Release Notes for Cisco Optical Network Controller, Release 26.1.1

Cisco Optical Network Controller, Release 26.1.1

Release 26.1.1 is a new feature release for Cisco Optical Network Controller.

For more details on the Cisco IOS XR release model and associated support, see Software Lifecycle Support Statement - IOS XR.

New software features

This section provides a brief description of the new software features introduced in this release.

Table 1. New software features for Cisco Optical Network Controller, Release 26.1.1

Product impact	Feature	Description
Ease of setup	Ping and Test Connection for Node Diagnostics	You can now use Ping and Test Connection to troubleshoot connectivity from Cisco Optical Network Controller to a Cisco Optical Site Manager node. These diagnostics are available during node onboarding and after onboarding, letting you validate node reachability and NETCONF port connectivity.
Ease of use	Node Resync Reason and Time Display	Cisco Optical Network Controller now displays the last resync reason and last resync time for a Cisco Optical Site Manager node when you click the information icon next to the node name. These fields help you identify whether the most recent resync was manual or automatic and when it occurred.
Upgrade	GMPLS Regenerator Support on NCS2K-400G-XP and NCS2K-200G-CK-C Cards	You can now provision, discover, and visualize OCH-Trail and OCH-CC circuits using NCS2K-200G-CK-C and NCS2K-400G-XP regenerator cards in Cisco Optical Network Controller. End-to-end circuit visualization is supported even when circuits change wavelengths at regeneration sites. Regeneration constraints are editable during circuit creation and reroute operations, with traffic impact warnings shown if constraints are changed. Circuit details, segments, and regen groups are displayed across inventory, alarms, topology, and service apps.
Ease of setup	SLTE Circuit Management and Discovery	You can now view and manage Submarine Line Terminating Equipment (SLTE) circuits in Cisco Optical Network Controller. SLTE circuits are automatically discovered and shown in topology and the **Links** application. You can override circuit deployment types when the discovered topology needs correction and converts ASE channels to user channels.
Ease of use	Alarm email forwarding in Cisco Optical Network Controller	You can now set up alarm email forwarding subscriptions in the Cisco Optical Network Controller, allowing you to send alarm notifications to specified email recipients based on defined filters. Create multiple subscriptions for different groups or conditions to ensure timely awareness of network events. The system utilizes configured SMTP settings to send alerts efficiently.
Ease of setup	Enhanced Site/Node Deletion and Recycle Bin Management	Site and node deletion is now supported in Cisco Optical Network Controller, even with existing OXC circuits or configurations, without impacting traffic. Deleted sites/nodes move to the recycle bin for three months, retaining alarm history, logs, and PM data.

Product impact	Feature	Description
		Circuits from deleted sites/nodes are managed in a new **Inconsistency** tab in **Service Manager** for easy resolution during re-onboarding.
Upgrade	Support for NCS 15454-M-100G-LC-C and 15454-M-100G-ME-C Cards	You can now manage and provision circuits using 15454-M-100G-LC-C and 15454-M-100G-ME-C cards in Cisco Optical Network Controller. The card is automatically discovered in inventory and supports GMPLS OCH-CC and OCH-Trail circuits with 100GE TXP mode or paired 10x10G client cards. Supported configurations include: • 10X10G with MPO cable connected to 400G-XP-LC • NCS2000 400G-XP-LC with peered ONS 15454 10x10G-LC • NCS2000 100G-LC-C with peered ONS 15454 10x10G-LC
Hardware Reliability	Support for NCS1K14-EDFA2 line cards	NCS1K14-EDFA2 line card is an optical amplifier for the NCS1014 Chassis. It functions as a DWDM optical terminal and includes a C-band bidirectional amplifier with channel power control capabilities. This line card has a pair of booster amplifiers and a preamplifier. It operates in a frequency range from 191.200 to 196.175 THz. This card supports Optical Supervisory Channel (OSC), Coherent probe and Optical Time Domain Reflectometer (OTDR) functionalities.
Ease of Use	Two-way PSM wavelength protection	PSM wavelength protection is connecting the NCS 1001 PSM module COM port with the transponder trunk port. PSM wavelength protection supports two-way protection switching in optical circuits with NCS 1010 ILA modules between NCS 1010 OLT nodes. PSM wavelength protection does not support three-way and four-way switching. • The Circuit Monitoring workspace UI is improved with PSM wavelength protection. • Only brownfield circuit discovery is supported. • In Services List pane, OCH-Trail services are added if an IPC between transponders and NCS 1001 PSM COM port is present. If IPC is not present, then PSM services are discovered as OCH-NC. • Onboard the node containing the PSM through Cisco Optical Network Controller to discover the circuit present in Cisco Optical Site Manager device. • In Services List pane, new labels are added to indicate the work and protect channels. The new labels are Work, Protect, Forward direction, Reverse direction, Active, Standby. • In Topology pane, the equipment connected between two NCS 1010 OLT nodes is represented as a cloud for a concise view. You can expand the cloud to check the

Product impact	Feature	Description
		equipment added between the two NCS 1010 OLT nodes.
Ease of Use	OTN circuit discovery through NCS2K-4000-XP card's OTN-XC card mode	• Introduced OTN circuit discovery, representation, and monitoring in CONC platform • New OTN topology views supporting both protected and unprotected OTN circuits • Enhanced circuit monitoring and link utilization visualization for improved troubleshooting • Interactive protection status checks with fiber cut simulation and switch-back functionality • Unified topology presentation combining OTS and OTN layers for better circuit correlation • Link utilization improvements including export capability and clear bandwidth display • Usability enhancements: improved service history table, event column naming, and **view more details**
Ease of use	Column Reordering Support	Column reordering is now supported on every Cisco Optical Network Controller application page. Use the **Column Preferences** icon to drag columns into the order that best suits your workflow.
Ease of use	Event Monitoring and Annotation in Alarms Application	You can now view, filter, and annotate Cisco Optical Network Controller events in the **Alarms** application. The **Events** tab displays user activity and performance monitoring notifications separately from alarms, supports filtering by date range, and lets you add user notes to events for improved tracking and context.
Ease of use	Tech Dump Log Collection in Logs Tab	The **Logs** application now features a **Tech Dump** tab, allowing you to collect, download, and delete comprehensive diagnostic logs for Cisco Optical Network Controller. This helps you quickly gather system information, logs, and state files in a single archive, streamlining troubleshooting and support.
Ease of setup	KVM-Based Deployment for Cisco Optical Network Controller	You can now install Cisco Optical Network Controller using KVM, giving you greater flexibility, easier scaling, and more efficient use of your existing resources for streamlined network management.
Software reliability	Image Verification for Installation and Upgrade	You can now verify that Cisco Optical Network Controller images are signed and published by us before installation or upgrade, ensuring image authenticity and security. • For OVA images, review trusted publisher information during vSphere deployment. • For qcow2 or system pack images, extract the package and run the included Python verification script to confirm certificate and signature validation before proceeding.

Product impact	Feature	Description
Ease of Use	PM history support for the AR-MXP cards	PM history data collection is supported for the SONET and SDH interfaces type for the AR-MXP, AR-XP and AR-XPE cards. To support the SONET and SDH interfaces of AR-MXP cards, these UI enhancements are made. • PM browser: Added *sonet* and *sdh* interfaces in the **Interface** type drop-down list. • PM jobs: To schedule PM jobs for AR cards, select **Interfaces** and enter *AR* in the **Equipment, Shelves, Cards, and Port** field.
Ease of Use	Enhanced data retention for PM history	• **Configurable Retention Settings:** Adjust PM retention periods for both 15-minute and 24-hour data buckets. ◦ 15-min data: Retention can be set up to 31 days (active + archive). ◦ 24-hour data: Retention can be set up to 180 days (active + archive). • **Impact Across Modules:** Changes to retention settings affect PM browse, PM jobs, and workspace history. Data retrieval periods are expanded based on the configured retention. • **Job Handling:** When retention settings are decreased, affected PM jobs are notified and may fail due to reduced available data. Warning messages alert you before changes are applied. You are prompted to check and update impacted jobs accordingly. • **Disk Utilization Alerts:** Warnings are triggered if disk usage exceeds **80%**, preventing further retention increases until you free up space. Storage projections are displayed based on current retention and node/port configuration. • **User Notifications:** If retention is changed by another user/admin, notifications prompt you to refresh the page for updated settings. • **Dynamic UI:** Calendar, workspace, and job options update dynamically based on retention configuration. Pie charts visualize storage distribution, with hover details showing exact values.
Ease of Use	Enhanced Data collection for	• **Separated Data Collection Settings:**

Product impact	Feature	Description
	PM history	PM data collection now provides distinct controls for **General Interfaces** and **Optical X Connections (OXC)**. Enable/disable each section as needed. • **Interface Availability:** Disabling PM data collection removes interface types from selection lists. Users are notified with explicit messages if they attempt to browse or configure jobs when collection is disabled. • **Notification Support:** When settings are changed by admin or other users, affected users receive notifications to refresh pages and review configuration impacts. • **Reset to Default:** You can revert PM collection settings to defaults. • **Comprehensive Warning Messages:** System warns about potential job failures, data impacts, and disk space, ensuring you are fully informed before making changes. • **Transparent Storage Metrics:** Storage usage calculations and warnings are now based on actual node and port data, providing realistic projections.
Ease of Use	Enhanced topology UI in multiple screens	Added the **Eye** icon in topology screen. The options of Eye icon changes based on the screen. • In **Topology** screen, the options are **Show SVO-LC Hosting Domain Groups** and **Filter Submarine** Links. • In Service Manager topology pane, the options are **Show Active Service Path** and **Filter Submarine Links**. • In **Circuit Monitoring** topology pane, the options are **Show Active Constraints** and **Filter Submarine Links**. Updated **Legends** bar to reflect the SVO servers in *Topology* screen and constraints in *Circuit Monitoring topology* pane.
Upgrade	Software Image Management and Upgrade (SWIMU) Enhancements	SWIMU enhancements enable you to perform granular upgrades, allowing for the independent management of the Cisco Optical Software Manager (COSM) and its associated devices. Additionally, the Cisco Optical Network Controller (CONC) supports High Availability (HA) node upgrades, ensuring seamless transitions for redundant COSM instances.

Resolved issues

This section lists the resolved issues in this specific software release.

Note: This software release may contain bug fixes first introduced in other releases. To see additional information, click the bug ID to access the Cisco Bug Search Tool.

- To view the issues in Cisco Optical Network Controller Release 25.1.2 SP1 that are resolved in Release 26.1.1, see Release Notes for Cisco Optical Network Controller, Release 25.1.2 SP1
- To view the issues in Cisco Optical Network Controller Release 25.1.2 SP2 that are resolved in Release 26.1.1, see Release Notes for Cisco Optical Network Controller, Release 25.1.2 SP2
- To view the issues in Cisco Optical Network Controller Release 25.1.2 SP3 that are resolved in Release 26.1.1, see Release Notes for Cisco Optical Network Controller, Release 25.1.2 SP3

This table lists the resolved issues in this specific software release.

Table 2. Resolved issues for Cisco Optical Network Controller, Release 26.1.1

Bug ID	Description
CSCwn98124	GeoHA: Onboard of COSM Nodes failed with ITCA during node failover
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
CSCwp12218	Ports Still Present in OSA Response After CardMode Deletion
CSCwp34333	After power down of NCS1001 hosting COSM, CONC took 10mins to raise alarm
CSCwp25464	CONC Add to network topology the degree letters, beside the numerical values, to better align with CONP
CSCwo18808	Click operation is not working on the app Icons located on Left pane(side bar).
CSCwp89473	Service manager: include/exclude unidirectional link configuration limitations
CSCwh41027	Cannot delete device immediately after onboard complete.
CSCwn72747	Trunk port not available in UI circuit wizard after add remote TXP device
CSCwm57307	CONC_1028_CONC_1778 - 1/4/COM-XX - SVO port not found in ONC but is found in SVO device
CSCwk80077	Inventory not update after adding 1004 device in already onboarded COSM
CSCwo28918	NCS2K-1.2T-MXP Ports Incorrectly Displayed for GMPLS Circuit Provisioning
CSCwo48990	NCS2K-1.2T-MXP - No ports seen for 200G,300G Trunk to create Ochtrail

Bug ID	Description
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/OCHTRAIL
CSCwo14925	No info about specific card and port in case of OXC alarm
CSCwt03214	Duplicate alarm rest notifications sent to oss when oss is reposed to rest request.
CSCwr57394	CONC: RBAC support/implementation for API usage
CSCwr43660	Unable to edit OXC name in CONC
CSCwr46984	Software download fails with error target device does not exist or is administratively locked

Table 3. Resolved customer issues for Cisco Optical Network Controller, Release 26.1.1

Bug ID	Description
CSCwt03214	Duplicate alarm rest notifications sent to oss when oss is reposed to rest request.
CSCwr57394	CONC: RBAC support/implementation for API usage
CSCwq66100	GeoHA : Mock Nodes went to Disconnected state after steady switchover on scale setup
CSCwr65954	Topology Context APIs & Device Manager Nodes Backups API returning 403 Forbidden
CSCwo05234	CONC 24.3.1: Subscription sending data to the deleted subscription IP address
CSCwo92111	Service Assurance tab missing line connections for the degree links for a specific set of circuits/nodes
CSCwq39016	GeoHA: After performing double failover, some of the CONC services are not up and running in new active cluster
CSCwr42980	Inconsistency in showing OTS link among diff CONC apps, when session is opened for 15+ minutes
CSCwr43660	Unable to edit OXC name in CONC
CSCwr46984	Software download fails with error target device does not exist or is administratively locked
CSCwr48560	GeoHA: During double failover while services are coming up (not 2/2) , if switchover is triggered , some of the services get stuck in 1/2 state.
CSCwq38571	NBI microservice can delay the overall system bringup/recovery by 1 hour in the event of startup/retries
CSCwr88595	Documentation update on Reserved Internal IP addresses for CONC
CSCws28609	Topology : CONC is not able to discover complete topology

Bug ID	Description
CSCws33388	Circuit Provisioning bad UX - coherent modes selection not flexible & coherent fields shall follow XR router order
CSCws26197	CONC 25.1.2: CONC Ack gets cleared when node get synchronized
CSCws41169	CONC - Links Tab - OTDR Hyperlink on the links do not re-direct to OTDR options
CSCws41867	Nodes : keyboard copy/paste and number pad entry is not working
CSCws48297	Devices remain in resync/disconnected state for ever

Open issues

This table lists the open issues in this specific software release.

Note: This software release may contain open bugs first identified in other releases. To see additional information, click the bug ID to access the Cisco Bug Search Tool (BST).

Table 4. Open issues for Cisco Optical Network Controller, Release 26.1.1

Bug ID	Description
CSCwt44292	SLTE user channel creation set the ingress-channel-attn to maximum
CSCwt68574	Submarine fibercut is not reported as red crossed link
CSCwt78291	Getting the list of SOR Files based on SOR File Names fails
CSCwt85721	OSA is not consistent after deleting cardmode, logicalPort 10/5/9/5-2 otnOdu has not equivalent physicalport
CSCwo43621	Client ports do not appear in ONC without a resync after modifying the card mode for OCHCC creation.
CSCws00276	Degree missing in CONC-UI service wizard for 10x10-LC card
CSCws05404	The reason for the restoration failure is not mentioned in the error column in service management
CSCws22254	TAPI Notification's payload not present while using 'notification replay' feature (ie: ?start-time parameter)
CSCws38207	GeoHA: Double failover check on Reconcile API took long time
CSCws84374	GeoHA: System and CONC MICROSERVICE-POD-UNHEALTHY alarm generated are stuck in CONC after switchover
CSCws91572	Wavelength protection greenfield circuits are not supported but no clear deny message provided
CSCwt07682	Scale: CONC Database Backup and Restore-Duplicate entries are observed when download and upload are performed via UI options
CSCwt09828	NCS1K PSM wavelength Protection - lower/top connections without connectivity

Bug ID	Description
	service present in TAPI
CSCwt12381	Email Alarm forwarding - incorrect management of alarm flood
CSCwt42600	TAPI Topology Becomes Invalid After IPC Patch Cord Deletion and After Re-Creation
CSCwt44497	Links: OTS links cannot be easily filtered by "Link Name", "Tags", "Description" or "Fiber Type"
CSCwt45788	When exporting data from the table view on the Nodes page, there is a discrepancy between the UI display and the exported file
CSCwt49011	Service detailed path show for some GMPLS circuit Unprotected the span-link as standby
CSCwt50269	Audit log - User actions are recorded with "system" or "internal" username instead of the actual username
CSCwt51545	Application Code and related fields not populated when provisioning GMPLS OCH-Trail on 15454-M10X10G-LC-C ports
CSCwt54848	SWIMU: Image Activation failed for NCS 1014 , when activation triggered for NCS 1010 and NCS 1014 together.
CSCwt68151	CONC Restore:while checking circuit data after restore, circuit present in OSA, but not present in TAPI
CSCwt77989	SWIMU granular platform upgrade from 24.3.1->26.1.1 throws error "software image file is not correct"
CSCwt78651	After adding 1 IPC on COSM, it appears duplicated in ONC OSA
CSCwt79537	UI Service APIs are returning 500 Internal Server Error for valid request
CSCwt79812	UI service APIs are returning 500 INTERNAL_SERVER_ERROR for valid inputs
CSCwt80167	There are more than 5 circuits stuck in DELETION_IN_PROGRESS
CSCwt81052	ONC Does Not Update Span Color for Span Loss Fail Alarm on NCS1014 PTP System
CSCwt81100	TAPI Model Not Updated After Re-Adding NCS1014 Device in COSM
CSCwt81244	OSA-TAPI Coherence Failure After OSC Pluggable Reinsertion on NCS1014
CSCwt84447	Fill the latitude without longitude and viceversa and check the error message while adding a node and editing the node is => FAILED
CSCwt84825	Multiple External APIs returning 500 Internal Server Error instead of 400 when required Parameters or Payload are missing/invalid
CSCwt85053	SWIMU Distribution job fails when a combination of NCS1010(SA) & NCS1004 are selected.
CSCwt85521	Inconsistency between OSA and TAPI models after EDFA2 extraction: TAPI still shows ports
CSCwt86973	Wrong OXC service state found in OSA data due to timing issue

Bug ID	Description
CSCwt87204	Failed to get_live_power_data with " error-code" :405
CSCwt88407	Scale : GeoHA – The pod monitoring page displaying multiple cluster IDs in the Node dropdown for each cluster.
CSCwt93691	After plugging OSC to NCS1001 EDFA, manufacturing data is not present in TAPI
CSCwt93913	SWIMU : Schedule job for Node DB Backup is not working for COSM / SVO for Monthly Recurrence

Compatibility

Supported Upgrade Paths

For Cisco Optical Network Controller, these source and target software release combinations are supported for upgrades.

Source Release	Destination Release
24.3.1	25.1.2
25.1.2	26.1.1

Note: If you are using CONC 24.3.1, you must first upgrade to CONC 25.1.2 as an intermediate release before upgrading to CONC 26.1.1.

Supported hardware

Support for NCS 1000 Metro Open Line Systems 2.0 Line cards and pluggables.

Product	Product description
NCS1K14-EDFA2=	NCS 1014 EDFA terminal with equalization
ONS-QSFP-OTDR=	ONS OTDR pluggable module
ONS-SC-PTP-1510=	Multirate GE, FE pluggable optics, 1510nm, C-temp
DP01QSDD-ZT5-A1=	100 GBPS COHERENT QSFP-DD, OpenZR+, C-band Tunable
NCS1K-MD-32O-CE=	NCS 1000 32chs Odd Mux/Demux-150GHz-C-band Enhanced
NCS1K-MD-32E-CE=	NCS 1000 32chs Even Mux/Demux-150GHz-C-band Enhanced

Software and Hardware Requirements

Software Requirements

Cisco Optical Network Controller, Release 26.1.1 supports these software versions.

Table 5. Software Support

Hardware and Software	Version
NCS 1001	Cisco IOS XR Release 25.4.1 and 7.10.1
NCS 1004	Cisco IOS XR Release 26.1.1, 25.1.1, and 24.3.1
NCS 1014	Cisco IOS XR Releases 26.1.1, 25.2.1, 25.1.1 and 24.3.1
NCS 1010	Cisco IOS XR Releases 26.1.1, 25.1.1, and 24.3.1
NCS 2000	Cisco IOS Releases 26.1.1 and 25.1.1

Cisco Optical Network Controller, Release 26.1.1 supports these Cisco Optical Site Manager versions.

Table 6. Cisco Optical Site Manager

Cisco Optical Site Manager	Version
NCS 1000	Cisco IOS XR Releases 26.1.1, 25.2.1, 25.1.1 and 24.3.1
NCS 2000	Cisco IOS Releases 26.1.1 and 25.1.1

Data Center Requirements

Cisco Optical Network Controller 26.1.x can be deployed using VMware vCenter server version 7.0, 8.0, and 9.0 and vSphere server and client with version 7.0, 8.0, and 9.0. 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 26.1.x installation.

- Before installing Cisco Optical Network Controller 26.1.x, you must log in to the VMware customer center and download VMware vCenter server version 7.0, 8.0, and 9.0, as well as vSphere server and client with version 7.0, 8.0, and 9.0. Cisco Optical Network Controller 26.1.x is deployed on rack or blade servers within vSphere.
- ESXi host must be installed on servers with vSphere version of 7.0, 8.0, and 9.0 to support creating Virtual Machines (VM).
- Before the installation of Cisco Optical Network Controller 26.1.x, three networks must be created.
  - **Control Plane Network:**

    The control plane network helps in 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.

Hardware Requirements

This table lists the minimum hardware requirements for the base profile in HA mode with daily retention only.

Table 7. HA mode hardware requirements for base profile with daily retention

Profile	Worker Node CPU (in cores)	Arbitrator Node CPU (in cores)	Worker Node Memory (GB)	Arbitrator Node Memory (GB)	Solid State Drive (SSDs) (TB)
XS	16 vCPU	8	64	32	1
S	32 vCPU	8	128	32	2.5
M	48 vCPU	8	256	32	6

This table lists the minimum hardware requirements for the extended profile in HA mode with weekly and monthly retention.

Table 8. HA mode hardware requirements for extended profile with weekly and monthly retention

Profile	Worker Node CPU (in cores)	Arbitrator Node CPU (in cores)	Worker Node Memory (GB)	Arbitrator Node Memory (GB)	Solid State Drive (SSDs) (TB)
XS	16 vCPU	8	64	32	1.5
S	32 vCPU	8	128	32	5
M	48 vCPU	8	256	32	12

This table lists the minimum hardware requirements for the base profile in standalone mode with daily retention only.

Table 9. Standalone mode hardware requirements for base profile with daily retention

Profile	CPU (in cores)	Memory (GB)	Solid State Drive (SSD) (TB)
XS	16 vCPU	64	1
S	32 vCPU	128	2.5
M	48 vCPU	256	6

This table lists the minimum hardware requirements for the extended profile in standalone mode with daily retention only.

Table 10. Standalone mode hardware requirements for extended profile with weekly and monthly retention

Profile	CPU (in cores)	Memory (GB)	Solid State Drive (SSD) (TB)
XS	16 vCPU	64	1.5
S	32 vCPU	128	5
M	48 vCPU	256	12

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 this table:

Table 11. Table 4. VM Host 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 12. Table 4. VM Host Requirements

Product	Supported release
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.

Product	Supported release
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.
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.

Related resources

This section lists the guides that are provided with Cisco Optical Network Controller, Release 26.1.x:

- Cisco Optical Network Controller Installation Guide, Releases 26.x.x
- Cisco Optical Network Controller Configuration Guide, Releases 26.x.x

Legal information