# About Switch Overview for LAN Operational Mode Setups, Release 12.1.3

# Table of Contents

# New and Changed Information

The following table provides an overview of the significant changes up to this current release. The table does not provide an exhaustive list of all changes or of the new features up to this release.

| Release Version | Feature | Description |
|---|---|---|
| NDFC release 12.1.3 | Initial release of this document | Content within this document was originally provided in the Cisco NDFC-Fabric Controller Configuration Guide or the Cisco NDFC-SAN Controller Configuration Guide. Beginning with release 12.1.3, this content is now provided solely in this document and is no longer provided in those documents. |

# Switch Overview

You can perform below operations, from **Actions** icon on Switch Overview window:

- **Preview** (see "Previewing Switches" in Add Switches for LAN Operational Mode)
- **Deploy** (see "Deploy Configuration" in Add Switches for LAN Operational Mode)
- **Discovery** (see "Discovery" in Add Switches for LAN Operational Mode)
- **Set Roles** (see "Assigning Switch Roles" in Add Switches for LAN Operational Mode)
- **vPC Pairing** (see "Creating a vPC Setup" in Add Switches for LAN Operational Mode)
- **More** (see "Performing Actions on Switches" in Add Switches for LAN Operational Mode)

# Viewing Switch Overview

You can view information about switch along with the switch summary on **Switch Overview** tab. Navigate **LAN > Switches**, click on required switch. A slide-in pane appears. Click **Launch** icon to view the **Switch Overview** window.

You can search required details in **Filter by attributes** for multiple queries. For an example with Switch Names and Switch IP show in table

| Switch | IP Address |
|--------|------------|
| leaf1 | 10.10.10.1 |
| leaf2 | 10.10.10.2 |
| spine1 | 10.10.11.1 |
| spine2 | 10.10.11.2 |

When you search for Query String: **Switch Name == leaf1 Switch Name == leaf2**, It displays leaf1 and leaf2 switch name and IP.

When you search for Query String: **Switch Name != leaf1 Switch Name != leaf2**, It displays all switch names and its details.

| Field | Description |
|-------|-------------|
| Switch Info | Specifies the switch information such as switch name, IP address, switch model and other details. |
| Alarms | Specifies the alarms configured on the selected switch. |
| Performance | Specifies the CPU utilization and memory utilization for the switch. |
| Interfaces | Specifies the interface details. |
| Modules/FEX | Specifies the modules and FEX information. |
| Reports | Specifies the reports. |

# Hardware

This tab contains below sections:

## Modules

To view the inventory information for modules from the Cisco Nexus Dashboard Fabric Controller Web UI, perform the following steps:

1. Choose **LAN > Switch > Switch Overview > Hardware > Modules**.

   The **Modules** tab is displayed with a list of all the switches and its details for a selected Scope.

   You can view required information in table, enter details in **Filter by Attributes**.

2. You can view the following information.
   - **Name** displays the module name.
   - **Model** displays the model name.
   - **Serial Number** column displays the serial number.
   - **Type** column displays the type of the module.
   - **Oper. Status** column displays the operation status of the module.
   - **Slot** column displays the slot number.
   - **HW Revision** column displays the hardware version of the module.
   - **Software Revision** column displays the software version of the module.
   - **Asset ID** column displays the asset id of the module.

## Viewing Bootflash

You can view the following information on the **Bootflash** tab.

- **Primary Bootflash Summary** card displays the total, used and available space.
- **Secondary Bootflash Summary** card displays the total, used and available space.
- **Directory Listing** area displays check box for **Primary Bootflash** and **Secondary Bootflash**.

  This area shows the filename, size, and last modified date for all the files and directories on the switch bootflash. Choose **Actions > Delete** to delete files to increase the available space on the switch.

When you delete files, the file details in this page are updated every 24 hours or when you perform upload or recalculate compliance operations in **Image Management**.

# Links

You can add links between border switches of different fabrics (inter-fabric links) or between switches in the same fabric (intra-fabric links). You can only create an inter-fabric connection (IFC) for a switch that is managed by Nexus Dashboard Fabric Controller.

There are scenarios where you might want to define links between switches before connecting them physically. The links could be inter-fabric or intra-fabric links. Doing so, you can express and represent your intent to add links. The links with intent are displayed in a different color till they are actually converted to functional links. Once you physically connect the links, they are displayed as connected.

Management links might show up in the fabric topology as red colored links. To remove such links, right-click the link and click **Delete Link**.

The Border Spine and Border Gateway Spine roles are added to switch roles for border switches.

You can create links between existing and pre-provisioned devices as well by selecting the pre-provisioned device as the destination device.

Starting from Cisco NDFC Release 12.1.2e, parameters MTU, SPEED, Source Interface Description, Destination Interface Description, Source Interface Freeform Config, and Destination Interface Freeform Config are added to the existing **int_pre_provision_intra_fabric_link** template. These parameters are preserved on subsequent **Recalculate & Deploy** after the device has completed bootstrap and POAP.

The following table describes the fields that appear on **Links** tab.

| Field | Description |
|---|---|
| Fabric Name | Specifies the name of the Fabric. |
| Name | Specifies the name of the link. The list of previously created links is displayed. The list contains intra-fabric links, which are between switches within a fabric, and inter-fabric links, which are between border switches in this fabric and switches in other fabrics. |
| Policy | Specifies the link policy. |
| Info | Provides more information about the link. |
| Admin State | Displays the administrative state of the link. |
| Oper State | Displays the operational state of the link. |

The following table describes the action items, in the Actions menu drop-down list, that appear on **Fabric Overview > Links > Links**.

| Action Item | Description |
|---|---|
| Create | Allows you to create the following links:<br><br>• "Creating Inter-Fabric Links" in About Fabric Overview for LAN Operational Mode Setups<br><br>• "Creating Intra-Fabric Links" in About Fabric Overview for LAN Operational Mode Setups |
| Edit | Allows you to edit the selected fabric. |
| Delete | Allows you to delete the selected fabric. |
| Import | You can import a CSV file containing details of links to add new links to the fabric. The CSV file should have the following details of the links: link template, source fabric, destination fabric, source device, destination device, source switch name, destination switch name, source interface, destination interface, and nvPairs.<br><br>ⓘ • You cannot update existing links.<br><br>• The Import Links icon is disabled for an external fabric.<br><br>• When applying a configuration using a CSV file, you should specify the parameters with your columns and entries exactly as seen from an existing interface of the same type without shortening the syntax or removing extraneous characters. Failure to do so may result in errors or issues with the configuration being applied on the NDFC GUI. |
| Export | Choose the link and select **Export** to export the links in a CSV file. The following details of links are exported: link template, source fabric, destination fabric, source device, destination device, source switch name, destination switch name, source interface, destination interface, and nvPairs. The nvPairs field consists JSON object. |

# Protocol View

This tab displays the protocols for the links in the selected Fabric.

The following table describes the fields that appear on **Protocol View** tab.

| Field | Description |
|---|---|
| Fabric Name | Specifies the name of the fabric. |
| Name | Specifies the name of the link. |
| Is Present | Specifies if the link is present. |
| Link Type | Specifies the type of link. |
| Link State | Specifies the state of link. |

| Field | Description |
|---|---|
| UpTime | Specifies the time duration from when the link was up. |

# PTP (Monitoring)

ℹ️ From Release 12.1.1e, you can enable PTP feature from Feature Management for IPFM and Classic LAN Fabrics.

**UI Navigation**

- Choose **LAN > Switches**. Click on a switch to open the **Switch** slide-in pane. Click the **Launch** icon. Choose **Switch Overview > PTP**.

- Choose **LAN > Fabrics**. Double-click on a fabric to open **Fabric Overview > Switches**. Double-click a switch to open **Switch Overview > PTP**.

- Choose **LAN > Fabrics**. Click on a fabric to open the **Fabric Summary** slide-in pane. Click the **Launch** icon. Choose **Fabric Overview > Switches**. Click on a switch to open the **Switch** slide-in pane and then click the **Launch** icon. Alternatively, you can double-click a switch to open **Switch Overview**. Choose **Switch Overview > PTP**.

This section explains the preview functionality of the Precision Time Protocol (PTP) monitoring. PTP is a time synchronization protocol for nodes that are distributed across a network. On a local area network, it achieves clock accuracy in the sub-nanosecond range, making it suitable for measurement and control systems.

On the **PTP** tab in the **Switch Overview** window, you can view PTP-related information based on the selected switch. You can click the **Telemetry Switch Sync Status** link to check whether the switches are in sync. The **Sync Status** column displays the status of the switches.

The following tabs are displayed in this window:

- Port Status
- Correction & Mean Path Delay
- Clock Status

# Port Status

The **Port Status** table displays the status of the ports in two different views. Click on the arrow at the top-right corner to view/minimize different views.

Topology view displays the network diagram of the selected port. Hover the pointer over the switch icon to view information about role, ports and number of PTP ports. The following information is displayed:

- switch name
- type of port
  - specifies if it's a follower or leader port
  - if it's a follower port, displays the Leader and Grand Leader ports
- interface connecting to the leader
- number of PTP ports

Tabular view displays all the interfaces on the switch, peer link, and admin, operational and port status for the selected switch.

Click on the Filter by attributes field and choose the required attribute and enter a criteria to filter the port status and press **ENTER**.

# Correction and Mean Path Delay

The **Correction & Mean Path Delay** tab displays a graph showing the PTP operational statistics: mean path delay, correction, and correction beyond threshold. You can click and drag in the plot area to zoom in and hold the **shift** key to pan. Click the **Reset zoom** button to reset zoom.

By default, the graph is displayed for the threshold value of 500 nanoseconds (ns). You can also display data based on a specific threshold value. In the **Threshold (ns)** field, enter the required value in nanoseconds and click **Apply**. Note that the threshold value is persistent in the Nexus Dashboard Fabric Controller settings, and it is used to generate PTP correction threshold Kafka notifications.

In the **Date** field, you can select the appropriate date to view the data. The PTP data is stored up to the last seven (7) days. The default value for the stored data is 7 days. To change this value, navigate to **Settings > Server Settings > IPFM** and set the updated value for the **IPFM history retention in days** field.

In the **Period** field, you can also select a timeframe over which the data has to be displayed. The values you can choose in the **Period** field are Hour (1 hour), 6 hours, 12 hours, or Day (24 hours).

Note that you can click the legends in the graph to hide or display statistics.

If there are any corrections, you can view them in a tabular format by clicking the **Corrections Beyond Threshold** link.

To perform a refresh, click the **Refresh** icon.

# Clock Status and Port Status

The **Clock Status** tab displays information about the Leader Clock and the Grand Leader Clock.

The **Port Status** table displays the status of the ports. Click on the **Filter by attributes** field and choose the required attribute, and enter a criteria to filter the port status and press ENTER.

# Interfaces

For information about interfaces and details about how to add interfaces, see Add Interfaces for LAN Operational Mode.

> ℹ️ Any interface with a **Subinterface ID** greater than 510 will not appear in the list of interfaces in the **Interfaces** tab because interfaces are sorted on this page using ifIndex.

# Policies

For information about Policies and details about how to add policies, See "Policies" section in About Fabric Overview for LAN Operational Mode Setups.

# Event Analytics

For more information about Event Analytics, see Event Analytics.

# History

The history tab displays information about the deployment and policy change history. Choose **LAN > Fabrics**. Double-click a fabric name to open the **Fabric Overview** window and then click the **History** tab.

# Resources

Resources Cisco Nexus Dashboard Fabric Controller allows you to manage the resources. The following table describes the fields that appear on this page.

| Field | Description |
|---|---|
| Scope Type | Specifies the scope level at which the resources are managed. The scope types can be **Fabric**, **Device**, **Device Interface**, **Device Pair**, and **Link**. |
| Scope | Specifies the resource usage scope. Valid values are the switch serial numbers or fabric names. Resources with serial numbers are unique and can be used on the serial number of the switch only. |
| Device Name | Specifies the name of the device. |
| Device IP | Specifies the IP address of the device. |
| Allocated Resource | Specifies if the resources are managed with device, device interface, or fabric. Valid values are ID type, subnet, or IP addresses. |
| Allocated To | Specifies the entity name for which the resource is allocated. |
| Resource Type | Specifies the resource type. The valid values are **TOP_DOWN_VRF_LAN**, **TOP_DOWN_NETWORK_VLAN**, **LOOPBACK_ID**, **VPC_ID**, and so on. |
| Is Allocated? | Specifies if the resource is allocated or not. The value is set to **True** if the resource is permanently allocated to the given entity. The value is set to **False** if the resource is reserved for an entity and not permanently allocated. |
| Allocated On | Specifies the date and time of the resource allocation. |
| ID | Specifies the ID. |

# L4-L7 Services Configuration

Cisco Nexus Dashboard Fabric Controller introduces the ability to insert Layer 4-Layer 7 (L4-L7) service devices in a data center fabric, and also enables selectively redirecting traffic to these L4-L7 service devices. You can add a L4-L7 service node, create route peering between the L4-L7 service node and the L4-L7 service leaf switch, and then selectively redirect traffic to these L4-L7 service nodes.

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