

# Cisco Nexus Dashboard Fabric Controller Release Notes

Release 12.0.2f

**Note:** Cisco Data Center Network Manager (DCNM) is renamed as Cisco Nexus Dashboard Fabric Controller (NDFC) from Release 12.0.1a.

**Note:** The documentation set for this product strives to use bias-free language. For this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation or language that is used by a referenced third-party product.

### Overview

Cisco Nexus Dashboard Fabric Controller is the comprehensive management solution for all NX-OS deployments spanning LAN Fabric, SAN, and IP Fabric for Media (IPFM) networks in data centers powered by Cisco. Cisco Nexus Dashboard Fabric Controller also supports other devices, such as IOS-XE switches, IOS-XR routers, and non-Cisco devices. Being a multi-fabric controller, Cisco Nexus Dashboard Fabric Controller manages multiple deployment models like VXLAN EVPN, Classic 3-Tier, and Routed based fabrics for LAN while providing ready-to-use control, management, monitoring, and automation capabilities for all these environments. In addition, Cisco NDFC when enabled as a SAN Controller, automates Cisco MDS Switches and Cisco Nexus Family infrastructure in NX-OS mode.

This document describes the features, bugs, and limitations for Cisco Nexus Dashboard Fabric Controller software. For more information about this product, see <u>Related Content</u>.

Nexus Dashboard Fabric Controller primarily focuses on Control and Management for three primary market segments:

- LAN networking including VXLAN, Multi-site, Classic Ethernet, and External Fabrics supporting
  Cisco Nexus switches running standalone NX-OS, with additional support for IOS-XR, IOS-XE, and
  adjacent Host, Compute, Virtual Machine, and Container Management systems.
- SAN networking for Cisco MDS and Cisco Nexus switches running standalone NX-OS, including support for integration with storage arrays and additionally Host, Compute, Virtual Machine, and Container Management systems.
- Media Control for Multicast Video production networks running Cisco Nexus switches operated as standalone NX-OS, with additional integrations for 3rd party media control systems.

Previously, DCNM was an application server running on a VM deployed via OVA or ISO, a physical appliance deployed via ISO, or software installed on a qualified Windows or Linux machine. Cisco Nexus Dashboard Fabric Controller, Release 12 is available as an application running exclusively on top of the Cisco Nexus Dashboard Virtual or Physical Appliance.

Virtual Nexus Dashboard deployment with OVA is also referred to as virtual Nexus Dashboard (vND) deployment, while the deployment of Nexus Dashboarda on physical appliance (Service Engine) is known as physical Nexus Dashboard (pND) deployment. To deploy Nexus Dashboard based on your requirement, refer to Cisco Nexus Dashboard Deployment Guide.

Beginning with Release 12, Cisco Nexus Dashboard Fabric Controller has a single installation mode. Post-installation, it supports selection from multiple personas at run-time. After the Nexus Dashboard Fabric Controller Release 12.0.2f is installed, you can choose from one of the following personas:

- Fabric Discovery—Discover, Monitor, and Visualize LAN Deployments.
- Fabric Controller
   – LAN Controller for Classic Ethernet (vPC), Routed, VXLAN, and IP Fabric for Media Deployments.
- **SAN Controller**—SAN Controller for MDS and Nexus switches. Enhanced SAN Analytics with streaming telemetry.

All features/services are modularized, broken into smaller microservices, and the required microservices are orchestrated based on the feature set or feature selections. Therefore, if any feature or microservice is down, only that microservice is restarted and recovered, resulting in minimal disruption.

In contrast to the previous DCNM Active-Standby HA model, Cisco NDFC introduces Active-Active HA deployment model utilizing all three nodes for deploying microservices. This has significant improvement in both latency and effective resource utilization.

Note: For NDFC to run on top of the virtual Nexus Dashboard (vND) instance, you must enable promiscuous mode on port groups associated with Nexus Dashboard interfaces where External Service IP addresses are specified. vND comprises of Nexus Dashboard management interface and data interface. By default, for LAN deployments, 2 external service IP addresses are required for the Nexus Dashboard management interface subnet. Therefore, you must enable promiscuous mode for the associated portgroup. If inband management or EPL is enabled, you must specify External Service IP addresses in the Nexus Dashboard data interface subnet. The promiscuous mode also needs to be enabled for the Nexus Dashboard data/fabric interface port-group. For NDFC SAN Controller, promiscuous mode only needs to be enabled on the Nexus Dashboard data interface associated port-group. For more information, refer to Cisco Nexus Dashboard Fabric Controller Deployment Guide.

For more information, see Cisco Nexus Dashboard Fabric Controller (Formerly DCNM).

### **Change History**

Date	Description
30 May 2022	Published Release Notes for Cisco Nexus Dashboard Fabric Controller Release 12.0.2f.

#### **Deployment Options**

The following deployment options are available for Cisco Nexus Dashboard Fabric Controller:

- NDFC on Single node (non-HA Cluster)
  - On Single node Nexus Dashboard, you can deploy NDFC with the following personas:
    - SAN Controller with SAN Insights
    - Fabric Controller for IP Fabric for Media (IPFM) deployments
    - Fabric Controller for lab/non-production environments (<= 25 switches)</li>
- NDFC on a 3-node Cluster (Active-Active HA mode)
  - On 3-Node Nexus Dashboard, you can deploy NDFC with the following personas:
    - Fabric Discovery
    - Fabric Controller
    - SAN Controller with or without SAN Insights

**Note:** For NDFC deployments, the Nexus Dashboard node should have a different subnet on the management interface and the data/fabric interface. In addition, in a 3-node Nexus Dashboard cluster, all Nexus Dashboard nodes should be layer-2 adjacent. In other words, the 3 Nexus Dashboard nodes must all belong to the same management and data networks respectively. In summary, Nexus Dashboard Fabric Controller is not supported on Nexus Dashboard nodes that are deployed with management and data networks using overlapping subnets.

NDFC on a 5-node vND Cluster (Active-Active HA mode)

From Release 12.0.2f, on 5-Node Nexus Dashboard, you can deploy NDFC with the following personas:

- Fabric Discovery
- Fabric Controller

In the 3-node and 5-node deployment, there are 3 Nexus Dashboard master nodes. In the 5-node deployment, the additional 2 nodes serve as worker nodes. The 3-node or 5-node cluster deployment is an active-active solution, that is, all nodes are utilized to run micro-services of Nexus Dashboard Fabric Controller. When a node fails, microservices running on the node, are moved to the other nodes. Nexus Dashboard Fabric Controller will perform normally under one node failure scenarios. However, it is expected that there will be a brief disruption to services that must be migrated on node failure. After the migration of services is complete, the supported scale will continue to function albeit at degraded performance. To restore optimal NDFC performance, a system running with one failed node is not the desired situation and must be rectified at the earliest. A 3-node or 5-node cluster cannot tolerate failure of two nodes and all NDFC services will be disrupted.

Note: Nexus Dashboard cluster federation is not supported with Nexus Dashboard Fabric Controller.

For virtual Nexus Dashboard OVA deployments on ESXi environments, it is imperative that promiscuous mode is enabled on the port groups associated with Nexus Dashboard management and Nexus Dashboard data/fabric interfaces. Otherwise, some of the functionality such as SNMP trap, Image management, Endpoint Locator, SAN Insights, and so on will not work.

Note that Cisco NDFC Release 12.0.1a and Release 12.0.2f cannot be cohosted with Nexus Dashboard Insights on Nexus Dashboard.

### **Deployment Profiles**

While enabling Cisco Nexus Dashboard Fabric Controller, based on the persona, you can choose a deployment profile. When deploying the application, the Nexus Dashboard indicates the deployment profile that is chosen for the cluster form factor. This generally does not need to be overridden, unless explicitly stated below.

To choose an appropriate profile, refer to the following recommendations.

#### virtual-demo

This deployment profile must be selected for the application running on a virtual Nexus Dashboard cluster deployed using the app OVA.

Note: You can override this profile only when enabling the application on the Nexus Dashboard.

Supported deployment personas include:

- · Fabric Discovery in a single node cluster
- · Fabric Controller deployment in single node cluster
- · Fabric Controller with IPFM in a single node cluster
- SAN Controller deployment with SAN Insights in a single node cluster

**Note: virtual-demo** profile is purely for demo purposes and not intended to be used for production environments.

#### virtual-app

This deployment profile must be selected for the application running on a virtual Nexus Dashboard cluster deployed using the app OVA. By default, this profile is selected when the application is enabled on a app node virtual Nexus Dashboard.

Supported deployment personas include:

- Fabric Controller in 3-node or 5-node cluster
- Fabric Controller with IPFM in single or 3-node cluster
- SAN Controller in single or 3-node cluster

**Note:** SAN Insights is not supported with this deployment profile.

#### virtual-data

This deployment profile must be selected for the application running on a virtual Nexus Dashboard cluster deployed using the data OVA. This profile should be used for the SAN Controller persona with SAN Insights. By default, this profile will be selected when the application is enabled on a data node virtual Nexus Dashboard.

Supported deployment personas include:

SAN Controller in single or 3 node cluster

Note: SAN Insights is supported with this deployment profile in single or 3 master cluster node

#### physical

This deployment profile must be selected for the application running on a physical Nexus Dashboard cluster. By default, this profile will be selected when the application is enabled on a physical Nexus Dashboard.

Supported deployment personas include:

- · Fabric Controller in 3 node cluster
- Fabric Controller with IPFM in single or 3 node cluster
- SAN Controller in single or 3 node cluster

**Note:** SAN Insights is supported with this deployment profile.

# 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 12.0.2f.

**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 the 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(2d) or higher. If you try to upload NDFC 12.0.2f on a Nexus Dashboard version earlier than 2.1(2d), you will not be allowed to upload the application. To download the correct version of Nexus Dashboard, visit Software Download – Nexus Dashboard.

### Nexus Dashboard Server Resource (CPU/Memory) Requirements

The following table provides information about Server Resource (CPU/Memory) Requirements to run NDFC on top of Nexus Dashboard.

Management Interface	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 the <u>Cisco Nexus Dashboard Deployment Guide</u> for more information.

The following table provides information about 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 the management network if using the default LAN Device Management Connectivity setting	Not supported
		2 IPs in the data network if setting LAN     Device Management Connectivity to Data	
		Plus one IP per fabric for EPL in the data network	
		Plus one IP for Telemetry receiver in data or management network if IP Fabric for Media is enabled.	
		For SAN:	
		2 IPs in the data network	
		Plus one IP per node in data network for SAN Insights receiver if enabled.	

### 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 that matches the Source-MAC associated with the 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 seamlessly 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 <u>Cisco Nexus Dashboard Deployment Guide</u> for information about latency.

### **Supported Web Browsers**

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

- Google Chrome version 96.0.4664.93
- Microsoft Edge version 96.0.1054.43 (64-bit)
- Mozilla Firefox version 94.0.2 (64-bit)

### **Other Supported Software**

The following table lists the other software that is supported by Cisco Nexus Dashboard Fabric Controller Release 12.0.2f.

Component	Features Programme Control of the Co
Security	<ul> <li>ACS versions 4.0, 5.1, 5.5, and 5.8</li> <li>ISE version 2.6</li> </ul>
	ISE version 3.0
	<ul> <li>Telnet Disabled: SSH Version 1, SSH Version 2, Global Enforce SNMP Privacy Encryption.</li> <li>Web Client: HTTPS with TLS 1, 1.1 and 1.2</li> </ul>
	• TLS 1.3

### **New Software Features**

Cisco Nexus Dashboard Fabric Controller Release 12.0.2f includes new features, enhancements, and hardware support. The following sections include information about the new features, enhancements, and hardware support introduced in the Cisco Nexus Dashboard Fabric Controller, Release 12.0.2f.

### **Fabric Controller Enhancements**

The following features are new in Cisco NDFC Release 12.0.2f for the Fabric Controller.

Feature	Description
Netflow Support	NDFC supports easy of provisioning of NX-OS NetFlow configurations in managed fabrics via new options in the Fabric Settings, Overlay Network templates and Layer-3 interface policies. After Netflow is enabled for a Fabric via fabric settings, you can turn on Netflow on an overlay network, or an interface (vlan, SVI, physical interface, sub-interface or port-channel).

Feature	Description
Layer 4-7 Services	NDFC allows you to easily configure service leafs where L4-7 service appliances are attached. This includes the ability to steer only selective traffic to the service appliances using custom redirection policies. For enhanced visibility, NDFC also provides monitoring of redirected traffic flows using the PBR statistics data. The redirected flows in the topology view, depict the service leaf where the service node is attached, and the switches where the source and destination networks are attached along with their appropriate configuration/operational status information.
vCenter Visualizer	Virtual Machine Visualizer is a monitoring application that provides the capability to visualize and monitor the VMware vSphere cluster workloads running on the data centers managed by NDFC.  The Web UI displays the topology, a visual representation of the vCenter resources and their relationships with the data center fabric. Topology displays real-time connectivity and state information which helps in monitoring and debugging potential issues. The Web UI also provides various controls to visualize different perspectives of the topology and resource search capabilities for ease of operation.
Kubernetes Visualizer	Kubernetes Cluster Visualizer is a monitoring application that provides the capability to monitor the Kubernetes cluster workloads running on the data centers managed by NDFC.  The Web UI displays the topology, a visual representation of the Kubernetes resources and their relationships with the data center fabric. Topology displays real-time connectivity and state information which helps in monitoring and debugging potential issues. The Web UI also provides various controls to visualize different perspectives of the topology and resource search capabilities for ease of operation.
OpenStack Visualizer	OpenStack Visualizer (OpenstackViz) is a day-2 monitoring application that provides the capability to visualize and monitor the OpenStack cluster workloads running on the data centers managed by NDFC.  Note: This is a preview feature in Cisco Nexus Dashboard Fabric Controller, Release 12.0.2f We recommend that you use this feature marked as BETA in your lab setup only. Do not use these features in your production deployment.  OpenstackViz establishes a relationship between the OpenStack cluster workload and its host/server infrastructure running in the data center network. The Web UI displays the topology diagram, to view the compute resources and their relationships with the data center fabric. Topology displays real-time connectivity and state information which helps in monitoring and debugging potential issues.
Nexus Dashboard Orchestrator Support	You can extend multisite configuration across multiple NDFC instances using the Nexus Dashboard Orchestrator. Overlay VRF/Network configuration across multiple sites belonging to different NDFC instances can then be centrally managed via Nexus Dashboard Orchestrator.  For information about Nexus Dashboard Orchestrator Support, refer to Nexus Dashboard Orchestrator Configuration Guide.
Nexus Dashboard Insights Support	Sites belonging to the NDFC can be onboarded on a remote Nexus Dashboard cluster running the Nexus Dashboard Insights application. Then appropriate Day-2 operations functionality such as software, hardware/flow telemetry, assurance, and so on, can be enabled on Nexus Dashboard Insights for the onboarded NDFC sites.

Feature	Description
Cohosting of Fabric Discovery with Nexus Dashboard Insights	After you enable Nexus Dashboard Fabric Controller in Fabric Discovery mode, you can deploy Nexus Dashboard Insights on the same Nexus Dashboard cluster. This deployment requires a 4-node physical Nexus Dashboard cluster and supports up to 50 switches.
Two Factor User Authentication - DUO	Nexus Dashboard provides user management for all applications. Nexus Dashboard Release 2.1.2d supports Two Factor Authentication with Duo Release 6.1.1. Nexus Dashboard authenticates the user using MFA mechanism and provides Cisco-AVPair for every external call coming through the API gateway. This ensures that NDFC provides uniform authorization experience to the user like already supported RADIUS/TACACS/LDAP based remote authentication methods.

### Fabric Controller with IP for Media (IPFM) Enhancements

The following features are new in Cisco NDFC Release 12.0.2f for the Fabric Controller with IP for Media (IPFM).

Feature	Description	
Support Real Time Notifications	In IPFM/NBM mode, the following real-time notifications are supported:	
	<ul> <li>Switches generate real-time notifications based on Flow policy.</li> <li>NDFC consumes and generates Kafka notifications.</li> </ul>	
	<ul> <li>Egress switches generate a notification on success Floset up or tear down. NDFC generates corresponding Kafka notifications.</li> </ul>	

#### **SAN Controller Enhancements**

The following features are new in Cisco Nexus Dashboard Fabric Controller Release 12.0.2f for the SAN Controller.

Feature	Description
Storage Array Discovery	NDFC SAN Controller displays the details of a Storage Array based on the type of array discovered, and the provider's adherence to the SMI-S standards. Click on the array to load the inventory page, starting with a summary tab, and other context-specific tabs based on the type of array.

### **New Hardware Features**

The following new hardware is supported with Cisco Nexus Dashboard Fabric Controller Release 12.0.2f.

 N9K-C9332D-GX2B - Cisco Nexus 9332D-GX2B Switch with 32p 400/100-Gbps QSFP-DD ports and 2p 1/10-G SFP+ ports

# **Upgrade Paths**

The following table summarizes the type of upgrade that you must follow to upgrade to Release 12.0.2f.

Go to Software Download to download the Upgrade Tool scripts.

Current Release Number	Deployment Type	Upgrade type when upgrade to Release 12.0.2f
12.0.1a	All	Upgrade Nexus Dashboard version 2.1.1e to version 2.1.2d Upgrade NDFC application to 12.0.2f.
11.5(3)	Note: Media Controller and all SAN deployments are not supported in Release 11.5(3).	Backup using DCNM_To_NDFC_Upgrade_Tool_OVA_ISO.zip  Restore on Nexus Dashboard Fabric Controller Web UI > Operations > Backup & Restore
11.5(2)	SAN Deployment on Windows and Linux	Backup using DCNM_To_NDFC_Upgrade_Tool_LIN_WIN.zip  Restore on Nexus Dashboard Fabric Controller Web UI > Operations > Backup & Restore
	SAN Deployment on OVA/ISO/SE	Backup using DCNM_To_NDFC_Upgrade_Tool_OVA_ISO.zip  Restore on Nexus Dashboard Fabric Controller Web UI > Operations > Backup & Restore
	LAN Fabric Deployment on OVA/ISO/SE	Backup using DCNM_To_NDFC_Upgrade_Tool_OVA_ISO.zip  Restore on Nexus Dashboard Fabric Controller Web UI > Operations > Backup & Restore
11.5(1)	SAN Deployment on Windows and Linux	Backup using DCNM_To_NDFC_Upgrade_Tool_LIN_WIN.zip  Restore on Nexus Dashboard Fabric Controller Web UI > Operations > Backup & Restore
	SAN Deployment on OVA/ISO/SE	Backup using DCNM_To_NDFC_Upgrade_Tool_OVA_ISO.zip  Restore on Nexus Dashboard Fabric Controller Web UI > Operations > Backup & Restore
	LAN Fabric Deployment on OVA/ISO/SE	Backup using DCNM_To_NDFC_Upgrade_Tool_OVA_ISO.zip  Restore on Nexus Dashboard Fabric Controller Web UI > Operations > Backup & Restore
	Media Controller Deployment on OVA/ISO	Backup using DCNM_To_NDFC_Upgrade_Tool_OVA_ISO.zip  Restore on Nexus Dashboard Fabric Controller Web UI > Operations > Backup & Restore

# **Persona Compatibility for Upgrade**

By using the appropriate Upgrade Tool, you can restore data that is backed up from DCNM Release 11.5(1) or 11.5(2) or 11.5(3) on a newly deployed Cisco Nexus Dashboard Fabric Controller for the personas as mentioned in the following table:

Backup from DCNM 11.5(x) 12	Persona Enabled in NDFC 12.0.2f after Upgrade
DCNM 11.5(x) LAN Fabric Deployment on OVA/ISO/SE	Fabric Controller + Fabric Builder
DCNM 11.5(x) PMN Deployment on OVA/ISO/SE	Fabric Controller + IP Fabric for Media (IPFM)

Backup from DCNM 11.5(x) 12	Persona Enabled in NDFC 12.0.2f after Upgrade
DCNM 11.5(x) SAN Deployment on OVA/ISO/SE	SAN Controller
DCNM 11.5(x) SAN Deployment on Linux	SAN Controller
DCNM 11.5(x) SAN Deployment on Windows	SAN Controller

<sup>&</sup>lt;sup>1</sup> All references to 11.5(x) are for 11.5(1) or 11.5(2). Upgrade to NDFC 12 from DCNM 11.5(3) is supported for LAN Fabric Deployments only.

# **Feature Compatibility Post Upgrade**

The following table lists caveats associated with features that are restored from DCNM 11.5(x) backup after upgrade to NDFC, Release 12.0.2f.

Feature in DCNM 11.5(x)	Upgrade Support
Nexus Dashboard Insights configured  Refer to Nexus Dashboard Insights User Guide for more information.	Supported
Container Orchestrator (K8s) Visualizer	Supported
VMM Visibility with vCenter	Supported
Nexus Dashboard Orchestrator configured	Not Supported
Preview features configured	Not supported
LAN switches in SAN installations	Not supported
Switches discovered over IPv6	Not supported
DCNM Tracker	Not supported
SAN CLI templates	Not carried over from 11.5(x) to 12.0.2f
Switch images/Image Management data	Not carried over from 11.5(x) to 12.0.2f
Slow drain data	Not carried over from 11.5(x) to 12.0.2f
Infoblox configuration	Not carried over from 11.5(x) to 12.0.2f
Endpoint Locator configuration	You must reconfigure Endpoint Locator (EPL) post upgrade to Release 12.0.2f. However, historical data is retained up to a maximum size of 500 MB.
Alarm Policy configuration	Not carried over from 11.5(x) to 12.0.2f
Performance Management data	CPU/Memory/Interface statistics up to 90 days is restored post upgrade.

<sup>&</sup>lt;sup>2</sup> DCNM Release 11.5(3) does not support Media Controller and SAN deployments.

# Supported Cisco Platforms and Software Versions

# **Compatibility Matrix for Fabric Controller**

Fabric Type	Supported Releases	Recommended Releases
Newly provisioned VXLAN fabrics N9000, N9000v	7.0(3)I7(9), 7.0(3)I7(10), 9.3(3), 9.3(4), 9.3(5), 9.3(6), 9.3(7), 9.3(7a), 9.3(8), 10.1(1), 10.1(2), 10.2(1)F, 10.2(2)F	9.3(8)
Newly provisioned VXLAN fabrics N3600	9.3(3), 9.3(4), 9.3(5), 9.3(6), 9.3(7), 9.3(7a), 9.3(8), 10.1(1), 10.1(2), 10.2(1)F, 10.2(2)F	9.3(8)
Brownfield deployment for N9000	7.0(3)I7(9), 7.0(3)I7(10), 9.3(3), 9.3(4), 9.3(5), 9.3(6), 9.3(7), 9.3(7a), 9.3(8), 10.1(1), 10.1(2), 10.2(1)F, 10.2(2)F	9.3(8)
Brownfield deployment for N3600	9.3(3), 9.3(4), 9.3(5), 9.3(6), 9.3(7), 9.3(7a), 9.3(8), 10.1(1), 10.1(2), 10.2(1)F, 10.2(2)F	9.3(8)
External/LAN Classic Fabric N3000/3100/3500	7.0(3)I7(9), 7.0(3)I7(10), 9.3(3), 9.3(4), 9.3(5), 9.3(6), 9.3(7), 9.3(7a), 9.3(8), 10.1(1), 10.1(2), 10.2(1)F, 10.2(2)F	9.3(8)
External/LAN Classic Fabric N3600	9.3(3), 9.3(4), 9.3(5), 9.3(6), 9.3(7), 9.3(7a), 9.3(8), 10.1(1), 10.1(2), 10.2(1)F, 10.2(2)F	9.3(8)
External/LAN Classic Fabric N5000/5600/6000	7.3(8)N1(1), 7.3(9)N1(1), 7.3(10)N1(1)	7.3(9)N1(1)
External/LAN Classic Fabric N7000/7700	7.3(5)D1(1), 7.3(7)D1(1), 7.3(8)D1(1), 8.2(5), 8.2(7), 8.2(7a), 8.2(8), 8.4(4), 8.4(4a), 8.4(5)	7.3(8)D1(1), 8.2(7a)
External/LAN Classic/LAN Monitor Fabric N9000, N9000v	7.0(3)I7(9), 7.0(3)I7(10), 9.3(3), 9.3(4), 9.3(5), 9.3(6), 9.3(7), 9.3(7a), 9.3(8), 10.1(1), 10.1(2), 10.2(1)F, 10.2(2)F	9.3(8)
Easy Fabric for IOS XE <sup>1</sup>	IOS XE 17.3.3, 17.3.4 for ASR 1K and CSR 1KV 17.3.4a for Catalyst 9K	
External Fabric for Non-Nexus Devices <sup>2</sup>	<ul> <li>IOS XE</li> <li>17.3.3, 17.3.4 for ASR 1K and CSR 1KV</li> <li>17.3.4a for Catalyst 9K</li> <li>IOS XR</li> <li>6.8.1 for ASR 9K</li> <li>6.5.3 for NCS 5500</li> <li>EOS 4.23.4.2M for Arista</li> </ul>	
IPFM Fabric	9.3(5), 9.3(6), 9.3(7), 9.3(8), 10.1(1), 10.1(2), 10.2(1)F, 10.2(2)F	9.3(8), 10.1(1), 10.1(2), 10.2(1)F, 10.2(2)F

 $<sup>\</sup>frac{1}{2}$  Only Catalyst 9K series supported. For qualified models, refer Supported Hardware section in Cisco NDFC Release Notes.

<sup>2</sup> ASR 1K, ASR 9K, Catalyst 9K, CSR 1KV, NCS 5500, Arista DCS series supported. For qualified models, refer Supported Hardware section in Cisco NDFC Release Notes.

# **Compatibility Matrix for SAN Controller**

Switches	Supported Switch Releases
Cisco MDS 9100	9.2(1), 8.4(2c), 8.5(1), 6.2(33), 8.4(2b), 8.1(1b), 6.2(31), 6.2(29), 8.4(2a), 8.4(2), 8.4.(1a), 6.2(29), 8.4(1), 6.2(27), 8.3(2), 8.3(1), 8.2(2), 8.2(1), 8.1(1a), 7.3(1)DY(1), 7.3(1)D1(1), 7.3(0)DY(1), 7.3(0)D1(1), 6.2(25), 6.2(23), 6.2.(21), 6.2(19), 6.2(17), 6.2(15), 6.2(13b), 6.2(13a), 6.2(13), 6.2(11c), 6.2(11b), 6.2(11), 6.2(9c), 6.2(9b), 6.2(9a), 6.2(9), 6.2(7), 6.2(5a), 6.2(5), 6.2(3), 6.2(1), 5.2(8i), 5.2(8h), 5.2(8g), 5.2(8f), 5.2(8e), 5.2(8d), 5.2(8c)
Cisco MDS 9200	8.5(1), 8.3(2), 8.3(1), 7.3(1)DY(1), 7.3(1)D1(1), 7.3(0)DY(1), 7.3(0)D1(1), 6.2(25), 6.2(23), 6.2.(21), 6.2(19), 6.2(17), 6.2(15), 6.2(13b), 6.2(13a), 6.2(13), 6.2(11c), 6.2(11b), 6.2(11), 6.2(9c), 6.2(9b), 6.2(9a), 6.2(9), 6.2(7), 6.2(5a), 6.2(5), 6.2(3), 6.2(1), 5.2(8b), 5.2(8c), 5.2(8d), 5.2(8e), 5.2(8f), 5.2(8g)
Cisco MDS 9250i	9.2(1), 8.4(2c), 8.5(1), 8.4(2b), 8.4(2a), 8.4(2), 8.1(1b), 8.4.(1a), 6.2(31), 6.2(29), 8.4(1), 6.2(27), 8.3(2), 8.3(1), 8.2(2), 8.2(1), 8.1(1a), 7.3(1)DY(1), 7.3(1)D1(1), 7.3(0)DY(1), 7.3(0)D1(1), 6.2(25), 6.2(23), 6.2.(21), 6.2(19), 6.2(17), 6.2(15), 6.2(13b), 6.2(13), 6.2(13), 6.2(11c), 6.2(11b), 6.2(11), 6.2(9c), 6.2(9b), 6.2(9a), 6.2(9), 6.2(7), 6.2(5a), 6.2(5)
Cisco MDS 9220i	9.2(1), 8.5(1)
Cisco MDS 9300	9.2(1), 8.4(2c), 8.5(1), 6.2(33), 8.4(2b), 8.1(1b), 6.2(31), 6.2(29), 8.4(2a), 8.4(2), 8.4(1a), 6.2(29), 8.4(1), 6.2(27), 8.3(2), 8.3(1), 8.2(2), 8.2(1), 8.1(1a), 8.1(1), 7.3(1)DY(1), 7.3(1)D1(1), 7.3(0)DY(1), 7.3(0)D1(1), 6.2(25), 6.2(23), 6.2.(21), 6.2(19), 6.2(17), 6.2(15), 6.2(13b), 6.2(13a), 6.2(13)
Cisco MDS 9500	9.2(1), 8.4(2c), 8.5(1), 6.2(33), 7.3(1)DY(1), 7.3(1)D1(1), 7.3(0)DY(1), 7.3(0)D1(1), 6.2(31), 6.2(29), 6.2(25), 6.2(23), 6.2.(21), 6.2(19), 6.2(17), 6.2(15), 6.2(13b), 6.2(13a), 6.2(13), 6.2(11c), 6.2(11b), 6.2(11), 6.2(9c), 6.2(9b), 6.2(9a), 6.2(9), 6.2(7), 6.2(5a), 6.2(5), 6.2(3), 6.2(1), 5.2(8h), 5.2(8c), 5.2(8d), 5.2(8e), 5.2(8f), 5.2(8g)
Cisco MDS 9700	9.2(1), 8.4(2c), 8.5(1), 6.2(33), 8.4(2b), 8.1(1b), 6.2(31), 6.2(29), 8.4(2a), 8.4(2), 8.4(1a), 6.2(29), 8.4(1), 6.2(27), 8.3(2), 8.3(1), 8.2(2), 8.2(1), 8.1(1a), 8.1(1), 7.3(1)DY(1), 7.3(1)D1(1), 7.3(0)DY(1), 7.3(0)D1(1), 6.2(25), 6.2(23), 6.2(21), 6.2(19), 6.2(17), 6.2(15), 6.2(13b), 6.2(13a), 6.2(13), 6.2(11c), 6.2(11b), 6.2(11), 6.2(9c), 6.2(9b), 6.2(9a), 6.2(9), 6.2(7), 6.2(5a), 6.2(5), 6.2(3), 6.2(1)
Cisco Nexus 9000 Series	$10.2(2)F, 10.2(1)F, 7.0(3)I7(10), 9.3(8), 10.1(2), 10.1(1), 9.3(7), 9.3(6), 7.0(3)I7(9), 9.3(5), 9.3(4), \\ 7.0(3)I7(8), 9.3(3), 7.0(3)I7(7), 9.3(2), 9.2(4), 9.3(1), 9.2(3), 7.0(3)I4(9), 7.0(3)I7(6), 9.2(2), 9.2(1), \\ 7.0(3)I7(5), 7.0(3)I7(4), 7.0(3)I7(3), 7.0(3)I7(2), 7.0(3)I7(1), 7.0(3)I4(8), 7.0(3)I4(7), 7.0(3)I4(6), \\ 7.0(3)I4(5), 7.0(3)I4(4), 7.0(3)I4(3), 7.0(3)I4(2), 7.0(3)I4(1), 7.0(3)F3(2), 7.0(3)F3(1), 7.0(3)F1(2), \\ 7.0(3)I6(2), 7.0(3)I6(1), 7.0(3)F2(1), 7.0(3)F1(1), 7.0(3)I2(4), 7.0(3)I2(5), 7.0(3)I5(2), 7.0(3)I5(1), \\ 7.0(3)I3(2), 7.0(3)I3(1), 7.0(3)I2.3, 7.0.3.I2.2c, 7.0(3)I2.2a, 7.0(3)I2.1, 7.0(3)I1.3, 7.0(3)I1.2, 6.2(9), \\ 6.1(2)I3.4, 6.1(2)I3.2, 6.1(2)I3(1), 6.1(2)I2(1), 6.1(2)I1(2), 6.1(2)I1(1)$
Cisco Nexus 7000 Series	8.2(8), 8.4(5), 8.4(4a), 7.3(8)D1(1), 8.2(7a), 8.4(4), 7.3(7)D1(1), 8.2(6), 8.4(3), 8.4(2), 7.3(6)D1(1), 8.2(5), 7.3(5)D1(1), 8.4(1), 8.2(4), 7.3(4)D1(1), 8.3(2), 8.3(1), 8.2(3), 8.2(2), 8.2(1), 8.1(2), 8.1(1), 8.0(1), 7.3(3)D1(1), 7.3(2)D1(3), 7.3(2)D1(2), 7.3(2)D1(1), 7.3(1)D1(1), 7.3(0)D1(1), 7.2(2)D1(4), 7.2(2)D1(2), 7.2(2)D1(1), 7.2(1)D1(1), 7.2(0)D1(2), 7.2(0)D1(1)
Cisco Nexus 7700 Series	8.2(8), 8.4(5), 8.4(4a), 7.3(8)D1(1), 8.2(7a), 8.4(4), 7.3(7)D1(1), 8.2(6), 8.4(3), 8.4(2), 7.3(6)D1(1), 8.2(5), 7.3(5)D1(1), 8.4(1), 8.2(4), 7.3(4)D1(1), 8.3(2), 8.3(1), 8.2(3), 8.2(2), 8.2(1), 8.1(2), 8.1(1), 8.0(1), 7.3(3) D1(1), 7.3(2)D1(3), 7.3(2)D1(2), 7.3(2)D1(1), 7.3(1)D1(1), 7.3(0)DX(1), 7.3(0)D1(1), 7.2(2)D1(4), 7.2(2)D1(2), 7.2(2)D1(1), 7.2(1)D1(1), 7.2(0)D1(2), 7.2(0)D1(1)

Switches	Supported Switch Releases
Cisco Nexus 6000/5600 Series	$ 7.3(10)N1(1), \ 7.3(9)N1(1), \ 7.3(8)N1(1), \ 7.3(7)N1(1b), \ 7.3(7)N1(1a), \ 7.3(7)N1(1), \ 7.3(6)N1(1), \ 7.3(5)N1(1), \ 7.1(5)N1(1b), \ 7.3(4)N1(1), \ 7.3(3)N1(1), \ 7.3(2)N1(1e), \ 7.3(2)N1(1), $
Cisco Nexus 5000 Series	7.3(10)N1(1), 7.3(9)N1(1), 7.3(8)N1(1), 7.3(7)N1(1b), 7.3(7)N1(1a), 7.3(7)N1(1), 7.3(6)N1(1), 7.3(5)N1(1), 7.1(5)N1(1b), 7.3(4)N1(1), 7.3(3)N1(1), 7.3(2)N1(1e), 7.3(2)N1(1), 7.3(2)N1(1), 7.3(1)N1(1), 7.3(0)N1(1), 7.2(1)N1(1), 7.2(0)N1(1), 7.1(5)N1(1), 7.1(4)N1(1), 7.1(3)N1(2), 7.1(3)N1(1), 7.1(2)N1(1), 7.1(1)N1(1), 7.1(0)N1(1), 7.0(8)N1(1), 7.0(7)N1(1), 7.0(6)N1(1), 7.0(5)N1(1), 7.0(4)N1(1), 7.0(3)N1(1), 7.0(2)N1(1), 7.0(1)N1(1), 6.0(2)N2(7), 6.0(2), 5.2(1)N1(9a), 5.2(1)N1(9), 5.2(1), 5.1(3), 5.0(3), 5.0(2), 4.2(1), 4.1(3)
UCS Infrastructure and UCS Manager Software	4.2(1d), 4.0.4g, 4.1.1a, 3.2.3n, 4.0.4, 4.0.1, 3.2(3k), 2.2.5a

**Note:** The Cisco NX-OS version of the Cisco Nexus 2000 Series Fabric Extenders will be the same as the NX-OS version of the supported Nexus switch (that is, Cisco Nexus 5000, Cisco Nexus 7000, or Cisco Nexus 9000).

### **Compatibility Matrix for Cisco Nexus Dashboard and Applications**

Cisco Nexus Dashboard and Services compatibility information for specific Cisco Nexus Dashboard, services, and fabric versions. See <u>Cisco Nexus Dashboard and Services Compatibility Matrix</u>.

For recommendation on Nexus Dashboard cluster sizing for co-hosting services, see the <u>Nexus Dashboard</u> <u>Capacity Planning tool</u> instead.

# Supported Hardware

### **UCS Fabric Interconnect Integration**

Product/Component	Part Number
Cisco UCS Unified Computing System 6454 1RU In-Chassis FI with 36x10G/25G + 4x 1G/10G/25G + 6x40G/100G + 8 UP Ports	UCS-FI-6454-U
Cisco UCS Unified Computing System 6332 1RU In-Chassis FI with 16UP + 24x40G Fixed Ports	UCS-FI-6332-16UP
Cisco UCS Unified Computing System 6332 1RU In-Chassis FI with 32x40G Fixed Ports	UCS-FI-6332
Cisco UCS Unified Computing System 6324 In-Chassis FI with 4UP, 1x40G Exp Port	UCS-FI-M-6324
Cisco UCS Unified Computing System 6296UP 96-Unified Port Fabric Interconnect	UCS-FI-6296UP
Cisco UCS Unified Computing System 6248UP 48-Unified Port Fabric Interconnect	UCS-FI-6248UP

# **Cisco MDS 9000 Series Switches Family**

Product/Component	Part Number
Cisco MDS 9718 Supervisor-1E Modules	DS-X97-SF1-K9
Cisco MDS 9710 Crossbar Fabric-3 Switching Module	DS-X9710-FAB3
Cisco MDS 9700 Series Supervisor-4 Module	DS-X97-SF4-K9
MDS 9706 Crossbar Switching Fabric-3 Module	DS-X9706-FAB3
Cisco MDS 9396T 32 Gbps 96-Port Fibre Channel Switch	DS-C9396T-K9
Cisco MDS 9148T 32 Gbps 48-Port Fibre Channel Switch	DS-C9148T-K9
Cisco MDS 9700 48-Port 32-Gbps Fibre Channel Switching Module	DS-X9648-1536K9
Cisco MDS 9700 64-Gbps 48-port Fibre Channel Switching Module	DS-X9748-3072K9
Cisco MDS 9250i Multilayer Fabric Switch	DS-9250I-K9
Cisco MDS 9124 24-Port Multilayer Fabric Switch	DS-C9124-K9
Cisco MDS 9134 34-Port Multilayer Fabric Switch	DS-C9134-K9
Cisco MDS 9148 48-Port Multilayer Fabric Switch	DS-C9148-K9
Cisco MDS 9148 48-Port Multilayer Fabric Switch	DS-C9148S-K9
Cisco MDS 9216i Multilayer Fabric Switch	DS-C9216i-K9
Cisco MDS 9222i Multilayer Fabric Switch	DS-C9222i-K9
Cisco MDS 9220i Intelligent Fabric switch chassis, 12X32G FC+6IPS	DS-C9220I-K9
Cisco MDS 9506 Multilayer Director	DS-C9506
Cisco MDS 9509 Multilayer Director	DS-C9509
Cisco MDS 9513 Multilayer Director	DS-C9513
Cisco MDS 9706 Multilayer Director	DS-C9706
Cisco MDS 9710 Multilayer Director	DS-C9710
Cisco MDS 9718 Multilayer Director	DS-C9718
Cisco MDS 9000 32-Port 2-Gbps Fibre Channel Switching Module	DS-X9032
Cisco MDS 9000 32-Port Storage Services Module	DS-X9032-SSM
Cisco MDS 9000 12-port 4-Gbps Fibre Channel Switching Module	DS-X9112

Product/Component	Part Number
Cisco MDS 9000 12-port 4-Gbps Fibre Channel Switching Module	DS-X9112
Cisco MDS 9000 12-port 4-Gbps Fibre Channel Switching Module	DS-X9112
Cisco MDS 9000 24-port 4-Gbps Fibre Channel Switching Module	DS-X9124
Cisco MDS 9000 48-port 4-Gbps Fibre Channel Switching Module	DS-X9148
Cisco MDS 9000 24-Port 8-Gbps Fibre Channel Switching Module	DS-X9224-96K9
Cisco MDS 9000 32-port 8-Gbps Advanced Fibre Channel Switching Module	DS-X9232-256K9
Cisco MDS 9000 48-port 8-Gbps Advanced Fibre Channel Switching Module	DS-X9248-256K9
Cisco MDS 9000 4/44-Port Host-Optimized 8-Gbps Fibre Channel Switching Module	DS-X9248-48K9
Cisco MDS 9000 48-Port 8-Gbps Fibre Channel Switching Module	DS-X9248-96K9
Cisco MDS 9000 Family 14-Port Fibre Channel and 2-port Gigabit Ethernet Module	DS-X9302-14K9
Cisco MDS 9000 18/4-Port Multiservice Module (MSM-18/4)	DS-X9304-18K9
Cisco MDS 9000 4-port 1-Gbps IP Storage Module	DS-X9304-SMIP
Cisco MDS 9000 8-port 1-Gbps IP Storage Module	DS-X9308-SMIP
Cisco MDS 9000 Family 16-Port Storage Services Node (SSN-16)	DS-X9316-SSNK9
Cisco MDS 9000 Family 24/10 SAN Extension Module	DS-X9334-K9
Cisco MDS 9000 48-port 16-Gbps Fibre Channel Switching Module with SFP LC connectors	DS-X9448-768K9
Cisco MDS 9500 Series Supervisor-1 Module	DS-X9530-SF1-K9
Cisco MDS 9500 Series Supervisor-2 Module	DS-X9530-SF2-K9
Cisco MDS 9500 Series Supervisor-2A Module	DS-X9530-SF2A-K9
Cisco MDS 9000 Family 4-Port 10-Gbps Fibre Channel Switching Module	DS-X9704
Cisco MDS 9000 8-port 10-Gbps Fibre Channel over Ethernet (FCoE) Module	DS-X9708-K9
Cisco MDS 48-Port 10-Gigabit Fibre Channel over Ethernet (FCoE) Module with SFP LC connectors	DS-X9848-480K9
Cisco MDS 9132T 32-Gbps 32-Port Fibre Channel Switch	DS-C9132T-K9

### **Cisco Nexus 9000 Series Switches**

Product/Component	Part Number
Cisco Nexus 9000 Series Switches	
32P 40/100G QSFP28, 2P 1/10G SFP	N9K-C9332C
1RU 48x1/10GT + 6x40G/100G Ethernet Ports	N9K-C93180TC-FX
Cisco Nexus 7700 F4 40G Line card	Cisco Nexus 7700 F4 40G Line card
Cisco Nexus 9336C-FX2, 1RU, fixed-port switch	N9K-C9336C-FX2
Cisco Nexus 9000 Fixed with 48p 1/10G/25G SFP and 12p 40G/100G QSFP28	N9K-C93240YC-FX2
32-port 100Gigabit EthernetQuad Small Form-Factor Pluggable 28 (QSFP28) line card	N9K-X9732C-FX
48-port 1 and 10GBASE-T plus 4-port 40/100Gigabit Ethernet QSFP 28 line card	N9K-X9788TC-FX
48-port 1 and 10GBASE-T plus 4-port 40/100Gigabit Ethernet QSFP 28 line card (BMA)	N9K-X9788TC2-FX
FabricModule for Nexus 9516 chassis 100G support (100G/flow), NX-OS and ACI Spine	N9K-C9516-FM-E2
FabricModule for Nexus 9504 R-Series LC, NX-OS only	N9K-C9504-FM-R
Fretta 48p 1/10/25G + 4p 100G Line card	N9K-X96160YC-R
100-Gigabit N9K-C9508-FM-E2 Fabric Module	N9K-C9508-FM-E2
48P 1/10/25G + 6x100G QSFP28 1RU	N3K-C36180YC-R
36 40/100G Ethernet module for Nexus 9500 Series	N9K-X9736C-FX
64x100G QSFP28 + 2x10GSFP 1RU	N9K-C9364C
36x100G Ethernet module for Nexus 9000 Series	N9K-X9636C-RX
1RU TOR, fixed module 48 100/1000Mbps + 4 25G SFP28 + 2 100G QSFP28	N9K-C9348GC-FXP
1RU TOR, fixed module 48 100/1000Mbps + 4 25G SFP28 + 2 100G QSFP28 (BMA)	N9K-C9348GC2-FXP
1RU TOR, fixed module 48 10/25G SFP28 + 6 40/100G QSFP28	N9K-C93180YC-FX
1RU TOR, fixed module 48 10/25G SFP28 + 6 40/100G QSFP28 (BMA)	N9K-C93180YC2-FX
1RU TOR, fixed module for Nexus 9300 Series 6 40G/100G QSFP28 + 48 10G BASE-T	N9K-C93108TC-FX
1RU TOR, fixed module for Nexus 9300 Series 6 40G/100G QSFP28 + 48 10G BASE-T (BMA)	N9K-C93108TC2-FX
Broadwell CPU-based Supervisor module for Nexus 9400 Series	N9K-SUPA-PLUS

Product/Component	Part Number
Broadwell CPU-based Supervisor module for Nexus 9400 Series	N9K-SUPB-PLUS
Nexus 9K Fixed with 48p 10G BASE-T and 6p 40G/100G QSFP28	N9K-C93108TC-EX
N9K-C92300YC-Fixed Module	N9K-C92300YC
48-port 1/10/25 Gigabit Ethernet SFP+ and 4-port 40/100 Gigabit Ethernet QSFP Line Card	N9K-X97160YC-EX
Nexus N9K-C9232C Series fixed module with 32x40G/100G	N9K-C9232C
Nexus 9K Fixed with 48p 1/10G/25G SFP+ and 6p 40G/100G QSFP28	N9K-C93180YC-EX
Cisco Nexus 9000 Series 40GE Modules	
N9K 32p 40G Ethernet Module	N9K-X9432PQ
36p 40G Ethernet Module	N9K-X9636PQ
36-port 40/100 Gigabit Ethernet QSFP28 line card	N9K-X9636C-R
24-port 400/100 Gigabit Ethernet QSFP-DD line card	N9K-X9624D-R2
Fabric Module for Cisco Nexus 9508 R2-Series line cards - Cisco NX-OS only	N9K-C9508-FM-R2
Cisco Nexus 9364D-GX2A Switch with 64p 400/100-Gbps QSFP-DD ports and 2p 1/10 SFP+ ports	N9K-C9364D-GX2A
Cisco Nexus 9332D-GX2B Switch with 32p 400/100-Gbps QSFP-DD ports and 2p 1/10 SFP+ ports	N9K-C9332D-GX2B
Cisco Nexus 9000 Series 10GE Fiber and Copper Modules	
8-port 100-Gigabit CFP2 I/O module	N9K-X9408PC-CFP2
100 Gigabit Ethernet uplink ports	N9K-M4PC-CFP2
Cisco Nexus 9500 Line Card support	N9K-X9564PX
N9K 48x1/10G-T 4x40G Ethernet Module	N9K-X9464PX
Cisco Nexus 9500 Line Card support	N9K-X9564TX
N9K 48x1/10G SFP+ 4x40G Ethernet Module	N9K-X9464TX
Cisco Nexus 9000 Series GEM Module	
N9K 40G Ethernet Expansion Module	N9K-M12PQ
N9K 40G Ethernet Expansion Module	N9K-M6PQ
Cisco Nexus 9200 Switches	
Nexus 92160YC-X with High performance 1RU box, 48 1/10/25-Gb host ports	N9K-C92160YC-X

Product/Component	Part Number
Nexus 9272Q with High-performance, 72-port/40-Gb fixed switching 2RU box, 5.76 Tbps of bandwidth	N9K-C9272Q
Nexus 9200 with 56p 40G QSFP+ and 8p 100G QSFP28	N9K-C92304QC
Nexus 9200 with 36p 40G 100G QSFP28	N9K-C9236C
Nexus 9200 with 48p 1/10G/25G SFP+ and 6p 40G QSFP or 4p 100G QSFP28	N9K-C92160YC-X
Nexus 9200 with 72p 40G QSFP+	N9K-C9272Q
Cisco Nexus 9300 Fixed Switches	
<ul> <li>Nexus 9300 with 1-rack unit (RU), switch with following fixed ports:</li> <li>48 100M/1/10/25-Gigabit Ethernet SFP28 ports (ports 1-48).</li> <li>6 10/25/40/50/100-Gigabit QSFP28 ports (ports 49-54)</li> <li>One management port (one 10/100/1000BASE-T port)</li> <li>One console port (RS-232)</li> <li>1 USB port</li> </ul>	N9K-C93180YC-FX3
Nexus 9300 with 48p 10G BASE-T and 6p 40G/100G QSFP28, MACsec capable	N9K-C93108TC-FX3P
Nexus 9300 with 48p 1/10G/25G SFP and 6p 40G/100G QSFP28, MACsec, and Unified Ports capable	N9K-C93180YC-FX3S
Nexus 9K Fixed with 96p 1/10G/25G SFP and 12p 40G/100G QSFP28	N9K-C93360YC-FX2
96p 100M/1/10GBASE-T and 12p 40G/100G QSFP28	N9K-C93216TC-FX2
Nexus 9200 with 48p 100M/1G Base-T ports and 4p 1/10/25G SPF28 and 2p 40/100G QSFP28	N9K-C92348GC-X
Nexus 9316D Spine and Leaf switch with 28p 100/40G QSFP28 and 8p 400/100G QSFP-DD	N9K-C93600CD-GX
Cisco Nexus 9364C ACI Spine Switch with 64p 40/100G QSFP28, 2p 1/10G SFP	N9K-C9364C-GX
Nexus 9316D Spine switch with 16p 400/100G QSFP-DD	N9K-C9316D-GX
Nexus 9300 with 24p 40/50G QSFP+ and 6p 40G/100G QSFP28	N9K-C93180LC-EX
9372-PXE - 48 1/10-Gbps (SFP+) ports and 6 Quad SFP+ (QSFP+) uplink port, 1RU box	N9K-C9372PX-E
Cisco Nexus 9396PX Switch	N9K-C9396PX
Cisco Nexus 9396TX Switch	N9K-C9396TX
Cisco Nexus 9372PX Switch	N9K-C9372TX
Cisco Nexus 9372PX Switch	N9K-C9372TX
Cisco Nexus 9372TX Switch	N9K-C9372TX

Product/Component	Part Number
Cisco Nexus 9372TX Switch	N9K-C9372PX
Cisco Nexus 9332PQ Switch	N9K-C9332PQ
Cisco Nexus 93128TX Switch	N9K-C93128TX
Nexus 9300 with 48p 1/10G-T and 6p 40G QSFP+	N9K-C9372TX-E
Cisco Nexus 9500 Modular Chassis	
New fabric module for the Cisco Nexus 9516 Switch chassis	N9K-C9516-FM-E
40/100G Ethernet Module for Nexus 9500 Series chassis	N9K-X9736C-EX
Cisco Nexus 9504 Switch	N9K-C9504
Cisco Nexus 9508 Switch	N9K-C9508
Cisco Nexus 9516 Switch	N9K-C9516
Nexus 9500 linecard, 32p 100G QSFP aggregation linecard	N9K-X9732C-EX
Nexus 9500 linecard, 32p 100G QSFP28 aggregation linecard (Linerate >250 Bytes)	N9K-X9432C-S
Cisco Nexus 9500 Fabric Modules	
Fabric Module for Nexus 9504 with 100G support, NX-OS, and ACI spine	N9K-C9504-FM-E
Fabric Module for Nexus 9504 chassis	N9K-C9504-FM-G
Fan tray for Nexus 9504 chassis	N9K-C9504-FAN2
Fabric Module for Nexus 9504 with 100G support, NX-OS only	N9K-C9504-FM-S
Fan tray for Nexus 9508 chassis	N9K-C9508-FAN2
Fabric Module for Nexus 9508 chassis 100G support, NX-OS, and ACI spine	N9K-C9508-FM-E
Fabric Module for Nexus 9508 chassis	N9K-C9508-FM-G
Fabric Module for Nexus 9508 chassis 100G support, NX-OS only	N9K-C9508-FM-S
Cisco Nexus 9500 16p 400G QSFP-DD cloud-scale line card	N9K-X9716D-GX

# **Cisco Nexus 7000 Series Switches**

Product/Component	Part Number
Supported Chassis	
CiscoNexus7702 chassis	N77-C7702

Product/Component	Part Number	
Cisco Nexus 7004 chassis	N7K-C7004	
Cisco Nexus 7706 chassis	N77-C7706-FAB2	
Cisco Nexus 7009 chassis	N7K-C7009	
Cisco Nexus 7010 chassis	N7K-C7010	
Cisco Nexus 7018 chassis	N7K-C7018	
Cisco Nexus 7710 chassis	N7K-C7710	
Cisco Nexus 7718 chassis	N7K-C7718	
Fabric module, Cisco Nexus 7009 chassis	N7K-C7009-FAB-2	
Fabric module, Cisco Nexus 7010 chassis	N7K-C7010-FAB-1	
Fabric module, Cisco Nexus 7010 chassis	N7K-C7010-FAB-2	
Fabric module, Cisco Nexus 7018 chassis	N7K-C7018-FAB-1	
Fabric module, Cisco Nexus 7018 chassis	N7K-C7018-FAB-2	
Fabric module, Cisco Nexus 7710 chassis	N77-C7710-FAB-1	
Fabric module, Cisco Nexus 7710 chassis	N77-C7710-FAB-2	
Fabric module, Cisco Nexus 7718 chassis	N77-C7718-FAB-2	
Supported Supervisor		
Cisco Nexus 7000 Supervisor 1 Module	N7K-SUP1	
Cisco Nexus 7000 Supervisor 2 Module	N7K-SUP2	
Cisco Nexus 7000 Supervisor 2 Enhanced Module	N7K-SUP2E	
Cisco Nexus 7700 Supervisor 2 Enhanced Module	N77-SUP2E	
Cisco Nexus 7700 Supervisor 3	N77-SUP3E	
Supported F Line Cards		
Cisco Nexus 7700 Fabric module 3	N77-C7706-FAB-3, N77-C7710- FAB-3	
LC, N77, FANGIO CB100, 30PT, 40GE, zQFSP+	N77-F430CQ-36	
32-port 1/10 Gigabit Ethernet SFP+ I/O Module	N7K-F132XP-15	
48-port 1/10 Gigabit Ethernet SFP+ I/O Module (F2 Series)	N7K-F248XP-25	
48-port 1/10 Gigabit Ethernet SFP+ I/O Module (Enhanced F2 Series)	N7K-F248XP-25E	

Product/Component	Part Number
48-port 1/10 GBase-T RJ45 Module (Enhanced F2-Series)	N7K-F248XT-25E
Cisco Nexus 7700 Enhanced 48-port 1/10 Gigabit Ethernet SFP+ I/O Module (F2 Series)	N77-F248XP-23E
Cisco Nexus 7000 1 F3 100G	N7K-F306CK-25
Cisco Nexus 7000 F3-Series 6-Port 100G Ethernet Module	N7K-F306CK-25
Cisco Nexus 7000 F3-Series 12-Port 40G Ethernet Module	N7K-F312FQ-25
Cisco Nexus 7700 F3-Series 24-Port 40G Ethernet Module	N77-F324FQ-25
Cisco Nexus 7700 F3-Series 48-Port Fiber 1 and 10G Ethernet Module	N77-F348XP-23
Nexus 7000 F3-Series 48-Port Fiber 1 and 10G Ethernet Module	N7K-F348XP-25
Supported M Line Cards	
8-port 10-Gigabit Ethernet Module with XL Option (requires X2)	N7K-M108X2-12L
32-port 10-Gigabit Ethernet SFP+ I/O Module	N7K-M132XP-12
32-port 10-Gigabit Ethernet SFP+ I/O Module with XL Option	N7K-M132XP-12L
48-port 10/100/1000 Ethernet I/O Module	N7K-M148GT-11
48-port 1-Gigabit Ethernet SFP I/O Module	N7K-M148GS-11
48-port 1-Gigabit Ethernet Module with XL Option	N7K-M148GS-11L
2-port 100 Gigabit Ethernet I/O Module with XL Option	N7K-M202CF-22L
6-port 40 Gigabit Ethernet I/O Module with XL Option	N7K-M206FQ-23L
24-port 10 Gigabit Ethernet I/O Module with XL Option	N7K-M224XP-23L
Network Analysis Module NAM-NX1	N7K-SM-NAM-K9

# **Cisco Nexus 6000 Series Switches**

Product/Component	Part Number
N6004X/5696 chassis  Note: This has been rebranded as Cisco Nexus 5000 Series Switches Chassis.	N5K-C5696Q
Cisco Nexus 6001-64T Switch	N6K-C6001-64T
Cisco Nexus 6001-64P Switch	N6K-C6001-64P

Product/Component	Part Number
Cisco Nexus 6004 EF Switch	N6K-C6004
Cisco Nexus 6004 module 12Q 40-Gigabit Ethernet Linecard Expansion Module/FCoE, spare	N6004X-M12Q
Cisco Nexus 6004 M20UP LEM	N6004X-M20UP
Cisco Nexus 6004P-96Q Switch	N6K-6004-96Q

# **Cisco Nexus 5000 Series Switches**

Product/Component	Part Number
Cisco Nexus 5648Q Switch is a 2RU switch, 24 fixed 40-Gbps QSFP+ ports, and 24 additional 40-Gbps QSFP+ ports	N5K-C5648Q
Cisco Nexus 5624Q Switch 1RU, -12 fixed 40-Gbps QSFP+ ports and 12 X 40-Gbps QSFP+ ports expansion module	N5K-C5624Q
20 port UP LEM	N5696-M20UP
12 port 40G LEM	N5696-M12Q
4 port 100G LEM	N5696-M4C
N5000 1000 Series Module 6-port 10GE	N5K-M1600(=)
N5000 1000 Series Module 4x10GE 4xFC 4/2/1G	N5K-M1404=
N5000 1000 Series Module 8-port 4/2/1G	N5K-M1008=
N5000 1000 Series Module 6-port 8/4/2G	N5K-M1060=
Cisco Nexus 56128P Switch	N5K-C56128P
Cisco Nexus 5010 chassis	N5K-C5010P-BF
Cisco Nexus 5020 chassis	N5K-C5020P-BF N5K-C5020P-BF-XL
Cisco Nexus 5548P Switch	N5K-C5548P-FA
Cisco Nexus 5548UP Switch	N5K-C5548UP-FA
Cisco Nexus 5672UP Switch	N5K-C5672UP
Cisco Nexus 5596T Switch	N5K-C5596T-FA
Cisco Nexus 5596UP Switch	N5K-C5596UP-FA
Cisco Nexus 0296-UPT chassis and GEM N55-M12T support	N5K-C5596T-FA-SUP

Product/Component	Part Number
16-port Universal GEM, Cisco Nexus 5500	N5K-M16UP
Version 2, Layer 3 daughter card	N55-D160L3-V2

### **Cisco Nexus 3000 Series Switches**

Product/Component	Part Number
Quad Small Form-Factor Pluggable - Double Density (QSFP-DD) switch with 32 ports	N3K-C3432D-S
Nexus 3408-S switch with 32 ports of QSFP-DD	N3K-C3408-S
1RU 48 x SFP+/SFP28 and 6 x QSFP+/QSFP28	N3K-C34180YC
Cisco Nexus 34200YC-SM Switch with top-of-rack, Layer 2 and 3 switching	N3K-C34200YC-SM
1RU 32 Port QSFP28 10/25/40/50/100 Gbps	N3K-C3132C-Z
Nexus 3548-XL Switch, 48 SFP+	N3K-C3548P-XL
Nexus 3264C-E switch with 64 QSFP28	N3K-C3264C-E
Cisco Nexus 3132Q Switch	N3K-C3132C-Z
Cisco Nexus 3132Q-V Switch	N3K-C3132Q-V
Nexus 34180YC programmable switch, 48 10/25G SFP, and 6 40/100G QSFP28 ports	N3K-C34180YC
Cisco Nexus 3464C Switch, 64 x QSFP+/QSFP28 ports and 2 x SFP+	N3K-C3464C
Cisco Nexus 3016 Switch	N3K-C3016Q-40GE
Cisco Nexus 3048 Switch	N3K-C3048TP-1GE
Cisco Nexus 3064-E Switch	N3K-C3064PQ-10GE
Cisco Nexus 3064-X Switch	N3K-C3064PQ-10GX
Cisco Nexus 3064-T Switch	N3K-C3064TQ-10GT
Nexus 31108PC-V, 48 SFP+ and 6 QSFP28 ports	N3K-C31108PC-V
Nexus 31108TC-V, 48 10GBase-T RJ-45, and 6 QSFP28 ports	N3K-C31108TC-V
Cisco Nexus 3132Q Switch	N3K-C3132Q-40GE
Nexus 3132 Chassis	N3K-C3132Q-40GX
Cisco Nexus 3172PQ Switch	N3K-C3172PQ-10GE

Product/Component	Part Number
Cisco Nexus 3548 Switch	N3K-C3548P-10GX
Cisco Nexus 3636C-R Switch	N3K-C3636C-R

### **Cisco Nexus 2000 Series Fabric Extenders**

The following tables list the products and components that are supported in the Cisco Nexus Dashboard Fabric Controller, Release 12.0.2f.

Product/Component	Part Number
Nexus 2348 Chassis	N2K-C2348TQ-10GE
Cisco Nexus 2348UPQ 10GE 48 x 1/10 Gigabit Ethernet and unified port host interfaces (SFP+) and up to 6 QSFP+ 10/40 Gigabit Ethernet fabric interfaces	N2K-C2348UPQ
Cisco Nexus 2148 1 GE Fabric Extender	N2K-C2148T-1GE
Cisco Nexus 2224TP Fabric Extender	N2K-C2224TP-1GE
Cisco Nexus 2232TM 10GE Fabric Extender	N2K-C2232TM-10GE
Cisco Nexus 2232TM 10GE Fabric Extender	N2K-C2232TM-E-10GE
Cisco Nexus 2232PP 10 GE Fabric Extender	N2K-C2232PP-10GE
Cisco Nexus 2248TP 1 GE Fabric Extender	N2K-C2248TP-1GE
Cisco Nexus 2248TP E GE Fabric Extender	N2K-C2248TP-E GE
Cisco Nexus 2248PQ Fabric Extender	N2K-C2248PQ-10GE
Cisco Nexus B22 Fabric Extender for HP	N2K-B22HP-P
Cisco Nexus B22 Fabric Extender for Fujitsu	N2K-B22FTS-P
Cisco Nexus B22 Fabric Extender for Dell	N2K-B22DELL-P
Cisco Nexus 2348TQ-E 10GE Fabric Extender	N2K-C2348TQ-E++

### **Supported Non-Nexus Devices**

- Cisco ASR 1001-X
- Cisco ASR 1002-HX
- Cisco ASR-9001
- Cisco Catalyst 9300-48U
- Cisco Catalyst 9300-24T
- Cisco Catalyst 9300-48P
- Cisco Catalyst 9500-48YC
- Cisco Catalyst 9500-32C

- Cisco CSR 1000v
- Cisco NCS 5501
- Arista DCS-7050SX3-48YC12

### **Supported IBM Directors and Switches**

- IBM SAN192C-6 8978-E04 (4 Module) SAN Director
- IBM SAN384C-6 8978-E08 (8 Module) SAN Director
- IBM SAN768C-6 8978-E16 (16 Module) SAN Director
- IBM SAN50C-R 8977-R50 50-Port SAN Extension Switch
- IBM SAN32C-6 8977-T32 32X32G FC SAN Switch
- IBM SAN48C-6 8977-T48 48X32G FC SAN Switch
- IBM SAN96C-6 8977-T96 96X32G FC SAN Switch
- IBM SAN16C-R 8977-R16 SAN Switch

### Resolved Issues

The following table lists the Open bugs for Cisco Nexus Dashboard Fabric Controller, Release 12.0.2f. Click the bug ID to access the Bug Search tool and see additional information about the caveat.

Bug ID	Description
CSCvw79080	Traffic loss observed on manual RMA after deploy of pending configs to the replacement device
CSCvz37763	Persistent diffs generated when route-map is added under ipv4 address-family in the VRF freeform
CSCvz64869	Fabric validation in network/VRF Import
CSCvz67646	[PMN Soln] proper error message when the switch bootflash is full
CSCvz73059	Regression EPL: upon resync, RR disconnect notification is not cleared with RR connect notification
CSCvz76845	DCNM Sanity: ST, AA FEX ICONS in Topology Screen after restore
CSCvz78566	In the topology when we search in the filter, the menu bar is stuck
CSCvz78604	DCNM Sanity: Network Status is pending after network deployment in eBGP Routed Fabric
CSCvz78690	SAN-Restore: Fabric missing in SAN-Fabrics post Restore from 11.5. Shows up in Topology.
CSCvz79870	Edit of VRF Post-upgrade to 12.0 fails if the custom template has parameters issue
<u>CSCwa47291</u>	Evaluation of dcnm-server for Log4j RCE (Log4Shell) Vulnerability vulnerability  Note: For more information, refer to Vulnerability in Apache Log4j Library Affecting  Cisco Products: December 2021

# Open Issues

The following table lists the Open bugs for Cisco Nexus Dashboard Fabric Controller, Release 12.0.2f. Click the bug ID to access the Bug Search tool and see additional information about the caveat.

Bug ID	Description
CSCvx12393	CC handling for "vlan configuration <>" command
CSCvy36545	Overlay mode CLI: Preview config for multiple networks are clubbed based on parent command
CSCvz24846	[PMN-Soln] SE-Node , reboot one node and unable to open dcnm app
CSCvz39076	Extra space generated on network attachment post upgrade to NDFC 12
CSCvz59677	Diffs seen on save and deploy after BF import
CSCvz62500	Infra: SAN Insights feature is stopped, related pods are still running
CSCvz70009	DCNM Sanity: Pending Config After deletion of Port-channels in IOSXE and External Fabric
CSCvz70302	Enable Smart licensing is taking more time than expected in VND/PND Setup
CSCvz76890	CC call failed after recalculate config in external fabric
CSCwa20154	RBAC: Interface Rediscover throwing unauthorised error for RBAC user with network-operator role
CSCwa20158	RBAC: Interface Show Commands throwing unauthorised error for user with network-operator role
CSCwa21528	VRF attachments - Sorting not working on columns
CSCwa34762	Vcenter is not visible in topology page after Upgrade
CSCwa42433	NDFC12.0(2): Kubernetes cluster discovery failed after backup and restore
CSCwa43652	Network goes from pending to NA state if multiple attachments are pending and 1 is deployed
CSCwa48168	AUTO_VRF_LITE_FLAG value passed is empty on edit of IFC on upgraded 12.0.2 setup
CSCwa48178	Post multi-hop upgrade 11.2->12.0.2, meta switch name is empty
CSCwa48267	Traceback on edit of VRF-Lite IFC post upgrade to 12.0.2
CSCwa49987	Restored the backup file twice to complete the NDFC upgrade

# **Related Content**

### **Navigating the Cisco Nexus Dashboard Fabric Controller Documentation**

This document describes and provides links to the user documentation available for Cisco Nexus Dashboard Fabric Controller. To find a document online, use one of the links in this section.

Document Title	Description
Cisco Nexus Dashboard Fabric Controller Release Notes, Release 12.0.2f	Provides information about the Cisco Nexus Dashboard Fabric Controller software release, open caveats, and workaround information.
Cisco Nexus Dashboard Fabric Controller Compatibility Matrix, Release 12.0.2f	Lists the Cisco Nexus and the Cisco MDS platforms and their software releases that are compatible with Cisco Nexus Dashboard Fabric Controller.
Verified Scalability Guide for Cisco Nexus Dashboard Fabric Controller, Release 12.0.2f	Lists the supported scalability parameters for Cisco Nexus Dashboard Fabric Controller.
Cisco Nexus Dashboard Fabric Controller Configuration Guides	These configuration guides provide conceptual and procedural information on the Cisco Nexus Dashboard Fabric Controller Web GUI.
	Cisco Nexus Dashboard LAN Fabric Controller Configuration Guide.  Release 12.0.x
	<u>Cisco Nexus Dashboard SAN Fabric Controller Configuration Guide.</u> Release 12.0.x
Cisco Nexus Dashboard Fabric Controller Installation Guide, Release 12.0.2f	These documents guide you to plan your requirements and deployment of the Cisco Nexus Dashboard Fabric Controller.
Software Upgrade Matrix for Cisco Nexus Dashboard Fabric Controller 12.0.2f	Lists the software upgrade paths that are supported for Cisco Nexus Dashboard Fabric Controller.
Cisco Nexus Dashboard Fabric Controller Open Source Licensing, Release 12.0.2f	Provides information about the Cisco Nexus Dashboard Fabric Controller Open Source Licensing Information.
REST API Reference Guide for Cisco Nexus Dashboard Fabric Controller, Release 12.0.2f	Cisco NDFC provides REST APIs that allow third parties to test and develop application software. The REST API documentation is packaged with Cisco NDFC, and can be accessed through any browser.
	Cisco Nexus Dashboard LAN Fabric Controller API Reference     Guide, Release 12.0.2f
	Cisco Nexus Dashboard SAN Fabric Controller API Reference     Guide, Release 12.0.2f

# **Platform-Specific Documents**

The documentation set for platform-specific documents that Cisco Nexus Dashboard Fabric Controller manages includes the following:

**Cisco Nexus 2000 Series Fabric Extender Documentation** 

https://www.cisco.com/c/en/us/products/switches/nexus-2000-series-fabric-extenders/index.html

**Cisco Nexus 3000 Series Switch Documentation** 

https://www.cisco.com/c/en/us/support/switches/nexus-3000-series-switches/series.html

**Cisco Nexus 4000 Series Switch Documentation** 

https://www.cisco.com/c/en/us/support/switches/nexus-4000-series-switches/series.html

Cisco Nexus 5000 Series Switch Documentation

https://www.cisco.com/c/en/us/support/switches/nexus-5000-series-switches/series.html

**Cisco Nexus 6000 Series Switch Documentation** 

https://www.cisco.com/c/en/us/support/switches/nexus-6000-series-switches/series.html

**Cisco Nexus 7000 Series Switch Documentation** 

https://www.cisco.com/c/en/us/support/switches/nexus-7000-series-switches/series.html

**Cisco Nexus 9000 Series Switch Documentation** 

https://www.cisco.com/c/en/us/support/switches/nexus-9000-series-switches/series.html

#### **Nexus Dashboard and Services Documentation**

- Cisco Nexus Dashboard Release Notes, Release 2.1.2
- Cisco Nexus Dashboard Orchestrator Release Notes, Release 3.6(1)
- Cisco Nexus Dashboard Insights Release Notes, Release 6.0.2 for Cisco DCNM
- Cisco Nexus Dashboard Capacity Planning
- Cisco Nexus Dashboard and Services Compatibility Matrix

### **Documentation Feedback**

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