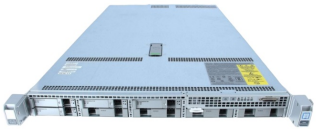
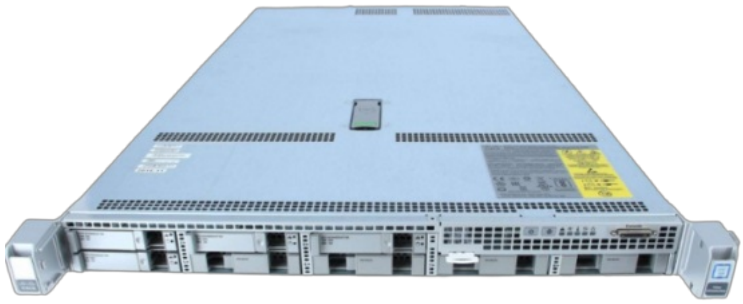


CISCO UCSC-C220-M4S Optical Network Controller User Guide

CISCO UCSC-C220-M4S Optical Network Controller User Guide



This section contains the following topics:

Contents

Installation Requirements

Before installing Cisco Optical Network Controller, you must install Cisco Cross work Infrastructure 4.04.1.
The infrastructure requirements for installing Cisco Cross work are listed below. For complete installation requirements,see the Cisco Cross work Infrastructure 4.0 and Applications Installation Guide Cisco Cross work Infrastructure 4.1 and Applications Installation Guide.

Data Center Requirements

Cisco Cross work can be deployed in either a v Center managed data center or onto Cisco CSP. To aid in the deployment, Cisco has developed a cluster installation tool. This tool works in both environments. However, there are limitations to the tool which are detailed later in this section.

Note

- The machine where you run the installer must have network connectivity to the data center (v Center or CSP) where you plan to install the cluster. If this mandatory requirement cannot be met, you must manually install the cluster.
- Cisco Cross work cluster VMs (Hybrid nodes and Worker nodes) must be hosted on hardware with Hyper Threading disabled.
- Ensure that the host resources are not oversubscribed (in terms of CPU or memory).

VMware Data Center Requirements

This section explains the data center requirements to install Cisco Cross work on VMware v Center.

Note
The following requirements are mandatory if you are planning to install Cisco Cross work using the cluster installer. If your vCenter data center does not meet these requirements, then the VMs have to be deployed individually, and connectivity has to be established manually between the VMs.

- Hypervisor and vCenter supported:
    - VMware v Sphere 6.7 or above

    - VMware v Center Server 7.0 and ESXi 7.0.
    - VMware v Center Server 6.7 (Update 3g or later) and ESXi 6.7 (Update 1)
- All the physical host machines must be organized within the same VMware Data Center, and while it is possible to deploy all the cluster nodes on a single physical host (provided it meets the requirements), it is recommended that the nodes be distributed across multiple physical hosts.
- The networksrequired for the Crosswork Management and Data networks need to be built and configured in the data centers, and must allow low latency L2 communication.
- To allow use of VRRP, DVS Port group needs to be set as follows:

Property	**Value**
Promiscuous mode	Reject
MAC address changes	Reject
Forged transmits	Accept

- Ensure the user account you use for accessing vCenter has the following privileges:
    - **VM (Provisioning):** Clone VM on the VM you are cloning.
    - **VM (Provisioning):** Customise on the VM or VM folder if you are customising the guest operating system.
    - **VM (Provisioning):** Read customization specifications on the root vCenter server if you are customizing the guest operating system.
    - **VM (Inventory):** Create from the existing VM on the data center or VM folder.
    - **VM (Configuration):** Add new disk on the data center or VM folder.
    - **Resource:** Assign VM to resource pool on the destination host, cluster, or resource pool.
    - **Data store:** Allocate space on the destination data store or data store folder.
    - **Network:** Assign network to which the VM will be assigned.
    - **Profile-driven storage (Query):** This permission setting needs to be allowed at the root of the DC tree level.
- We also recommend you to enable vCenter storage control.

CSP Data Center Requirements

This section explains the data center requirements to install Cisco Cross work on Cisco Cloud Services Platform (CSP).

- Cisco CSP, Release 2.8.0.276
- Compatible hardware:
  UCSC-C220-M4S, UCSC-C240-M4SX
  N1K-1110-X, N1K-1110-S
  CSP-2100, CSP-2100-UCSD, CSP-2100-X1, CSP-2100-X2
  CSP-5200, CSP-5216, CSP-5228
  CSP-5400, CSP-5436, CSP-5444, CSP-5456
- CSP host or cluster is setup and installed with a minimum of two physical ethernet interfaces – one ethernet connected to the Management network, and the other to the Data network.

VM Host Requirements

This section explains the VM host requirements.

Table 1: VM Host Requirements

Requirement	Description
CPU/Memory/Storage Profiles (per VM)	The data center host platform has to accommodate three VMs of the following minimum configuration: **VMware vCenter:** • **Large**: 12 vCPUs | 96 GB RAM Memory | 1 TB disk space **Cisco CSP:** • **Large**: 12 CPU cores | 96 GB RAM Memory | 1 TB disk space **Note** For assistance in adjusting VM Memory and CPU sizes post installation, contact your Cisco Customer Experience team. **Few things to note:** • Storage requirements vary based on factors such as the number of devices being supported and the type of deployment selected. However, 1 TB disk space should work for most deployments. • Due to their performance, solid state drives (SSD) are preferred over traditional hard disk drives (HDD). • If you are using HDD, the minimum speed should be over 10,000 RPM. • The VM data store(s) need to have disk access latency of < 10 ms.
Requirement	**Description**
Additional Storage	10 GB (approximately) of storage is required for the Crosswork OVA (invCenter), OR the Crosswork QCOW2 image on each CSP node (in CSP).
Network Connections	For production deployments, we recommend that you use dual interfaces, one for the Management network and one for the Data network. For optimal performance, the Management and Data networks should use links configured at a minimum of 10 Gbps.

IP Addresses	Two IP subnets, one for the Management network and one for Data network, with e ach allowing a minimum of four assignable IP addresses (IPv4 or IPv6).A Virtual IP (VIP) address is used to access the cluster, and then three IP addresses for each V M in the cluster. If your deployment requires worker nodes, you will need a Manage ment and Data IP address for each worker node. • The IP addresses must be able to reach the gateway address for the network wh ere Cisco Crosswork Data Gateway will be installed, or the installation will fail. • When deploying a IPv6 cluster, the installer needs to run on an IPv6 enabled con tainer/VM. • At this time, your IP allocation is permanent and cannot be changed without re-d eployment. For more information, contact your Cisco Customer Experience team .
NTP Servers	The IPv4 or IPv6 addresses or host names of the NTP servers you plan to use. If y ou want to enter multiple NTP servers, separate them with spaces. These should b e the same NTP servers you use to synchronise the Crosswork application VM cloc k, devices, clients, and servers across your network. • Ensure that the NTP servers are reachable on the network before attempting ins tallation. The installation will fail if the servers cannot be reached • The ESXi hosts that will run the Crosswork application and Crosswork Data Gat eway VM must have NTP configured, or the initial handshake may fail with “certif icate not valid” errors.
DNS Servers	The IPv4 or IPv6 addresses of the DNS servers you plan to use. These should be t he same DNS servers you use to resolve host names across your network. • Ensure that the DNS servers are reachable on the network before attempting ins tallation. 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 Crosswork Infrastructure and applications are built to run as a distributed collection of containers managed by Rubbernecks. The number of containers varies as applications are added or deleted.
- Dual stack configuration is not supported in Crosswork Platform Infrastructure. Therefore, all addresses for the environment must be either IPv4 or IPv6.

Install Cisco Optical Network Controller

Use the following steps to install Cisco Optical Network Controller:

Before you begin

- Cisco Crosswork Infrastructure 4.04.1 must be installed. See Cisco Crosswork Infrastructure 4.0 and

Applications Installation Guide Cisco Crosswork Infrastructure 4.1 and Applications Installation Guide for installation instructions.

- Verify that Crosswork Platform Infrastructure is green (healthy) and all the micro services are up and running.
- Ensure that **conc.tar.gz** file is downloaded from CCO to an external VM.

Step 1 Log in to Cisco Crosswork Change Automation and Health Insights.
Step 2 Select Administration > Crosswork Manager.
Step 3 Navigate to Application Management tab and click Applications sub-menu.
Step 4 Click Add File (.tar.gz) button.
Step 5 Enter all the details:

- **Server Path/Location:** Location of the conc.tar.gz file
- **Host Name/IP Address**: IP address of the host
- **Port**: 22
- **Username**: username to access the external VM to which the **conc.tar.gz** file was downloaded
- **Password**: password to access the external VM to which the **conc.tar.gz** file was downloaded
- Select Automatically clean all repository files before adding new one button.

Click Add

Step 6 The conc.tar.gz file is downloaded to Crosswork cluster.
Step 7 After the file is downloaded, navigate to Application Management tab and click Applications sub-menu.Select Optical Network Controller card and click the ellipsis (…) button.
The UI displays a new tab which shows you the build number of Optical Network Controller selected for install.
Step 8 Select Install.
Step 9 You can view the installation progress in the Job History sub-menu. Job Details section provides a detailed report of installation of Cisco Optical Network Controller.

Note

- To upgrade from Cisco Optical Network Controller 2.1 to Cisco Optical Network Controller 2.1.1, see **Upgrade Cisco Crosswork.**
- Cisco Optical Network Controller 2.1.1 update can be installed only on an existing Cisco Optical Network Controller 2.1 installation

Log into Cisco Optical Network Controller

Use the following steps to log into Cisco Optical Network Controller:
Before you begin
To access Cisco Optical Network Controller, you must have permissions to access Cisco Crosswork Infrastructure. To add new users, s*ee Cisco Crosswork Infrastructure 4.0 and Applications Installation GuideCisco Crosswork Infrastructure 4.1 and Applications Installation Guide*

Step 1 In the browser URL field, enter https://<Crosswork server IP Address: Port>/crosswork/onc/ . Login page is displayed.
Step 2 Enter the username and password.
Step 3 Click Sign In.

Uninstall Cisco Optical Network Controller

Use the following steps to uninstall Cisco Optical Network Controller:

Step 1 Log in to Cisco Crosswork Change Automation and Health Insights.
Step 2 Select Administration > Crosswork Manager.
Step 3 Navigate to Application Management tab and click Applications sub-menu.
Step 4 Select Optical Network Controller card and click the ellipsis (…) button.
Step 5 Select Uninstall from the menu.
Step 6 You can view the progress in the Job History sub-menu.

Documents / Resources

	CISCO UCSC-C220-M4S Optical Network Controller [pdf] User Guide UCSC-C220-M4S, UCSC-C240-M4SX, N1K-1110-X, N1K-1110-S, CSP-2100, CSP-2100-UCSD, CSP-2100-X1, CSP-2100-X2, CSP-5200, CSP-5216, CSP-5228, CSP-5400, CSP-5436, CSP-5444, CSP-5456, UCSC-C220-M4S Optical Network Controller, UCSC-C220-M4S, Optical Network Controller, Network Controller, Controller

References

- User Manual