



Cisco® Data Center Network Manager (DCNM) 4.2 is an advanced management solution for Cisco Nexus™ OS platforms that includes the Cisco Nexus 7000 and 5000 Series Switches and Cisco Nexus 2000 Series Fabric Extenders. Cisco DCNM 4.2 consolidates many individual management tools (fault analysis, performance monitoring, configuration archiving, software image upgrading, etc.) into one single solution. Cisco DCNM 4.2 uploads inventory, configuration, fault, and performance data from all the Cisco Nexus network platforms with which it is configured, offering enhanced functions such as network virtualization management and a Simple Object Access Protocol (SOAP) and XML open API for third-party application integration.

Cisco DCNM 4.2 increases overall data center infrastructure uptime and reliability and provides a robust framework and rich feature set that fulfills the switching and storage administration needs of present and future data centers. In particular, Cisco DCNM 4.2 automates the provisioning process; proactively monitors the SAN and LAN, detecting performance degradation; secures the network; and streamlines the process of diagnosing dysfunctional network elements.

Product Highlights

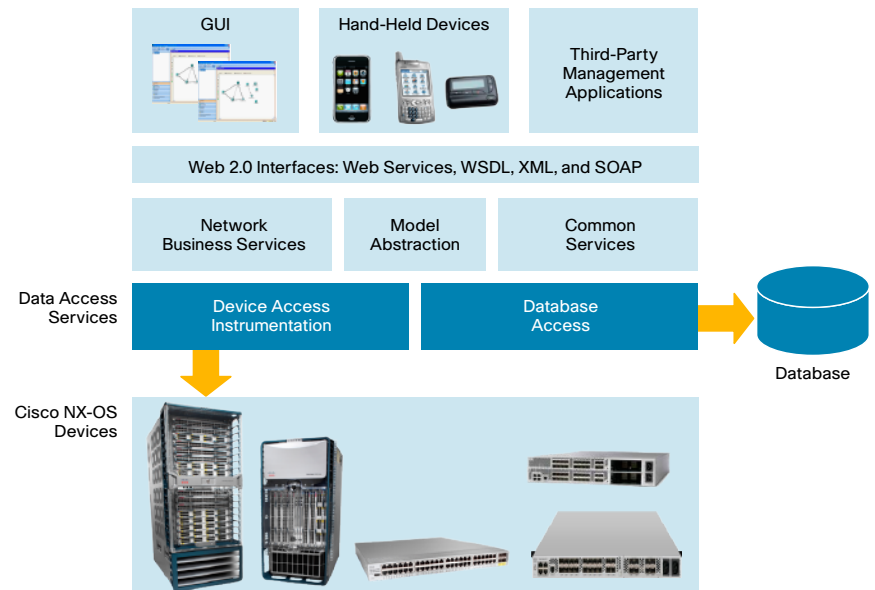
Cisco DCNM 4.2:

- Is a single integrated management solution for the entire Cisco Nexus product family running Cisco NX-OS Software: the Cisco Nexus 7000, 5000, and 2000 Series; Cisco Nexus 1000V Series Switches; and Cisco MDS 9000 Family portfolio
- Adds support for the Cisco MDS 9000 Family through integration with Cisco Fabric Manager; in Cisco DCNM 4.2, Cisco Fabric Manager and Cisco DCNM reside on the same host and share the same database
- Automates the provisioning of network features: for example, with Cisco DCNM, the user can manage two virtual PortChannel (vPC) peers as one device, but the challenge with vPC is to keep the configuration of the two peer devices synchronized at all times; Cisco DCNM 4.2 can prevent and detect configuration mismatch between the primary and secondary vPC peers and automatically resolve any conflicts
- Offers network virtualization management (VLAN, VSAN, virtual device context [VDC], and vPC) in a single solution
- Abstracts network feature configuration and monitoring complexities in a GUI

- Includes a full set of APIs, enabling easy integration with third-party applications
- Abstracts Cisco NX-OS hardware and version information, enabling automatic support of a heterogeneous environment of Cisco Nexus platforms and Cisco NX-OS versions
- Gains access to devices by building on the efficiencies of the native Network Configuration (Netconf) and XML API of Cisco NX-OS
- Supports both commercial third-party database software such as Oracle applications and open source software such as PostgreSQL

Features and Benefits

Figure 1. Cisco DCNM Architecture



Cisco DCNM offers the following features:

- **Virtualization management:** Cisco DCNM 4.2 is a complete management solution for the data center SAN and LAN infrastructure. It simplifies and automates operations across diverse data center traffic (LAN and storage) through a common network infrastructure.
- **Open API:** Cisco DCNM 4.2 provides a rich collection of APIs, including web services APIs for integration with the Cisco DCNM GUI client and web services APIs for third-party application integration.
- **Client-focused GUI:** The Cisco DCNM 4.2 GUI is designed with an intuitive look and feel, and the GUI displays all associated features and information on a single screen, enabling users to perform configuration without having to search for information about the network.
- **Fault analysis:** The Cisco DCNM server correlates and optimizes the collection of alarm data. Cisco DCNM 4.2 can report on the operational status of access ports, trunk ports, and ports configured in the switch host mode.
- **Configuration:** Cisco DCNM 4.2 presents both a topology and a device view of the network. Cisco DCNM can configure Layer 2 ports in both switch port host mode and trunk mode. Cisco DCNM 4.2 users can create a VLAN and PortChannels on a switch and assign access ports to the VLAN. Cisco DCNM 4.2 users can set up trunk links between the switches to carry the VLAN traffic across switches. Also, Cisco DCNM 4.2 users can modify and delete existing VLAN configurations. Cisco DCNM 4.2 enables users to configure Spanning Tree Protocol on all the switches in the network. Cisco DCNM 4.2 users can monitor Spanning Tree Protocol operation in a network: for example, VLANs and their corresponding Spanning Tree Protocol modes. Cisco DCNM 4.2 allows users to configure access control list (ACL) and authentication, authorization, and accounting (AAA) credentials.
- **Monitoring:** Cisco DCNM 4.2 can collect a wide range of performance statistics, and individual users can select the statistics of interest; for example, port traffic and error statistics can be displayed. Traffic statistics include port utilization, inbound unicast packets, outbound unicast packets, multicast packets, and broadcast packets. The returned performance statistics are stored in the database. Cisco DCNM 4.2 can also monitor and display the temperature at the inlet and outlet of every module present in a device.

For More Information

For more information on Cisco Data Center Network Manager please visit <http://www.cisco.com/go/dcnm>.