use the filter tools to narrow the results. You can filter the bugs by status, severity, and so on.

To export the results to a spreadsheet, click **Export Results to Excel**.

Determine Software Version

NCS1014

Log into NCS 1014 and enter the **show version** command.

```
RP/0/RP0/CPU0:ios#show version
```

```
Mon Mar 18 09:41:31.247 IST
```

```
Cisco IOS XR Software, Version 24.1.1 LNT
```

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

```
Build Information:
```

```
Built By      : sajjshah
```

```
Built On      : Fri Mar 15 21:26:01 UTC 2024
```

```
Build Host    : iox-ucs-054
```

```
Workspace     :  
/auto/ioxdepot6/GISO/giso_build_lindt/giso_release_create/sujeetk_2024-03-16_04-23-50.UTC
```

```
Version       : 24.1.1
```

```
Label         : 24.1.1-v1
```

```
cisco NCS1010 (C3758R @ 2.40GHz)
```

```
cisco NCS1014 (C3758R @ 2.40GHz) processor with 32GB of memory
```

```
CVT_kepler.1 uptime is 18 hours, 34 minutes
```

```
NCS 1014 - Chassis
```

NCS 1004

Log into NCS 1004 and enter the **show version** command.

```
RP/0/RP0/CPU0:ios#show version
```

```
Mon Mar 18 12:01:23.004 IST
```

```
Cisco IOS XR Software, Version 24.1.1
```

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

```
Build Information:
```

```
Built By      : swtools
```

```
Built On      : Mon Mar 11 19:58:21 PDT 2024
```

```
Built Host    : iox-ucs-064
```

```
Workspace     : /auto/srcarchive15/prod/24.1.1/ncs1004/ws
```

```
Version       : 24.1.1
```

```
Location      : /opt/cisco/XR/packages/
```

```
Label        : 24.1.1
```

```
cisco NCS-1004 () processor
```

```
System uptime is 3 days 11 hours 10 minutes
```

```
RP/0/RP0/CPU0:BH_SIT2#show hw-module fpd
```

```
Mon Mar 18 12:01:28.482 IST
```

Determine Firmware Version

Use the **show hw-module fpd** command in EXEC mode to view the hardware components with their current FPD version and status. The status of the hardware must be CURRENT; The Running and Programed version must be the same.

NCS 1014

Log into node and enter the **show hw-module fpd** command.

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

```
Mon Mar 18 09:41:34.751 IST
```

```
Auto-upgrade:Enabled
```

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

```
FPD Versions
```

```
=====
```

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

0/RP0/CPU0 NOT REQ	NCS1K14-CNTLR-K9	0.2	ADM-DB		CURRENT	2.10	2.10
0/RP0/CPU0 NOT REQ	NCS1K14-CNTLR-K9	0.2	ADM-MB		CURRENT	2.30	2.30
0/RP0/CPU0 0/RP0	NCS1K14-CNTLR-K9	0.2	BIOS	S	CURRENT	4.80	4.80
0/RP0/CPU0 0/RP0	NCS1K14-CNTLR-K9	0.2	BIOS-Golden	BS	CURRENT		4.50
0/RP0/CPU0 0/RP0	NCS1K14-CNTLR-K9	0.2	CpuFpga	S	CURRENT	1.09	1.09
0/RP0/CPU0 0/RP0	NCS1K14-CNTLR-K9	0.2	CpuFpgaGolden	BS	NEED UPGD		1.03
0/RP0/CPU0 0/RP0	NCS1K14-CNTLR-K9	0.2	SsdIntelS4510	S	CURRENT	11.32	11.32
0/RP0/CPU0 0/RP0	NCS1K14-CNTLR-K9	0.2	TamFw	S	CURRENT	9.04	9.04
0/RP0/CPU0 0/RP0	NCS1K14-CNTLR-K9	0.2	TamFwGolden	BS	CURRENT		9.04
0/PM0 NOT REQ	NCS1K4-AC-PSU-2	0.1	PO-PrimMCU		CURRENT	1.03	1.03
0/PM0 NOT REQ	NCS1K4-AC-PSU-2	0.1	PO-SecMCU		CURRENT	1.05	1.05
0/0/NXR0 NOT REQ	NCS1K14-2.4T-X-K9	0.1	CpuModFw	S	CURRENT	241.10	241.10
0/1/NXR0 NOT REQ	NCS1K14-2.4T-K9	0.1	CpuModFw	S	CURRENT	241.10	241.10
0/2/NXR0 NOT REQ	NCS1K14-2.4T-X-K9	0.1	CpuModFw	S	CURRENT	241.10	241.10
0/3/NXR0 NOT REQ	NCS1K14-2.4T-X-K9	0.1	CpuModFw	S	CURRENT	241.10	241.10
0/Rack NOT REQ	NCS1014	0.1	ADM-CHASSIS		CURRENT	0.21	0.21
0/Rack NOT REQ	NCS1014	0.1	IoFpga	S	CURRENT	1.10	1.10
0/Rack NOT REQ	NCS1014	0.1	IoFpgaGolden	BS	CURRENT		1.05
0/Rack 0/Rack	NCS1014	0.1	SsdIntelSC2KB	S	CURRENT	1.20	1.20

NCS 1004

Log into node and enter the **show hw-module fpd** command.


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

```
Mon Mar 18 12:01:28.482 IST
```

```
Auto-upgrade:Enabled
```

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

0/0	NCS1K4-2-QDD-C-K9	1.0	LC_CPU_MOD_FW	CURRENT	241.10	241.10
0/0	NCS1K4-2-QDD-C-K9	1.0	LC_OPT_MOD_FW	CURRENT	1.38	1.38
0/1	NCS1K4-1.2T-L-K9	2.0	LC_CPU_MOD_FW	CURRENT	241.10	241.10
0/1	NCS1K4-1.2T-L-K9	1.0	LC_OPT_MOD_FW	CURRENT	1.38	1.38
0/2	NCS1K4-1.2TL-K9	3.0	LC_CPU_MOD_FW	CURRENT	241.10	241.10
0/2	NCS1K4-1.2TL-K9	21.0	LC_OPT_MOD_FW	CURRENT	1.38	1.38
0/3	NCS1K4-2-QDD-C-K9	1.0	LC_CPU_MOD_FW	CURRENT	241.10	241.10
0/3	NCS1K4-2-QDD-C-K9	1.0	LC_OPT_MOD_FW	CURRENT	1.38	1.38
0/RP0	NCS1K4-CNTLR-K9	4.0	CSB_IMG	S CURRENT	0.200	0.200
0/RP0	NCS1K4-CNTLR-K9	4.0	TAM_FW	CURRENT	36.08	36.08
0/RP0	NCS1K4-CNTLR-K9	1.14	BIOS	S CURRENT	6.20	6.20
0/RP0	NCS1K4-CNTLR-K9	5.4	BP_SSD	CURRENT	75.00	75.00
0/RP0	NCS1K4-CNTLR-K9	4.0	CPU_FPGA	CURRENT	1.14	1.14
0/RP0	NCS1K4-CNTLR-K9	5.4	CPU_SSD	CURRENT	75.00	75.00
0/RP0	NCS1K4-CNTLR-K9	3.18	POWMAN_CFG	CURRENT	3.40	3.40
0/PM1	NCS1K4-AC-PSU	0.1	PO-PrimCU	CURRENT	2.70	2.70
0/SC0	NCS1004	2.0	BP_FPGA	CURRENT	1.25	1.25
0/SC0	NCS1004	2.0	XGE_FLASH	CURRENT	18.04	18.04

