



## New Features and Enhancements

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## New Features and Enhancements

Cisco Data Center Network Manager (DCNM) includes the new features, enhancements, and hardware support that are described in the following section:

### New Features and Enhancements in Cisco DCNM, Release 11.0(1)

This section includes information about the new features, enhancements, and hardware support for Cisco DCNM, Release 11.0(1).

#### LAN Fabric

The Fabric Builder replaces the POAP menu for VXLAN Fabric deployments. This feature significantly reduces the labor necessary to configure and deploy new VXLAN Fabrics by automatically bootstrapping not provisioned switches with minimal input and automatically applying preconfigured best-practice policy templates that express the fabric intent. LAN Fabric incorporates Configuration Compliance so that the Underlay is constantly monitored to ensure the intent of the fabric is consistent.

For the greenfield deployments, there are two ways to add switches:

- Via Bootstrap which employs the newly introduced 2-phase POAP.
- Add switches, where the switches can be discovered and imported via their management IP.

In the case of the Add switches option, Cisco DCNM will cleanup all configuration from that switch on a best-effort basis, including all interface configurations. Cisco recommends Bootstrap as the preferred option for greenfield deployments. If you want to use the Add Switches option, then it is recommended that you have a switch with minimal configurations like hostname, mgmt0 configuration and so on.

The LAN Fabric provides a controller-centric top-down approach. The three easy steps to deploy the VXLAN BGP EVPN fabric are:

- Underlay (POAP + Bootstrap)
- Interfaces
- Overlay

The key features of LAN Fabric underlay are:

- Supports Multi-Site deployment
- Provides External Fabric connectivity provisioning
- Customizable template-based configuration
- Migration tools for Brownfield and upgrade environments

In addition, the Fabric Builder provides the following benefits:

- Create and edit fabrics using predefined templates.
- Default templates are prepacked along with DCNM 11.0(1).
- Customize templates in the Template Library.
- Management of fabrics separately for LAN Fabrics, NFM, External & Multi-Site Domains.
- Single place to manage all types of fabrics in Fabric Builder.
- Easy movement of fabrics and managing common network & VRF elements to apply across all interconnected fabrics.
- In-built support for migrating the Default\_LAN and LAN fabrics to LAN Fabrics and import the existing setup.

## Configuration Compliance

Configuration Validation is required in any Network Management Solution. Configurations need to be pushed down from the controller onto their devices. More importantly, configurations need to be in sync and in compliance with the intent expressed in the controller. Any deviation from the intended configuration has to be recognized, reported and remediated. In LAN Fabric mode, Configuration Compliance is supported for VXLAN EVPN. Configuration Compliance is embedded and integrated with the Fabric builder (underlay), Global Interfaces manager and Top-Down overlay provisioning GUI screens on Cisco DCNM.

## Compute Visualization

This feature allows you to visualize the vCenter-managed hosts and their leaf switch connections in the topology page. Cisco DCNM supports VMware vCenter Server for this feature. The visualization options include viewing only the attached physical hosts or only the VMs or all. The latter option displays the topology all the way from the leaf switches to the VMs including the virtual switches. The VM Search option highlights the VM's path. You can hover your mouse cursor over a host or the connected uplink that highlights key information relevant to that entity. Up to four centers are supported.

vCenter can be imported from the Virtual Machine Manager in the **Inventory** page (**Inventory > Discover > Virtual Machine Manager**).

## NFM Migration

In the earlier releases of Cisco DCNM, only NFM overlay migration was supported. Cisco DCNM Release 11.0(1) supports underlay migration as well. You need to migrate both underlay and overlay if you want to migrate from the NFM system to Cisco DCNM. See the Fabric Builder feature in LAN Fabric mode for the Compatible VXLAN Fabric Settings.

## Multi-Site Domain (MSD)

MSD is a logical construct or container that has member fabrics. Cisco DCNM Release 10.4(2) enabled you to connect multiple sites. In Cisco DCNM Release 11.0(1), you can provision networks or VRFs for the overlay at once, to all member sites. Remember that overlay networks (and VRFs) are common (that is, the same networks are being stretched across fabrics) but underlay configurations are specific (mostly interface and IGP configs, etc). So, MSD only refers about overlay, so you have to selectively explain.

## Single-click Return Material Authorization (RMA) Workflow

The RMA workflow enables you to replace a physical switch in a Fabric when using Cisco DCNM LAN Fabric.

## Device Manager for Storage Devices

Cisco DCNM 11.0.(1) enables you to launch the device manager from your web browser. The Device Manager can be launched from the switch dashboard or topology pages.



**Note** Due to the changes in the SNMP Max VarBinds size for Cisco MDS 9000 series switches that run NX-OS 8.3(1) and above, the Device Manager provides two new properties that allow you to configure the number of VarBinds in request PDU in the Device Manager Properties dialog box. The default values for the Device View Polling and Summary View Discovery fields are 30 and 15 respectively. You can configure these fields to smaller numbers if too many request SNMP errors occur.

## IVR Zoning

Since there are fundamental differences between regular zoning and IVR zoning, Cisco DCNM web interface provides a separate menu for IVR Zoning under the Configuration menu. IVR Zoning support is limited to switches that have IVR CFS, IVR NAT and AutoTopology enabled. If the IVR CFS is not enabled then Activation/Deactivation/Commit and Discard Pending changes will be blocked. If IVR NAT and AutoTopology are not enabled, nothing is blocked but the you will be warned that the features are not enabled.

## VSAN Wizard Support

Beginning with Cisco DCNM Release 11, you can configure and manage VSANs from the Cisco DCNM Web Client. From the menu bar, choose Configure > SAN > VSAN to view VSAN information. You can view or configure VSAN for the discovered fabrics, with either Manageable or Manage Continuously status. For the selected fabric, a VSAN Scope tree is displayed in the left panel.

You can achieve higher security and greater stability in Fibre Channel fabrics by using virtual SANs (VSANs) on Cisco Data Center Switches and Cisco MDS 9000 Family switches. VSANs provide isolation among devices that are physically connected to the same fabric. With VSANs you can create multiple logical SANs over a common physical infrastructure. Each VSAN can contain up to 239 switches and has an independent address space that allows identical Fibre Channel IDs(FC IDs) to be used simultaneously in different VSANs.

## SAN Port Channel Wizard

Port Channels refer to the aggregation of multiple physical interfaces into one logical interface to provide higher aggregated bandwidth, load balancing, and link redundancy. Port Channels can connect to interfaces across switching modules, so a failure of a switching module cannot bring down the Port Channel link.

Beginning with Cisco Data Center Network Manager 11.0(1), you can configure and edit Port Channels from the Web UI. Navigate to **Configure > SAN > Port Channel** to create or edit Port Channels. Click **Create New Port Channel** to launch the wizard to create new Port Channel. Click **Edit Existing Port Channel** to launch the wizard to edit an existing Port Channel.

## DCNM Server Health Mib Support on Server

In Cisco DCNM 11.0(1), an SNMP client or MIB Browser can send SNMP Get queries to DCNM server for OIDs in CISCO-NMS-APPL-HEALTH-MIB to get the health status of the DCNM server, such as its Database Server, Search Indexer, Performance Collector, and SMI-S Agent.

## Switch Feature License Install

Cisco DCNM 11.0(1) allows you to install switch feature license from the web interface.

## Application Hosting Framework

The Application Framework provides an ability for applications to be packaged as a software image. The software image can be uploaded to Cisco DCNM through its front-end GUI interface or pre-packaged along with a Cisco DCNM release.

The application package comprises of the following:

- Application specification.
- Application image.
- Application front-end package that should be hosted in Cisco DCNM.
- An icon depicting a logo of the application.

## Alarm Management

Currently DCNM gets and stores events which are based on traps, periodic polls, sys log etc. Using the alarm management feature, the events can be correlated to create user-defined alarms. You can add, edit, delete, activate, deactivate, import, export, the policies of device health, interface health, and syslog alarm. Cisco DCNM can generate/clear Alarms based on the policy. In this release, support is available only for the LAN devices.

## IP for Media (IPFM) Enhancements

In Cisco DCNM 11.0(1), the following enhancements have been made to the IP For Media (IPFM) enhancements.

- Flow visibility, Host/Flow Policy and Endpoint Monitoring via Nexus Telemetry.
- Enhanced Host and Flow Policy Management.
- Extension to NB API and AMQP notifications to support new capabilities.
- Multifold increase in scalability/performance numbers for the number of managed flows, endpoints and host/flow policies.
- Support batching in static API join/leave.
- Support for hybrid topology that allows connecting endpoints to Spine.

## Support for New Hardware

The following is a list of new Cisco Nexus 9000 hardware supported in Cisco DCNM Release 11.0(1).

Hardware Description	Part Number
Cisco Nexus 9336C-FX2, 1-RU, 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 100 Gigabit Ethernet Quad Small Form-Factor Pluggable 28 (QSFP28) line card	N9K-X9732C-FX
48-port 1 and 10GBASE-T plus 4-port 40/100 Gigabit Ethernet QSFP 28 line card	N9K-X9788TC-FX
Fabric Module for Nexus 9516 chassis 100G support (100G/flow), NX-OS and ACI Spine	N9K-C9516-FM-E2
Nexus 3548-XL Switch, 48 SFP+	N3K-C3548P-XL
LC,N77, FANGIO CB100, 30PT,40GE, zQFSP+	N77-F430CQ-36
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 Nexus 7700 Supervisor 3	N77-SUP3E
Cisco Nexus 7700 Fabric module 3	N77-C7706-FAB-3, N77-C7710-FAB-3
Fabric Module 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
Nexus 3264C-E switch with 64 QSFP28	N3K-C3264C-E
Nexus 34180YC programmable switch, 48 10/25G SFP and 6 40/100G QSFP28 ports	N3K-C34180YC
Cisco Nexus 3132Q Switch	N3K-C3132C-Z
Cisco Nexus 3132Q-V Switch	N3K-C3132Q-V
Whitebox Edge core devices	7312-54X-O-AC-B / 7712-32X-O-AC-B

