



Release Notes for Cisco Routed Optical Networking Solution, Release 1.0

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The release notes provide an overview of the Routed Optical Networking solution and its features. It also lists the caveats.

Routed Optical Networking Overview

With the introduction of Routed Optical Networking, networks see improvements in service agility. Routed Optical Networking simplifies the complex multilayer architecture by converging the layers together and minimizing functional overlaps between layers.

Routed Optical Networking is able to provide improvements and simplification as Routed Optical Networking:

- Leverages state of the art optical and routing technologies to converge services over an IP infrastructure that is connected by a simplified DWDM layer.
- Simplifies end-to-end network architecture.
- Utilizes a modern software stack that spans across network management and control planes.
- Improves the capacity and cost efficiency of the networks.
- Has a smaller carbon footprint.
- Offers unified capacity planning, unified EMS, unified path optimization, orchestration, and assurance.
- Provides an automation ecosystem with open, programmable, and modular components.
- Total Cost of Ownership savings across CapEx and OpEx.

Routed optical networking utilizes high-density routers, high-capacity ZR or ZR+ digital coherent optics, simpler DWDM line systems, telemetry software, and end-to-end automation to create next generation networks.

Feature Support

The following features are supported in Routed Optical Networking, Release 1.0:

Table 1: Routed Optical Networking Features

Product	Features
IOS-XR 7.3.2	Support for QDD-400G-ZR-S and QDD-400G-ZRP-S on the following hardware: <ul style="list-style-type: none"> • 8201-SYS • 8202-SYS • 8101-32FH • 8201-32FH • 8800-LC-36FH • 88-LC0-36FH-M • 88-LC0-36FH • NC57-24DD • NC57-18DD-SE • NC57-36H6D-S • NCS-57B1-6D24-SYS • NCS-57B1-5DSE-SYS
IOS-XR 7.4.1	Support for QDD-400G-ZR-S and QDD-400G-ZRP-S on the following hardware: <ul style="list-style-type: none"> • N540-24Q8L2DD-SYS
Optical line system	Support for: <ul style="list-style-type: none"> • NCS1K-MD-64-C module • NCS 2000 shelf • NCS 2000 line cards
NETCONF and YANG ZR/ZR+ Programmability	Support for NETCONF and YANG models. NETCONF is a standard based and XML encoded protocol. You can use YANG to create device configuration requests or the requests for operational data.
Telemetry	Support for telemetry data. Model-driven telemetry allows network devices to continuously stream real-time configuration and operating state information to subscribers.
Cisco Evolved Programmable Network Manager 5.1.3	Support for QDD-400G-ZR-S and QDD-400G-ZRP-S optics on Release 1.0 platforms. It also displays optical performance monitoring and fault data.

Product	Features
Crosswork Hierarchical Controller 5.1	<p>CNC and Crosswork Hierarchical Controller integration is supported for hierarchical multi-vendor, multi-domain, and multi-layer visualization across service, IP and, optical layers for new deployments and deployments on existing networks. Crosswork Hierarchical Controller supports:</p> <ul style="list-style-type: none"> • Routed Optical Networking multi-layer service provisioning • Routed Optical Networking multi-layer discovery and visualization: <ul style="list-style-type: none"> • Topology and inventory discovery from Cisco ONC (optical layer) and CNC (routing layer) • Optical and routing service discovery from NSO and Cisco ONC • UI support for Routed Optical Networking service management using NSO Routed Optical Networking CFP
Cisco Optical Network Controller 1.1	Support for QDD-400G-ZR-S and QDD-400G-ZRP-S wavelength services on Cisco NCS 2000 devices Cisco Optical Network Controller (Cisco ONC) is an optical domain controller. Cisco ONC supports a standardized TAPI model.
Cisco Crosswork Network Controller 3.0	Cisco Crosswork Network Controller (CNC) is a network automation solution for deploying and operating IP transport networks. Its unified user interface allows real-time visualization of the network topology and services, as well as service and transport provisioning. CNC is the IP domain controller.
NSO Routed Optical Networking Core Function Pack 1.0	Support for unified IP and optical provisioning for Cisco routers using QDD-400G-ZR-S and QDD-400G-ZRP-S optics and NCS 2000 optical line systems.
Cisco Optical Network Planner 4.2	Support for designing and validating networks of the NCS 2000 series. Cisco ONP must be used to perform the final network feasibility analysis and generate production network designs.
CiscoWAN Automation Engine 7.5.0	Support for creating and maintaining a model of the current network through the continual monitoring and analysis of the network and the traffic demands that are placed on it. This tool is used for IP planning.

Caveats

The open caveats are:

Identifier	Headline
CSCvz70913	OMS-Link and FiberSpan not re-created after SVO-OSC provisioning
CSCwa14718	onc-mongo-service in the degraded state post reboot
CSCwa24449	Degree Delete Notifications are failing on topology side

Identifier	Headline
CSCwa01897	OMS link is partial after re-adding the deleted degree
CSCwa24455	Access port notifications not coming after first plugin without provisioning for SMR card
CSCwa24533	The deployer status is disconnected, while try to import device
CSCvz60531	NCS540 400G ZR/ZR+: Laser Temperature, laser age and dac_rate missing in show controller op
CSCvz09856	4x100G Breakout Pre-cfg ports are DOWN post optics insertion
CSCwa00701	TAPI SIP inventory_id uses a parameter that may be not unique
CSCvz85902	ASR9K,NCS540,8201,NCS57XX Platforms are missing as part of alarm-manager
CSCwa24413	NEP's and SIP are not getting deleted on nodetermPoint deletion

Bug Search Tool

[Cisco Bug Search Tool](#) (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.

Related Documentation

Use this guide along with the following referenced publications:

- [Cisco NCS 2000 Series SVO Configuration Guide, Release 12.2](#)
- [Cisco Optical Network Planner Installation Guide](#)
- [Cisco WAE 7.5.0 Installation Guide](#)
- [Cisco Crosswork Infrastructure 4.1 and Applications Installation Guide](#)
- [Cisco Network Services Orchestrator Installation Guide](#)
- [Cisco NSO Transport-SDN Function Pack Bundle User Guide 3.0](#)
- [Cisco Network Services Orchestrator DLM Service Pack Installation Guide 4.1.0](#)
- [Cisco Crosswork Infrastructure 4.1 and Applications Administration Guide](#)
- [Cisco Crosswork Hierarchical Controller Administration Guide](#)
- [Cisco ONC 1.1 Configuration Guide](#)
- [Cisco Evolved Programmable Network Manager 5.1.3](#)
- [Cisco NSO Routed Optical Networking Core Function Pack Installation Guide](#)
- [Cisco NSO Routed Optical Networking Core Function Pack User Guide](#)

