C H A P T E R **1**

Overview

This chapter provides a brief overview of Cisco Data Center Network Manager (DCNM).

Cisco DCNM is a management solution that maximizes overall data center infrastructure uptime and reliability, which improves business continuity. Focused on the management requirements of the data center network, Cisco DCNM provides a robust framework and rich feature set that fulfills the switching needs of present and future data centers. In particular, Cisco DCNM automates the provisioning process.

Cisco DCNM is a solution designed for Cisco NX-OS-enabled hardware platforms. Cisco NX-OS provides the foundation for the Cisco Nexus product family. For information about the specific Cisco Nexus products supported by Cisco DCNM, see the *Cisco DCNM Release Notes, Release 5.x.*

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Cisco DCNM Client and Server

Cisco DCNM is Java-based client-server application. For Java requirements, server system requirements, and client system requirements, see the *Cisco DCNM Release Notes, Release 5.x.*

Figure 1-1 shows the Cisco DCNM client-server environment. The Cisco DCNM client communicates with the Cisco DCNM server only, never directly with managed Cisco NX-OS devices. The Cisco DCNM server uses the XML management interface of Cisco NX-OS devices to manage and monitor them. The XML management interface is a programmatic method based on the NETCONF protocol that complements the command-line interface (CLI) functionality. For more information, see the *Cisco NX-OS XML Management Interface User Guide, Release 5.x.*

Figure 1-1 **Cisco DCNM Client-Server Environment**
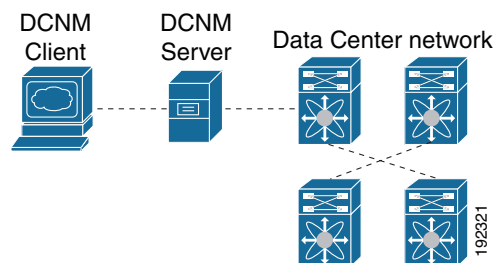
Features in Cisco DCNM, Release 5.0

Cisco DCNM Release 5.0 supports the configuration and monitoring of the following Cisco NX-OS features:

- Ethernet switching
  - Physical and virtual ports
  - Port channels and virtual port channels (vPCs)
  - Loopback and management interfaces
  - VLAN network interfaces (sometimes referred to as switched virtual interfaces or SVIs)
  - VLAN and private VLAN (PVLAN)
  - Spanning Tree Protocol, including Rapid Spanning Tree (RST) and Multi-Instance Spanning Tree Protocol (MST)
  - Fabric Extender
  - Link-state tracking
  - Serial Over LAN
  - Chassis Internal Network
  - Fibre-Channel-over-Ethernet Initiation Protocol (FIP) snooping
  - Port profiles
- Ethernet routing
  - Gateway Load Balancing Protocol (GLBP), object tracking, and keychain management
  - Hot Standby Router Protocol (HSRP)
- Network security
  - Access control lists
  - IEEE 802.1X
  - Authentication, authorization, and accounting (AAA)
  - Role-based access control
  - Dynamic Host Configuration Protocol (DHCP) snooping
  - Dynamic Address Resolution Protocol (ARP) inspection
  - IP Source Guard
  - Traffic storm control
  - Port security
- General
  - Virtual Device Context
  - Hardware resource utilization with Ternary Content Addressable Memory (TCAM) statistics
  - Switched Port Analyzer (SPAN)

Cisco DCNM includes the following features for assistance with management of your network:

- Topology viewer
- Network servers
- Device groups
- Event browser
- Configuration Delivery Management
- Configuration Change Management
- Device OS Management
- Hardware and virtual switch inventory

Cisco DCNM includes the following administrative features:

- Cisco DCNM server user accounts
- Device discovery
- Automatic synchronization with discovered devices
- Statistical data collection management
- Cisco DCNM server and client logging
- Cisco DCNM server cluster administration

Documentation About Cisco DCNM

The documentation for Cisco DCNM includes several configuration guides and other documents. For more information about the Cisco DCNM documentation, see the "Obtaining Documentation and Submitting a Service Request" section on page xix.

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