Cisco NCS 1004 Overview

This chapter provides an overview of the Cisco Network Convergence Series (NCS) 1004.

Cisco NCS 1004 Features

Cisco NCS 1004 is a two RU unit that supports up to 4.8 Tbps traffic. The NCS 1004 has two redundant, field replaceable AC and DC power supply units and three redundant, field replaceable fans. It also provides a field replaceable controller card. The NCS 1004 has SSD disks both on board the chassis and on the controller card for resiliency. Each NCS 1004 chassis provides four line cardslots. Each NCS 1004 slot can host a line card. See Supported Line Cards, on page 2 for more information.

The NCS 1004 delivers the following benefits:

- Transport of any trunk rate from 150 to 600 Gbps wavelengths in 50 Gbps increments on the same platform through software provisioning.

- Support of granular control of baud-rate and modulation format to maximize spectral efficiency.

- One universal transponder that is optimized for performance for metro, long-haul, and submarine applications.

- Support for up to 350,000 ps/nm of residual chromatic dispersion compensation.

- Transport of 100GE and OTU4 client rates on the same platform through software provisioning.

- 600G DWDM, which provides unparalleled scale and density. 64 channels of 600G at 75 GHz providing 38.4 Tbps in 16 RU.

- State-of-the-art AES-256 encryption at scale – 4.8 Tbps of encrypted trunk capacity per 2 RU.

Interoperability with Cisco NCS 1001

When the Cisco NCS 1001 with Protection Switching Module (PSM) configured as non-revertive, interoperates with Cisco NCS 1004, traffic loss may occur. After the traffic has switched from the working to the protect

path, do not perform a manual switch for 120 seconds. If you perform a manual switch, and the protect path fails, traffic loss of up to 13 seconds can occur.

Supported Line Cards

The following line cards are supported on Cisco NCS 1004.

NCS1K4-1.2T-K9 C-Band Line Card

The NCS1K4-1.2T-K9 (or 1.2 Tbps) C-band line card has 12 QSFP-28 based clients and two DWDM trunk ports. The trunk ports are capable of several line rates with fine control of modulation format, baud-rate, and forward error correction. The trunk ports are software configurable. The line card supports module and slice configurations.

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Note   "1.2TC" refers to the NCS1K4-1.2T-K9 C-band line card.

The features of the 1.2T line card are:

- The card provides up to 12 100G or OTU4 client ports.

- The baud rate can be controlled between 28 Gbd/s and 72 Gbd/s.

- The frequency range is 191.25 to 196.1 THz with a default value of 193.1 THz.

- The modulation format can be QPSK, 8 QAM, 16 QAM, 32 QAM, or 64 QAM.

- Hybrid modulations formats can be configured through 1/128 bits/symbol granularity.

- Forward Error Correction (FEC) of 27% and 15% overhead across line rates (only 15% for 600G).

- In Release 7.1.1, the trunk line rate can be configured from 150G to 600G in 50G increments.