

Release Notes for Cisco NCS 1004, IOS XR Release 7.1.1

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Network Convergence System 1004



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The Cisco NCS 1004 chassis is a 2 RU chassis that delivers a universal transponder solution which provides excellent performance for metro, long-haul and submarine applications. At 2 RU, the system supports up to 4.8Tbps of client and 4.8Tbps of trunk traffic with NCS1K4-1.2T-K9 cards. At 2 RU, the system supports up to 3.2Tbps of client and 3.2Tbps of trunk traffic with NCS1K4-1.2TL-K9 and OTN-XP cards.

NCS 1004 has the following components:

- Removable controller
- Two replaceable power supply units
- Three replaceable fan units
- Four line card slots

For all the versions of the Release Notes for Cisco NCS 1004, see the [Release Notes](#) URL.

Hardware Features Introduced in Release 7.1.1

Hardware

An air filter is introduced for the Cisco NCS 1004 chassis. An air filter removes dust from the air in the chassis.

The Cisco NCS 1004 air filter unit consists of three components –

- Two air filter side brackets

- One air filter frame
- One air filter

For more information about the air filter, see the *Hardware Installation Guide for Cisco NCS 1004, IOS XR Release 7.1.1*.

Software Features Introduced in Release 7.1.1



Note Before you dive into this release's features, we invite you to content.cisco.com to experience the features of the [Cisco Content Hub](#). Here, you can, among other things:

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For more information about software features described below, see the *Configuration Guide for Cisco NCS 1004, IOS XR Release 7.1.1*.

Remote Node Management Using GCC

The remote node management feature allows the user to remotely manage the NCS 1004 nodes over the General Communication Channel (GCC) interface. The remote nodes that are not connected to the management network over the Ethernet interface can be managed over the GCC interface. This feature supports remote management of up to eight nodes in hub topology and up to two nodes in linear topology. GCC2 and GCC0 are supported in NCS 1004.

Regeneration Mode

The 1.2Tbps card can be configured in Regeneration (regen) mode. In regen mode, only trunk optics Controller and CoherentDSP controllers are created. The supported trunk rates are 100G to 600G in multiples of 100G.

Support for Sub 50G Configuration

The sub 50G or coupled mode can be configured on the 1.2Tbps card only in the muxponder mode. The supported trunk data rates are 150G, 250G, 350G, 450G, and 550G.

Fault Profiles

The Fault Profiling feature enables you to create a unique fault profile for faults on the system or line card. Each fault profile can contain one or more faults with user-defined severities.

LLDP support on Management Interface

LLDP support on management interface feature requires a system to form LLDP neighborship over the system management interface, through which it advertises and learns LLDP neighbor information. This information about neighbors can be used to learn about the neighbors and in turn the topology of the devices for Operations, Administration, and Maintenance (OAM) purposes.

PRBS Support

Pseudo Random Binary Sequence (PRBS) feature enables you to perform data integrity checks between the NCS1004 trunk links without enabling the actual client traffic.

OTU4 Support

The client data rates supported on the 1.2 Tbps card are 100GE and OTU4. The client ports can be configured with OTU4 in both the muxponder and muxponder slice modes. In muxponder slice mode, both the slices must be configured with either OTU4 or 100GE ethernet client rates.

Alarms

The alarms introduced in Release 7.1.1 are:

- Provisioning Failed
- Provisioning in Progress

Release Packages for Cisco NCS 1004

Feature Set	Filename	Description
Composite Package		
Cisco IOS XR Core Bundle + Manageability Package	ncs1004-iosxr-px-k9-7.1.1.tar	Contains required core packages, including OS, Admin, Base, Forwarding, SNMP Agent, FPD, and Alarm Correlation and Netconf-yang, Telemetry, Extensible Markup Language (XML) Parser, HTTP server packages.
Individually-Installable Optional Packages		
Cisco IOS XR Security Package	ncs1004-k9sec-2.1.0.0-r711.x86_64.rpm	Support for Encryption, Decryption, IP Security (IPSec), Secure Socket Layer (SSL), and Public-key infrastructure (PKI).

System Requirement

Memory Configuration

At least 16 GB RAM

Supported Hardware

For a complete list of supported optics, hardware and ordering information, see the *Cisco NCS 1004 Datasheet*.

To install the Cisco NCS 1004, see the *Cisco NCS 1004 Hardware Installation Guide*.

Determine Software Version

Log in to NCS 1004 and enter the **show version** command

```
RP/0/RP0/CPU0:ios#show version
Wed Jan 29 04:47:41.568 UTC
Cisco IOS XR Software, Version 7.1.1
Copyright (c) 2013-2020 by Cisco Systems, Inc.

Build Information:
Built By : deenayak
Built On : Mon Jan 27 01:14:17 PST 2020
Built Host : iox-lnx-072
Workspace : /auto/srcarchive15/prod/7.1.1/ncs1004/ws
Version : 7.1.1
Location : /opt/cisco/XR/packages/
Label : 7.1.1

cisco NCS-1004 () processor
System uptime is 21 hours 11 minutes
```

Determine Firmware Support

Log in to NCS 1004 and enter the **show hw-module fpd** command:

```
RP/0/RP0/CPU0:BH2#show hw-module fpd
Fri Jan 17 11:27:21.639 IST
FPD Versions
=====
Location  Card type HWver FPD      device  ATR   Status Running Programd
-----
0/0      NCS1K4-1.2T-K9  2.0    LC_CPU_MOD_FW  CURRENT  71.10  71.10
0/0      NCS1K4-1.2T-K9  0.0    LC_OPT_MOD_FW  CURRENT  1.14   1.14
0/1      NCS1K4-1.2T-K9  2.0    LC_CPU_MOD_FW  CURRENT  71.10  71.10
0/1      NCS1K4-1.2T-K9  1.0    LC_OPT_MOD_FW  CURRENT  1.14   1.14
0/2      NCS1K4-1.2T-K9  2.0    LC_CPU_MOD_FW  CURRENT  71.10  71.10
0/2      NCS1K4-1.2T-K9  1.0    LC_OPT_MOD_FW  CURRENT  1.14   1.14
0/3      NCS1K4-1.2T-K9  2.0    LC_CPU_MOD_FW  CURRENT  71.10  71.10
0/3      NCS1K4-1.2T-K9  1.0    LC_OPT_MOD_FW  CURRENT  1.14   1.14
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  4.20   4.20
0/RP0    NCS1K4-CNTLR-K9  4.0    CPU_FPGA      CURRENT  1.14   1.14
0/PM0    NCS1K4-DC-PSU   0.1    PO-PrimMCU    CURRENT  1.12   1.12
```

```

0/PM1    NCS1K4-2KW-DC    0.1    PO-PrimCU    CURRENT    1.12    1.12
0/SC0    NCS1004           2.0    BP_FPGA      CURRENT    1.25    1.25
0/SC0    NCS1004           2.0    XGE_FLASH   CURRENT    18.04   18.04

```

The above show output lists the hardware components that are supported in current release with their status. The status of the hardware must be CURRENT; Running and Program version must be similar.

Open Caveats for NCS 1004

The following table lists the open caveats for NCS 1004:

Caveat ID Number	Description
CSCvq61605	x50G : Trunk internal loopback on single trunk leading to traffic loss
CSCvq73215	x50G : Trunk-1 alarms causing interruption on Trunk-0 all client traffic
CSCvq73637	mxponder config modification, thru Declarative way, removes dependent controller configs
CSCvr88868	711_123I:-Reload Required flag for LC_CPU_MOD_FW and LC_OPT_MOD_FW should be changed to NO
CSCvs06163	[711_123I]- ODU4 Error-second counter is not incrementing correctly
CSCvs59793	bhlc : ethernet statistics not correctly counted

Obtaining Documentation and Submitting a Service Request

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