Release Notes for Cisco Optical Network Controller, Release 25.1.x

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Cisco Optical Network Controller Overview

Cisco Optical Network Controller is an SDN Domain Controller for Cisco Optical Networks. Optical Network Controller collects optical data which is used to provide network information in an abstracted format to higher layer controllers. This abstraction enables a centralized control of a Cisco Optical Network.

Some of the features of Cisco Optical Network Controller are:

- Serves as a domain controller for optical products and provides data to Hierarchical Controllers. Optical Network Controller supports a standardized TAPI model which enables it to abstract the device level details from hierarchical controller.
- As a Provisioning Network Controller (PNC), monitors the topology (physical or virtual) of the network, and collects information about the topology, and setup/teardown of optical circuits.
- PCE service provides optical path computation to other Cisco Optical Network Controller services.

Note For more details on how to model an alien wavelength or transceiver, etc through Cisco Optical Network Planner see Cisco Optical Network Planner Manage Alien.

What's New in Cisco Optical Network Controller, Release 25.1.2

Cisco is continuously enhancing the product with every release and this section covers a brief description of key features and enhancements.

Feature	Description
Geo Redundant Cisco Optical Network Controller Deployment	Geo Redundant Deployment allows integration of multiple Cisco Optical Network Controller instances into a Geo Supercluster, enhancing service availability and resilience across multiple regions. The setup operates in a 1+1+1 configuration with an active node, a standby node, and an arbitrator node for active node selection. This deployment ensures continuous service and failover capabilities during regional outages, supporting high availability needs.
Support for NCS 1001 devices	You can now onboard, manage, provision circuits, and read PM values on Cisco Optical Site Manager nodes containing NCS1001 devices.
Time zone configuration	CONC now supports changing the timezone in the UI. You have to restart the VM after changing the timezone for the changes to take effect.

What's New in Cisco Optical Network Controller, Release 25.1.1

Cisco is continuously enhancing the product with every release and this section covers a brief description of key features and enhancements.

Feature	Description
Support for GMPLS circuits	You can now provision GMPLS circuits from the Service Manager. Cisco Optical Network Controller now supports discovery and provisioning of GMPLS circuits.
Support for NCS 2000 devices	The following line cards are supported on NCS 2000 chassis. • NCS2K-400G-XP-LC • NCS2K-200G-CK-C • NCS2K-1.2T-MXP • 15454-M-10X10G-LC=
Support for additional NCS 1000 line cards	The following line cards are supported on NCS 1000 devices. • NCS1K4-QXP-K9 • NCS1K14-2.4T-X-K9 • NCS1K4-1.2T-K9
Workspace Enhancements	Node and Link Multi-Select in Circuit Monitoring Workspace, Alarm History tab to the Circuit Monitoring Workspace, enabling you to view past alarms for a selected circuit, Added a dropdown in the Circuit Monitoring Workspace to select different interface types for PM data,
New CONC_SYSTEM alarms	The following new alarms were introduced: • BACKUP-FAILURE • NODE-BACKUP-FAILURE • NODE-DISCONNECT • UPLOAD-FAILURE
SNMP Traps and Alarm Filters	You can now send alarm traps to external SNMP managers from Cisco Optical Network Controller. This enables integration with external monitoring systems and provides a mechanism for forwarding alarm information. Cisco Optical Network Controller supports both SNMP v2c and v3.
Support for LNI requests from Cisco Optical Network Planner	LNI, or Live Network Import, is a feature in Cisco Optical Network Planner that allows users to import deployed networks into the planner in real-time. Cisco Optical Network Controller allows you to import live network information for NCS1000 and NCS2000 nodes in the network.

SWIMU App Enhancements	Enhanced the Software Image Management and Upgrade (SWIMU) app with features for software image distribution groups, image distribution jobs, software activation groups, and software activation jobs.
Network Level Alarm Correlation Support	Network Level Alarm Correlation (NLAC) automatically correlates and suppresses alarms at the network level, reducing alarm noise and improving troubleshooting. Added new fields to the alarms table for enhanced alarm tracking and correlation,

In addition to these features the new Cisco Optical Network Controller 25.1.1 UI includes the following applications.

Application	Description
Links	The Links App is a new application in the Cisco Optical Network Controller. It provides a centralized location for managing and monitoring network links. It offers enhanced filtering and sorting capabilities compared to the topology view, allowing you to easily differentiate between discovered and undiscovered OMS links.

Software and Hardware Requirements

Software Requirements

Cisco Optical Network Controller, Release 25.1.x supports the following software versions.

Table 1: Software Support

Hardware and Software	Version
NCS 1001	Cisco IOS XR Release 7.10.1
NCS 1004	Cisco IOS XR Release 24.3.1
NCS 1014	Cisco IOS XR Releases 25.1.1 and 24.3.1
NCS 1010	Cisco IOS XR Releases 25.1.1 and 24.3.1
Cisco Optical Site Manager	
NCS 1000	Cisco IOS XR Releases 25.1.1 and 24.3.1
NCS 2000	Release 25.1.1

Data Center Requirements

Cisco Optical Network Controller 25.1.x can be deployed using VMware vCenter server version 7.0 and vSphere server and client with version 7.0. It is deployed on rack or blade servers within vSphere. To aid in the deployment, Cisco has developed a cluster installation tool. This tool works in both environments.

The following list contains the prerequisites of Cisco Optical Network Controller 25.1.x installation.

- Before installing Cisco Optical Network Controller 25.1.x, you must log in in to the VMware customer center and download VMware vCenter server version 7.0, as well as vSphere server and client with version 7.0. Cisco Optical Network Controller 25.1.x is deployed on rack or blade servers within vSphere.
- ESXi host must be installed on servers with vSphere version of 7.0 to support creating Virtual Machines (VM).
- Before the Cisco Optical Network Controller 25.1.x installation, three networks must be created.
  - **Control Plane Network**:

    The control plane network helps in the internal communication between the deployed VMs within a cluster. If you are setting up a standalone system, this can refer to any private network.
  - **VM Network or Northbound Network**:

    The VM network is used for communication between the user and the cluster. It handles all the traffic to and from the VMs running on your ESXi hosts and this is your Public network through which the UI is hosted.
  - **Eastbound Network**:

    The Eastbound network can be a private network for standalone setups. It requires one private IP address, a gateway, and a DNS server. If the node is not exposed to the internet, the DNS server must be an internal DNS, otherwise you can use an internet DNS.

VM Host Requirements

This section explains the VM host requirements.

The minimum requirement for Cisco Optical Network Controller 25.1.x installation is given in the table below.

Table 2: Minimum Requirement

Profile	CPU (in cores)		Memory (GB)		Solid State Drive (SSDs) (TB)
	Worker Node	Abitrator Node	Worker Node	Abitrator Node	
XS	16	8	64	32	2
S	32	8	128	32	4
M	48	8	256	32	10

vCPU to Physical CPU Core Ratio

We support a vCPU to Physical CPU core ratio of 2:1 if hyperthreading is enabled and the hardware supports hyperthreading. Hyperthreading is enabled by default on Cisco UCS servers that support hyperthreading. In other cases, the vCPU to Physical CPU core ratio is 1:1.

The requirements based on type of deployment are given in the following table:

Table 3: Deployment Requirements

Deployment Type	Requirements
Standalone (SA)	**Control Plane:** 1 IP (this can be a private network). **Northbound Network/VM Network:** 1 IP (this must be a public network) **Eastbound Network:** 1 IP (this can be a private network).

Table 4: VM Host Requirements

Requirement	Description
Additional Storage	10 GB (approximately) of storage is required for OVA installation.
Network Connections	For production deployments, we recommend that you use three interfaces, one each for the Eastbound, Northbound, and Control Plane networks. For optimal performance, the Eastbound, Northbound networks should use links configured at a minimum of 1 Gbps with latency less than 100 ms. The Control Plane Network must have a 10 Gbps link.
IP Addresses	Three IP subnets, Control Plane, Northbound Network, Eastbound Network are necessary. • The IP addresses must be able to reach the gateway address for the network where Cisco Optical Network Controller Data Gateway is installed, or the installation fails. • At this time, your IP allocation is permanent and cannot be changed without re-deployment. For more information, contact your Cisco Customer Experience team.
NTP Servers	The IPv4 addresses or host names of the NTP servers you plan to use. If you want to enter multiple NTP servers, separate them with spaces. These should be the same NTP servers you use to synchronize the Cisco Optical Network Controller application VM clock, devices, clients, and servers across your network. • Ensure that the NTP servers are reachable on the network before attempting installation. The installation will fail if the servers cannot be reached. • The ESXi hosts that will run the Cisco Optical Network Controller application and Cisco Optical Network Controller Data Gateway VM must have NTP configured, or the initial handshake may fail with "certificate not valid" errors.

Requirement	Description
DNS Servers	The IPv4 addresses of the DNS servers you plan to use. These should be the same DNS servers you use to resolve host names across your network. • Ensure that the DNS servers are reachable on the network before attempting installation. The installation will fail if the servers cannot be reached.
DNS Search Domain	The search domain you want to use with the DNS servers, for example, cisco.com. You can have only one search domain.

Important Notes

- Cisco Optical Network Controller Infrastructure and applications are built to run as a distributed collection of containers managed by Kubernetes. The number of containers varies as applications are added or deleted.

Caveats

Open Caveats In Release 25.1.2

The following table lists the open caveats for Cisco Optical Network Controller, Release 25.1.2

Identifier	Headline
CSCwn98124	GeoHA: Onboard of COSM Nodes failed with ITCA during node failover
CSCwq00733	client NTPs not removed after deleting IPC connecting trunk port to AD port
CSCwp59831	ONC_13802_ONC_14287 - unexpected reply from DM, http_status received: 500, expected: 405
CSCwq01917	GeoHA : SVO Node Deletion Fails During Switchover and Retry as NBI Service Stuck in INIT State
CSCwp93075	1k-2K mixed GMPLS circuit Client label is not modified after edit
CSCwq02171	Request to create circuit containing additional special characters via TAPI failed
CSCwp93011	Logs are not displayed after the filters are applied in the CONC Logs page
CSCwo43621	Client ports do not appear in ONC without a resync after modifying the card mode for OCHCC creation.
CSCwp12218	Ports Still Present in OSA Response After CardMode Deletion
CSCwp65790	SWIMU ncs2k software not update in summary after activation job
CSCwp34333	after power down of NCS1001 hosting COSM, CONC took 10mins to raise alarm
CSCwq13177	Job - selecting 'Services Endpoints' more circuit shows only one circuit data and no client port reported

Identifier	Headline
CSCwp84603	onc nbi service stuck in 1/2 doing onboarding + enable TAPI + more onboarding
CSCwp28927	UI can't filter for rows having empty value only
CSCwp25464	CONC Add to network topology the degree letters, beside the numerical values, to better align with CONP
CSCwp89473	Service manager: include/exclude unidirectional link configuration limitations

Open Caveats In Release 25.1.1

The following table lists the open caveats for Cisco Optical Network Controller, Release 25.1.1

Identifier	Headline
CSCwo18808	Click operation is not working on the app Icons located on Left pane(side bar).
CSCwh41027	cannot delete device immediately after onboard complete.
CSCwo43621	Client ports do not appear in ONC without a resync after modifying the card mode for OCHCC creation.
CSCwo65626	ONC is not changing src/dst ports of a circuit when OXCs change their addDrop port
CSCwn72747	Trunk port not available in UI circuit wizard after add remote TXP device
CSCwo55220	Failure to provision circuits with Error: 500
CSCwo65834	OCH-CC Service Delete doesn't put the Client ports in Admin State OOS/Locked Disabled
CSCwo40704	Port not available in Wizard circuit creation after COSM HA-switch
CSCwm57307	SVO port not found in ONC but is found in SVO device
CSCwk80077	Inventory not update after adding 1004 device in already onboarded COSM
CSCwo77803	IMPROPER-REMOVAL alarms are not listed in circuit monitoring alarm panel
CSCwo34026	UI circuit creation wizard filter out some port usable for circuit creation
CSCwo28918	NCS2K-1.2T-MXP Ports Incorrectly Displayed for GMPLS Circuit Provisioning
CSCwo48990	NCS2000 1.2T-MXP - No ports seen for 200G,300G Trunk to create Ochtrail
CSCwn55163	Port list mismatch found in PM History page and COSM for NCS1K4-1.2T-s (Little) card.
CSCwo59228	Discrepancy between 2K/1k Edit OCHCC/OCTRAIL
CSCwo75927	OTN XP card doesnt list ports with FC-MXP card mode
CSCwo14925	No info about specific card and port in case of OXC alarm

Identifier	Headline
CSCwo15977	Discovery of the client circuits not working as expected on 2.4TX card
CSCwo74616	circuit delete confirmation popup not present after delete is clicked and return to service is not responding
CSCwo05309	empty circuits are present in ONC UI/TAPI after onboard
CSCwn81135	unable to create OCH-Trail and CC for NCS1K4-1.2T-K9 card with 600G and OTU4 client rate config.

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.

Using the Cisco 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 https://bst.cloudapps.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**.

Other Important Information and References

Cisco Optical Network Controller Documentation

This section lists the guides that are provided with Cisco Optical Network Controller, Release 25.1.x:

- Cisco Optical Network Controller 25.1.x Installation Guide
- Cisco Optical Network Controller 25.1.x Configuration Guide
- Cisco Optical Network Controller API Documentation

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