Release Notes for Cisco NCS 1001, IOS XR Release 6.5.1

First Published: 2018-08-10

Network Convergence System 1001

Note

This software release has reached end-of-life status. For more information, see the End-of-Life and End-of-Sale Notices.

Note

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The Cisco Network Convergence System (NCS) 1001 is a 1 RU chassis that addresses the growing bandwidth needs of data center DWDM applications. It provides a DWDM line system that is optimized for data center environments and is optimized for point-to-point applications at maximum capacity. Cisco NCS 1001 supports up to three optical modules. The modules can be amplifiers, OTDR, or protection switching modules.

NCS 1001 has the following components:

- Four removable fans.

- Two removable AC or DC power supply modules (PSU).

- Three slots for optical modules. The Optical Amplifier Module (NCS1K-EDFA), Protection Switching Module (NCS1K-PSM), and Optical Time Domain Reflectometer Module (NCS1K-OTDR) can be inserted in these slots.

For all the versions of the Release Notes for Cisco NCS 1001, see the Release Notes URL.

Features Introduced in Release 6.5.1

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Optical Time Domain Reflectometer

Optical Time Domain Reflectometer (OTDR) is a line card supported in NCS 1001. The line card contains 2x bidirectional OTDRs and 2x filter that combines C-band, OSC, and OTDR filters and splits OSC and OTDR. Each internal OTDR can perform measurements on both TX and RX fiber by using an internal optical switch. OTDR line card is connected to the OSC port on the optical amplifier. The OTDR measurement is available in a .SOR file and it can be exported from NCS 1001 using SCP, TFTP and SFTP. When NCS1001 system uses the OTDR line card, the OSC channel is on 1610 nm and OTDR is on 1518 nm.

The OTDR line card can be inserted in any slot of NCS 1001. The card is optimized to work only on SMF-28 fiber.

The OTDR line card allows the user to perform the following:

- Provides information about basic characteristic of the optical fiber among optical nodes, such as Insertion Loss and concentrate point of reflection.

- Inspects the transmission fiber.

- Identifies discontinuities or defect on the fiber.

- Measures the distance and magnitude of defects like insertion loss, reflection loss, and so on.

- Improves scan performance using specific scan parameters targeted on the characteristics of the fiber plant such as span length, reflection contributions, and major events.

The OTDR modes are as follows:

- Expert mode - Provides complete control of OTDR scan parameters to the user.

- Automatic mode - Performs measurement over the entire OTDR span. OTDR training phase is required to allow this mode make a correct measurement. This phase is automatically raised by the OTDR scan.

To configure OTDR, see the Configure OTDR Module chapter in Configuration Guide for Cisco NCS 1001, IOS XR Release 6.5.x.

Span Loss Calculation

The Span Loss Calculation is an automatic calculation of span losses between NCS 1001 systems.This feature applies to each topology such as protected or non-protected,linear with or without ILA nodes in the middle.The span loss calculation is a software functionality available for OTS controller so it can be statically enabled or disabled through hw-module configuration.Span loss calculation is made using the TX and RX total power on EDFA ports.

This functionality is available for two new parameters:

- RX Span Loss

- TX Span Loss

The span loss calculation runs automatically for every 5 minutes when there is a configuration change. In the order of priority,the possible configurations are:

- Remote node.

- OSC through OSPF.

To configure span loss calculation, see the Span Loss Calculation section in Configuration Guide for Cisco NCS 1001, IOS XR Release 6.5.x.

USB Passive Inventory

There are passive units that are part of NCS1001 hardware configuration. It is possible to have information about these passive units as soon as they are connected with a proper USB cable through one of the four available USB ports on the controller card of the box itself. In this case their basic parameters are displayed in the output of "show inventory" command by XR or admin session.

When the supported passive module is connected to the front panel port of NCS 1001, the module is discovered and the inventory data is read from the USB device. The user can view the details of passive module such as PID, Description, Serial Number, and Version ID using the show inventory command. Only one passive unit information can be retrieved in the inventory of the box , if it is connected to the box itself through a cable to one of the available four USB ports.

For more information, see the USB Passive Inventory section in Hardware Installation Guide for Cisco NCS 1001.

Dual IP Addres

Dual independent XR interfaces allows you to connect the two ethernet interfaces to two different switches of different subnet and also of the same subnet.From release 6.5.1, there are different ports from the ethernet switch MGMT RJ45, and Optical SFP MGMT to the CPU.

The two different Management Ethernet interfaces in to XR are:

- MgmtEth 0/RP0/CPU0/0 (already existing) representing the RJ45 port.

- MgmtEth 0/RP0/CPU0/1 (new one) representing the SFP port.

For more information, see the Dual IP Addres section in Configuration Guide for Cisco NCS 1001, IOS XR Release 6.5.x.

Determine Software Version

Log in to NCS 1001 and enter the **show version** command:

```
RP/0/RP0/CPU0:ios#show version
Fri Aug 10 10:38:09.569 CEST
Cisco IOS XR Software, Version 6.5.1
Copyright (c) 2013-2018 by Cisco Systems, Inc.

Build Information:
Built By     : ahoang
Built On     : Wed Aug  8 16:47:10 PDT 2018
Built Host   : iox-ucs-027
Workspace    : /auto/srcarchive17/prod/6.5.1/ncs1001/ws
Version      : 6.5.1
Location     : /opt/cisco/XR/packages/

cisco NCS-1001 () processor
System uptime is 5 minutes
```

Determine Firmware Support

Log in to NCS 1001 and enter the **show hw-module fpd** command:

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; Running and Programed version must be the same.

```
RP/0/RP0/CPU0:ios#show hw-module fpd
Fri Aug 10 10:38:15.225 CEST

                                                            FPD Versions
                                                         =================
Location    Card type       HWver FPD device       ATR Status   Running Programd
--------------------------------------------------------------------------------
0/0         NCS1001-K9      0.1   Control_BKP       B   CURRENT            1.10
0/0         NCS1001-K9      0.1   Control_FPGA          CURRENT  1.10     1.10
0/1         NCS1K-EDFA      0.0   FW_EDFAv1             CURRENT  1.43     1.43
0/2         NCS1K-OTDR      0.0   FW_OTDR_p             CURRENT  5.02     5.02
0/2         NCS1K-OTDR      0.0   FW_OTDR_s             CURRENT  1.47     1.47
0/3         NCS1K-EDFA      0.0   FW_EDFAv1             CURRENT  1.43     1.43
0/RP0       NCS1K-CNTLR2    0.1   BIOS_Backup       BS  CURRENT           14.20
0/RP0       NCS1K-CNTLR2    0.1   BIOS_Primary      S   CURRENT  14.20    14.20
0/RP0       NCS1K-CNTLR2    0.1   Daisy_Duke_BKP    BS  CURRENT            0.17
0/RP0       NCS1K-CNTLR2    0.1   Daisy_Duke_FPGA   S   CURRENT  0.17     0.17
```

Open Caveats for NCS 1001

Table 1: Caveats for 6.5.1

Caveat ID Number	Description
CSCvk04404	[NCS1001] PSM switch to faulty ILA path should be inhibited.

Caveat ID Number	Description
CSCvj42626	[NCS1001] - fpd upgrade started after more than 10 min delay.
CSCvk12324	Awaited ALS alarm in ILA node is missing
CSCvk28523	The device doesn't accept in some commit ampli-gain and ampli-gain-range.
CSCvk33694	[NCS1001] SNMP browse on some EDFA PM history data sometimes is not correctly closed.