System Requirements

System Requirements

This chapter lists the tested and supported hardware and software specifications for Cisco Nexus Dashboard Fabric Controller architecture. The application is in English locales only.

The following sections describes the various system requirements for the proper functioning of your Cisco Nexus Dashboard Fabric Controller, Release 12.0.1a.

Note We recommend that you do not upgrade any underlying third-party software separately. All the necessary software components will be updated during the inline upgrade procedure. Upgrading the components outside of Nexus Dashboard Fabric Controller upgrade causes functionality issues.

Cisco Nexus Dashboard Version Compatibility

Cisco Nexus Dashboard Fabric Controller (NDFC) requires Nexus Dashboard version **2.1(1e)** or higher. If you try to upload NDFC 12.0.1a on a Nexus Dashboard version earlier than 2.1(1e), you will not be allowed to upload the NDFC application. To download the correct version of Nexus Dashboard, visit Software Download – Nexus Dashboard.

Nexus Dashboard Server Resource (CPU/Memory) Requirements

Table 1: Server Resource (CPU/Memory) Requirements to run NDFC on top of ND

Deployment Type	Node Type	CPUs	Memory	Storage (Throughput: 40-50MB/s)
Fabric Discovery	Virtual Node (vND) – app OVA	16vCPUs	64GB	550GB SSD
	Physical Node (pND) (PID: SE-NODE-G2)	2x 10-core 2.2G Intel Xeon Silver CPU	256 GB of RAM	4x 2.4TB HDDs 400GB SSD 1.2TB NVME drive
Fabric Controller	Virtual Node (vND) – app OVA	16vCPUs	64GB	550GB SSD
	Physical Node (pND) (PID: SE-NODE-G2)	2x 10-core 2.2G Intel Xeon Silver CPU	256 GB of RAM	4x 2.4TB HDDs 400GB SSD 1.2TB NVME drive
SAN Controller	Virtual Node (vND) – app OVA (without SAN Insights)	16vCPUs	64GB	550GB SSD
	Data Node (vND) – Data OVA (with SAN Insights)	32vCPUs	128GB	3TB SSD
	Physical Node (pND) (PID: SE-NODE-G2)	2x 10-core 2.2G Intel Xeon Silver CPU	256 GB of RAM	4x 2.4TB HDDs 400GB SSD 1.2TB NVME drive

Nexus Dashboard Networks

When first configuring Nexus Dashboard, on every node, you must provide two IP addresses for the two Nexus Dashboard interfaces—one connected to the Data Network and the other to the Management Network. The data network is typically used for the nodes' clustering and north-south connectivity to the physical network. The management network typically connects to the Cisco Nexus Dashboard Web UI, CLI, or API.

For enabling the Nexus Dashboard Fabric Controller, the Management and Data Interfaces on a Nexus Dashboard node must be in different subnets. The interfaces between different nodes that belong to the same Nexus Dashboard cluster, must be within the same Layer-2 Network and Layer-3 subnet.

Connectivity between the Nexus Dashboard nodes is required on both networks with the round trip time (RTT) not exceeding 50ms. Other applications running on the same Nexus Dashboard cluster may have lower RTT

requirements and you must always use the lowest RTT requirement when deploying multiple applications in the same Nexus Dashboard cluster. Refer to Cisco Nexus Dashboard Deployment Guide for more information.

Nexus Dashboard Fabric Controller Traffic Type	Nexus Dashboard Network
Any traffic to and from Cisco Nexus Dashboard Fabric Controller	Data network
Intra-cluster communication	Data network
Audit log streaming (Splunk/syslog)	Management network
Remote backup	Management network

Table 2: Network Requirements for NDFC on Nexus Dashboard

Management Interface	Data Interface	Persistent IPs	Support for Data and Management in the same subnet
Layer 2 adjacent	Layer 2 adjacent	One of the following for LAN: • 2 IPs in management network if using the default LAN Device Management Connectivity setting • 2 IPs in data network if setting LAN Device Management Connectivity to `Data` Plus one IP per fabric for EPL in data network Plus one IP for Telemetry receiver in data or management network if IP Fabric for Media is enabled. • Plus one IP for SNMP and Syslog in data or management network For SAN: • 2 IPs in data network Plus one IP per node in data network for SAN Insights receiver if enabled. Plus one IP for SNMP and Syslog	Not supported

Management Interface	Data Interface	Persistent IPs	Support for Data and Management in the same subnet
Layer 3 adjacent	Layer 3 adjacent	For LAN: • Data network 2 IPs in data network if setting LAN Device Management Connectivity to `Data` Plus one IP per fabric for EPL in data network Plus one IP for Telemetry receiver in data or management network if IP Fabric for Media is enabled. For SAN: • Data network 2 IPs in data network Plus one IP per node in data network for SAN Insights receiver if enabled.	Persistent IPs belong to a dedicated subnet (not mgmt subnet, nor data subnet)

Virtual Nexus Dashboard (vND) Prerequisites

For virtual Nexus Dashboard deployments, each vND node has 2 interfaces or vNICs. The Data vNIC maps to bond0 (also known as bond0br) interface and Management vNIC maps to bond1 (also known as bond1br) interface. The requirement is to enable/accept promiscuous mode on the port groups associated with the Nexus Dashboard Management and/or Data vNICs where IP stickiness is required. The Persistent IP addresses are given to the pods (e.g., SNMP Trap/Syslog receiver, Endpoint Locator instance per Fabric, SAN Insights receiver, etc.). Every POD in Kubernetes can have multiple virtual interfaces. Specifically for IP stickiness, an extra virtual interface is associated with the POD that is allocated an appropriate free IP from the external service IP pool. The vNIC has its own unique MAC address that is different from the MAC addresses associated with the vND virtual vNICs. Moreover, all North-to-South communication to and from these PODs go out of the same bond interface. By default, the VMware ESXi systems check if the traffic flows out of a particular VM vNIC matches the Source-MAC associated with that vNIC. In the case of NDFC pods with an external service IP, the traffic flows are sourced with the Persistent IP addresses of the given PODs that map to the individual POD MAC associated with the virtual POD interface. Therefore, we need to enable the required settings on the VMware side to allow this traffic to flow seamless in and out of the vND node.

For more information, refer to Cisco Nexus Dashboard Deployment Guide.

Supported Latency

As Cisco Nexus Dashboard Fabric Controller is deployed atop Cisco Nexus Dashboard, the latency factor is dependent on Cisco Nexus Dashboard. Refer to Cisco Nexus Dashboard Deployment Guide for information about latency.

Supported Web Browsers

Cisco Nexus Dashboard Fabric Controller is supported on the following web browsers:

- Google Chrome version: 92.0.4515.159
- Mozilla Firefox version: 91.0.2 (64-bit)
- Microsoft Edge version: 92.0.902.84

Other Supported Software

The following table lists the other software that is supported by Cisco Nexus Dashboard Fabric Controller Release 12.0.1a.

Component	Features
Security	• ACS versions 4.0, 5.1, 5.5, and 5.8 • ISE version 2.6 • ISE version 3.0 • Telnet Disabled: SSH Version 1, SSH Version 2, Global Enforce SNMP Privacy Encryption. • Web Client: HTTPS with TLS 1, 1.1 and 1.2 • TLS 1.3