



Cisco Monitor Manager Overview

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About Cisco Extensible Network Controller

Cisco Extensible Network Controller (XNC) is a software platform that serves as an interface between the network elements (southbound) and third-party applications (northbound). Cisco XNC, which is a JVM-based application that runs on a Java Virtual Machine (JVM), is based on a highly available, scalable, and extensible architecture. Cisco XNC is built for extensibility using the Open Services Gateway initiative (OSGi) framework.

Cisco XNC can support multiple protocol plugins in the southbound direction. In Release 1.6, Cisco Plug-in for OpenFlow 1.0 and the Cisco One Platform Kit (onePK) are supported.

Cisco XNC provides the following:

- Multiprotocol capability with the Cisco Plug-in for OpenFlow.
- Functionality to support network visibility and programmability, such as network topology discovery, network device management, forwarding rules programming, and access to detailed network statistics.
- A Service Abstraction Layer (SAL) that enables modular southbound interface support, such as OpenFlow.
- Consistent management access through the GUI or through Java or Representational State Transfer (REST) northbound APIs.
- Security features, such as role-based access control (RBAC), and integration with an external Active Directory using RADIUS or TACACS for authentication, authorization, and accounting (AAA) functions.
- Troubleshooting tools, such as analytics gathering and diagnostic packet injection.

- Cisco advanced features such as Topology Independent Forwarding (TIF), which enables the administrator to customize the path a data flow takes through the network.
- Cisco network applications such as Network Slicing that allows logical partitioning of the network using flow specification, and Cisco Monitor Manager, which provides visibility into the network traffic.
- High-availability clustering to provide scalability and high availability.
- The Cisco Open Network Environment Platform Kit (Cisco onePK) version 1.1.0 is supported in Release 1.6 of Cisco XNC. The Cisco onePK plug-in communicates with the onePK agent.
- Support for onePK devices in the network and the ability to install TIF rules on onePK devices.
- A command line interface (CLI) framework for Cisco XNC.
- The Virtual Patch Panel Application (Port-to-Port Forwarding application) provides port-to-port traffic management within a switch or across the network without any need for physical connection changes or rewiring.
- Access to the Cisco XNC northbound API content from the application menu bar that enables you to view the API definitions and related calls.

About Cisco Monitor Manager

Cisco Monitor Manager is a network application that runs on Cisco Extensible Network Controller (XNC). Cisco Monitor Manager, in combination with the Cisco Plug-in for OpenFlow and Cisco Nexus 3000 or 3100 Series switches, enables you to create a scalable and flexible replacement for matrix switches, which traditionally connect network monitoring devices to points within the network where monitoring is desired.

Cisco Monitor Manager provides management support for multiple disjointed Cisco Monitor Manager networks. You can manage multiple Cisco Monitor Manager topologies that may be disjointed using the same Cisco XNC instance. For example, if you have 5 data centers and want to deploy an independent Cisco Monitor Manager solution for each data center, you can manage all 5 independent deployments using a single Cisco XNC instance by creating a logical partition (network slice) for each monitoring network.

With the Cisco Monitor Manager solution, you can do the following:

- Classify Switched Port Analyzer (SPAN) and Test Access Point (TAP) ports.
- Filter which traffic should be monitored.
- Redirect packets from a single or multiple SPAN or TAP ports to multiple monitoring devices through delivery ports.
- Restrict which users can view and modify the monitoring system.
- Connect to Cisco onePK agents for which Cisco onePK devices have been configured in Cisco XNC.
- Set VLAN is supported on Cisco Nexus 3000 and 3100 Series switches.
- Configure symmetric load balancing or QinQ, depending on whether the network device is a Cisco Nexus 3000 or 3100 Series switch:
 - Symmetric Load Balancing is supported on Cisco Nexus 3100 Series switches.
 - QinQ is supported on Cisco Nexus 3000 and 3100 Series switches.

Configuring User Roles for Edge Ports

To manage which edge ports a Cisco Monitor Manager application user can use for creating rules for edge ports, you must modify the App-User role settings in the `config.ini` file to enable role-based access control (RBAC) for application users. After you make your changes and restart Cisco Extensible Network Controller (XNC), note these restrictions:

- Cisco Monitor Manager App-User role users will be able to create rules only for source ports which are part of the resource group or groups assigned to that role .
- Only Cisco Monitor Manager App-Admin role users will be able create rules with no source.

To enable RBAC for the App-User role, follow these steps:

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- Step 1** Open the `config.ini` file for editing.
- Step 2** Locate the line `# Enforce restriction on edge/tap ports user can capture (default false)`.
- Step 3** Remove the comment character from the following line:
`monitor.strictAuthorization=true`
- Step 4** Save your work and close the file.
- Step 5** If Cisco Extensible Network Controller (XNC) is running, restart the application to enable the change.
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Logging in to the Cisco Monitor Manager GUI

You must log into the Cisco Monitor Manager using HTTPS. The default HTTPS web link for the Cisco Monitor Manager GUI is `https://Controller_IP:8443/monitor`.



Note Before you can use HTTPS, you must manually specify the `https://` protocol in your web browser. The controller must also be configured for HTTPS.

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- Step 1** In your web browser, enter the Cisco Monitor Manager web link.
- Step 2** On the launch page, do the following:
- a) Enter your username and password.
The default username and password is `admin/admin`.
 - b) Click **Log In**.
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Cisco Monitor Manager GUI Overview

The Cisco Monitor Manager GUI contains the following areas and panes:

- A menu bar across the top of the window that provides access to the main categories of information in Cisco Monitor Manager.
- A topology map on the right that displays a visual representation of your network.
- Several panes with additional views and information about the selected category.

The menu bar contains the following items:

- The **Online help** button—Provides access to the online help for the current page.
- A **Save** button—Enables you to save any additions or changes you make in the Cisco Monitor Manager application.
- A **Northbound API** button—Enables you to view northbound API content in a new browser tab, and displays the content and calls.
- The administrative management (**Admin**) drop-down list—Provides access to different administrative tasks, such as managing roles and resource groups.



Note The **Admin** drop-down list—Displays the username that you used when you logged into Cisco Monitor Manager.

Topology Tools

The left side of the topology pane contains a group of tools that allow you to manipulate the content of the topology pane. Hovering over a tool displays its function. From the top of the pane to the bottom, the tools are as follows:

- Move mode—Moves the entire topology diagram, a single topology element, or a node group. To move an element or a node group, click it and drag it.
- Zoom in—Increases the size of the topology diagram.



Note You can also increase the size of the topology diagram by scrolling up with your mouse wheel.

- Zoom out—Decreases the size of the topology diagram.



Note You can also decrease the size of the topology diagram by scrolling down with your mouse wheel.

- Zoom by selection—Zooms in on a specific topology element. To zoom by selection, click the tool, then click and drag your mouse across the element that you want to zoom in on. The zoom element display resets after a few seconds.
- Fit stage—Resets the topology diagram in the topology pane.
- Topology Settings—Choose the preferred **Display Icons as dots** setting. Click the radio button for the preference that you desire.
- Tool tips—Display information about each tool, or about nodes in the topology. To display tool tip information, hover over a tool or over a node in the diagram.

Pane Resizing

You can resize the panes in the GUI display by clicking the pane resize grippers as follows:

- To increase or decrease the height of either of the left or right bottom pane, click the pane resize grippers at the top of the pane, and then drag up or down with your mouse.
- To collapse either the lower right or lower left pane, hover over the pane resize grippers at the top of the pane until a double-ended arrow is displayed, and then click your mouse once.
- To restore a collapsed pane, hover over the pane resize grippers at the bottom of the pane until a double-ended arrow is displayed, and then click your mouse once.
- To increase or decrease the width of the two left panes at the same time, click the pane resize grippers at the top of the pane, and then drag left or right with your mouse.

Saving Configuration Changes

You should periodically save the configuration changes that you make in Cisco Monitor Manager.

**Note**

Any unsaved configuration changes in Cisco Monitor Manager will be lost if you stop the Cisco Extensible Network Controller (XNC) application.

On the menu bar, click **Save**.
