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# Cisco Nexus Fabric Manager

## Automated Fabric Management for Any Organization

Many IT organizations have achieved highly efficient data center fabric management by automating day-0, day-1, and day-2 management tasks. Automation is often achieved using internally developed tools, an IT approach that many enterprises can take because of advantages such as greater scale. Such automation is often out of reach for many other organizations. The complex management of numerous network protocols and devices within a fabric is a daunting—yet business-critical—challenge for many organizations.
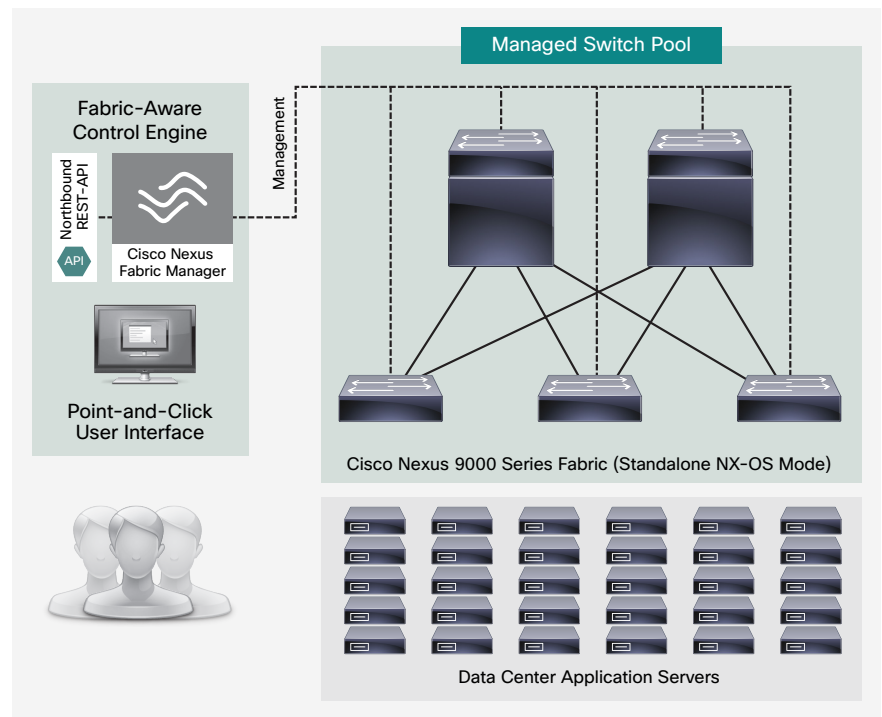
Cisco Nexus® Fabric Manager is designed to simplify fabric lifecycle management for users requiring an easier option than switch-by-switch, CLI-based approaches. The Nexus Fabric Manager delivers a point-and-click web interface in front of a fabric-aware lifecycle management engine that can build and manage fabrics based on simplified user requests.

The Nexus Fabric Manager is a virtual machine delivered in Open Virtualization Format (OVA). After installation, the Nexus Fabric Manager can be used to build and manage fabrics based on Cisco Nexus 9000 Series Switches in Cisco® NX-OS Software standalone mode.

**Figure 1.** Cisco Nexus Fabric Manager Architecture



## Benefits

- **Simplifies fabric management** via an efficient point-and-click user interface
- **Automates day-0, day-1, and day-2 fabric management** via a scalable fabric-aware engine enabling workflows for such tasks as:
  - Zero-touch switch provisioning
  - Fully discovered fabric topology
  - Automatic creation and management of VXLAN-based fabric
  - Creation and management of host-facing port channels and virtual port channels (vPCs)
  - Creation and management of fabric-wide VRFs
  - Creation and management of fabric-wide broadcast domains

- Automated snapshots and rollback of switch and fabric configurations

- Simplified group-based switch image management

- Simple workflow-based addition and replacement of switches within fabric

- **Manages fabric as a single entity** without the need for switch-by-switch command-line interface (CLI) actions

- **Presents user with a live actionable topology view** where users can complete simplified fabric management workflows without need to focus on network protocols

- **Fully creates and manages a Virtual Extensible LAN (VXLAN)–based topology** using standards based multiprotocol BGP (MP-BGP) with an Ethernet VPN (EVPN) control plane

- **Provides fabric wide configuration state backup and restore** using snapshot capabilities

- **Supports Cisco Nexus 9000 Series** including Nexus 9500, Nexus 9300, and Nexus 9200 switches

## Next Steps

For more information about the Cisco Nexus Fabric Manager solution, visit www.cisco.com/go/nexusfabricmanager.

To evaluate the Cisco Nexus Fabric Manager, contact your Cisco sales representative or Cisco authorized channel partner.

## Fabric-Aware Management System – Automatic Fabric Lifecycle Management

The Cisco Nexus Fabric Manager provides a simplified way to build and manage fabrics, all based on CLI-free user requests. The Nexus Fabric Manager performs the time-consuming tasks of creating, installing, and maintaining appropriate fabric-wide switch configurations. Because it is fabric aware, the Nexus Fabric Manager also understands how a fabric should operate and can autonomously maintain fabric health throughout its lifecycle as shown in Figure 2. Users can focus on delivering business applications and leave the complexities of data center fabric lifecycle management to the Nexus Fabric Manager.

Behind the scenes, the Nexus Fabric Manager autonomously implements and self-manages a Virtual Extensible LAN (VXLAN–based topology with an Ethernet VPN (EVPN) control plane. This technology choice provides a fabric that can meet both current and future fabric requirements while using a common network topology and open protocols.

Other fabric management solutions typically provide just the capability to schedule and push previously user-defined static CLI scripts to one or more devices to achieve the desired fabric operation. These management solutions have no understanding of fabric state or its proper topology or operation: a device is just a device. This common approach still requires users to have understanding of complex network protocols and their CLI syntaxes.

The Cisco Nexus Fabric Manager solution significantly differs from other solutions in that the core component of the solution, the management engine, is fabric aware: that is, it understands the topology, the roles of all switches, and the numerous protocols in use to deliver the required fabric functions. This awareness enables the Cisco Nexus Fabric Manager to build and manage the fabric on behalf of the user. This fabric awareness also enables such features as a fabric-wide configuration snapshot and rollback capability.

This fabric awareness also enables the fabric manager to proactively look for faults and offer point-and-click resolutions to the user and in many cases to autonomously perform the required action.

**Figure 2.** Intelligent Fabric Lifecycle Management



Fabric Management Lifecycle