About Switch Overview for SAN Operational Mode Setups, Release 12.2.2

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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
There were no major changes from the previous release.		

Switch Overview

1. Navigate to **Manage > Inventory > Switches**.

2. Click on the required switch.

   A slide-in pane appears containing the summary information for the chosen switch.

3. Click the **Launch** icon in the top right-hand corner of the switch summary slide-in pane.

   The **Switch Overview > Summary** tab appears.

   The submenus are described in the following sections.

Viewing Switch Summary

1. Navigate to **Manage > Inventory > Switches**.

2. Double-click on the required switch.

   A slide-in pane appears containing the summary information for the chosen switch.

3. Click the **Launch** icon in the top right-hand corner of the switch summary slide-in pane.

   The **Switch Overview > Summary** tab appears.

   The following are the default areas that appear on the **Switch Overview > Summary** tab:

Area	Description
Switch Information	Displays the details of the switch such as the name, health status, IP address, fabric, model, including version information, and other switch details.
Event Analytics	Displays events with a **Critical**, a **Major**, a **Minor**, or a **Warning** severity. In this area, click an event to navigate to the **Switch Overview > Event Analytics** tab to view the alarms for the event.
Resources	Displays the resource utilization of the switch in graphical form.
Modules	Displays the switches on which the modules are discovered, the status of the modules, and the module count.
Interfaces	Displays the operational and administrative status of the switches.
Port Usage	Displays the available and in-use port summary information.

Modules

To view the inventory information for modules from the SAN Controller Web UI, perform the following steps:

1. Choose **Manage > Inventory > Switches > Switch Overview > Modules**. Similarly you can view modules from fabric overview window, **Manage > Fabrics > Fabric Overview > 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 Interface

1. Navigate to the **Manage > Inventory** page.

   The **Switch Overview > Summary** dashboard displays by default.

2. Click on the **Interfaces** tab.

   You can also view the same information from the **Fabric Overview > Interfaces** tab by double-clicking on a fabric name.

   The **Fabric Overview > Summary** dashboard displays by default.

3. Click on the **Interfaces** tab.

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

Field	Description
Interface Name	Specifies the interface name.
Admin. Status	Specifies the administrative status of the interface.
Oper. Status	Specifies the operational status of the interface.
Reason	Specifies the reason for the failure.
Admin Speed	Specifies the speed of the interface in Gbs.
Oper Speed	Specifies the operational speed of the interface.
Mode	Specifies the mode of the interface.
VSAN	Specifies the name of the connected VSAN.
Connected To	Specifies the connection details.
Connected To Type	Specifies the type of connection.
Description	Specifies the details about the interface.
Owner	Specifies the port-owner name.
Port Group	Specifies the port group number for the connected interface.

Perform a No Shutdown of an Interface

1. Check the check box for the required interface and choose **No Shutdown** from the **Actions** drop-down list.

   A confirmation dialog box appears.

2. Click **Confirm**.

Shut Down an Interface

1. Check the check box for the required interface and choose **Shutdown** from the **Actions** drop-down list.

A confirmation dialog box appears.

2. Click **Confirm**.

Assign a Port Owner for an Interface

1. Check the check box for the required interface and choose **Owner** from the **Actions** drop-down list.

2. Enter a required name in the **Set Port Owner** dialog box.

3. Click **Apply**.

Add a Description for an Interface

1. Check the check box for the required interface and choose **Description** from the **Actions** drop-down list.

> ℹ️ You can add a description for multiple interfaces simultaneously.

2. Enter a description in the **Set Port Description** dialog box.

3. Click **Apply**.

Set Up Diagnostics for an Interface

1. Check the check box for the required interface.

2. Choose **Link Diagnostics** from the **Actions** drop-down list.

Edit Port VSAN Membership

1. Check the check box for the required interface.

2. Choose **Edit Port VSAN Membership** from the **Actions** drop-down list.

   The **Edit Port Vsan Membership** dialog box appears.

   You can select multiple interfaces for editing VSAN port membership if required.

   The following table describes the fields that appear on the **Edit Port Vsan Membership** dialog box.

Field	Description
Switch	Specifies the name of the switch the interface belongs to.
Interface	Specifies the name of the interface.
Status	Specifies the administration status of the interface.
VSAN	Specifies the number of the connected VSAN.
Admin Mode	Specifies the administrative mode.
Oper Mode	Specifies the operational mode.

3. Choose the new port number for the VSAN.

4. Click **Apply**.

   You should receive a success message.

5. Choose the same interface and verify that the new port number is assigned to the VSAN.

Edit VSAN Membership with Port Trunking

1. Check the check box for the required interface and choose **Edit Port VSAN Membership** from the **Actions** drop-down list.

   The **Edit Port Trunking Mode and Vsan Allowed List** dialog box appears.

   You can select multiple interfaces for editing VSAN membership with port trunking if required.

2. Choose the **Trunk** option for **New Admin Trunk Mode**.

   The following table describes the fields that appear on the **Edit Port Trunking Mode and Vsan Allowed List** dialog box.

Field	Description
Switch	Specifies the name of the switch the interface belongs to.
Interface	Specifies the name of the interface.
Status	Specifies the status of the interface.
Oper Mode	Specifies the trunk option.
oper Trunk	Specifies the operational trunk mode.
admin Trunk	Specifies the administrative trunk mode.
Up VSAN List	Specifies the list of VSANS that are in **Up** status.
Allowed Vsan List	Specifies the comma-separated or dash-separated list of allowed VSANs.

3. Click **Apply**.

   You should receive a success message.

4. Choose the same interface and verify that the **Allowed VSAN List** is updated with the allowed VSANs.

Clear FICON RNID Old Value

1. Filter for the value of **old** in the **Connected To** column.

2. Check the check box for the switch or switches that display **old** in the **Connected To** column.

3. Choose **Clear FICON RNID Old Value** from the **Actions** drop-down list.

4. Click **OK** in the confirmation dialog box.

   NDFC displays a success message indicating that the FICON (fiber connectivity) Request Node

Identifier (RNID) status changed from **old** to **invalid**. The switch clears out the old RNID information, and NDFC fetches the updated RNID information in the next discovery cycle.

5. Refresh the page to verify that the **Connected To** column no longer displays the value of **old**.

Viewing Switch Licenses

LicensesYou can view the following information on Licenses tab.

- **Feature** column displays the feature names of the selected switch.
- **Status** column displays the status of licenses. Status will be either **In Use** or **Unused**.
- **Type** column displays the type of the licenses.
- **Warnings** column displays the grace period of licenses and its expiry date.

You can use **Filter by attribute** to view required information.

Click **Refresh** icon to refresh the table.

Event Analytics

Event Analytics includes the following topics:

- **Alarms** (see " Alarms" in Event Analytics)
- **Events** (see " Events" in Event Analytics)
- **Accounting** (see " Accounting" in Event Analytics)

Viewing Backup

You can view the following information on the **Backup** tab:

Field	Description
Switch	Displays the switch name.
Backup Date	Displays the backup date.
Backup Tag	Displays the backup tag name.
Backup Type	Displays the type of backup.
Configuration File	Displays the configuration files that are archived for that device.

You can use **Filter by attribute** to view required information.

Click the **Refresh** icon to refresh the table.

The following table describes the actions you can perform in this tab:

Action	Description
Copy to bootflash	See Copy to Bootflash for more information.
Compare	See Compare Configuration Files for more information.
Export	See Export Configuration for more information.
Edit tag	Used to edit a tag of a switch. Click the check box for a required switch, then click **Actions > Edit tag** and click **OK**.
Mark as golden	Used to mark a backup as a golden backup. Click the check box for a specific backup, then click **Actions > Mark as golden**. Click **Confirm** in the confirmation window. Refer to Backing Up and Restoring SAN Operational Mode Setups for more information about golden backups.
Remove as golden	Used to remove the golden backup designation on a backup. Click the check box for a required switch, then click **Actions > Remove as golden**. Click **Confirm** in the confirmation window.
Delete	Used to delete a switch from a backup. Click the check box for a required switch, then click **Actions > Delete**. Click **Confirm** in the confirmation window.

Copy to Bootflash

To copy a backup to bootflash:

1. From the SAN Controller home page, click **SAN > Switch > Switch Overview > Backup**.
2. Click the checkbox next to the backup that you want to copy to bootflash.
3. Click **Actions> Copy to bootflash**.

After several moments, a **Success** window appears.

4. Click **Ok**.

Compare Configuration Files

This feature allows you to compare two different configuration files.

To compare configuration files:

1. From the SAN Controller home page, click **SAN > Switch > Switch Overview > Backup**.

2. Click the check boxes next to two different configuration files to select those files to compare.

   The first file that you select is designated as the Source file and the second configuration file is designated as the Target file.

3. Click **Actions > Compare**.

   The **View Config Diff** page appears, displaying the difference between the two configuration files.

   The content in the Source and Target configuration files is displayed in two columns. From the drop-down list in the right-top corner, choose **All** to view the entire configuration. You can also choose **Changed** to view the configuration differences of the configuration files.

   The differences in the configuration file are shown in the table, with these legends:

   - **Red**: Diff configuration details.
   - **Green**: New added configuration.
   - **Blue**: Modified configuration details.

4. Click **Copy to Target** to copy the source configuration to the target configuration file, or click **Cancel** to revert to the configuration details page.

   The **Copy Configuration** window displays the source configuration preview and the target device of the destination configuration. The selected devices area shows the following fields:

   - **Device Name**: Specifies the target device name to which the source configuration is copied.
   - **IP Address**: Specifies the IP Address of the destination device.
   - **Group**: Specifies the group to which the device belongs.
   - **Golden Config**: Specifies the version of the destination configuration.
   - **Status**: Specifies the status of the device.

5. Click **Yes** to copy the configuration to the destination device configuration.

Export Configuration

You can export a configuration file from the SAN Controller server. Perform the following task to export a configuration file.

1. From SAN Controller home page, choose **Configure > Backup**, select a configuration to export.

2. Click **Export**.

   The files are downloaded in your local system. You can use the third-party file transfer tools to transfer these files to an external server.

Viewing of Port Usage

You can view the following information on Port Usage tab.

- **Port Speed** column displays the speed of the port.
- **Used Ports** column displays the total ports with the mentioned port speed.
- **Available Ports** column displays the available ports for the port speed.
- **Total Ports** column displays the total ports with the mentioned speed.
- **Estimated Day Left** column displays the estimated days left for the ports.

You can use **Filter by attribute** to view required information.

Click **Refresh** icon to refresh the table.

Used ports displays the total used ports for the selected switch. **Total ports** displays the total available ports for the selected switch.

Viewing Bootflash

1. Navigate to **Manage > Inventory > Switches**.

2. Double-click on the required switch.

   A slide-in pane appears containing the summary information for the chosen switch.

3. Click the **Launch** icon in the top right-hand corner of the **Switch** summary slide-in pane.

   The **Switch Overview > Summary** tab appears.

4. Click on the **Bootflash** tab to view the following areas:

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

   This area shows the filename, the size, the last modified date, and the size in bytes for all of the files and directories on the switch bootflash.

5. Choose the **Delete** option from the **Actions** drop-down list to delete files to increase the available space on the switch.

Metrics

1. Navigate to **Manage > Inventory > Switches**.

2. Double-click on the required switch.

   A slide-in pane appears containing the summary information for the chosen switch.

3. Click the **Launch** icon in the top right-hand corner of the **Switch** summary slide-in pane.

   The **Switch Overview > Summary** tab appears.

   You can also access the **Metrics** tab on the **Switch Overview** dashboard by double-clicking on the switch name.

4. Click on the **Metrics** tab to view CPU and memory utilization, temperature, and power utilization for your switch.

   > **ℹ** If you do not see the **Metrics** tab, click on the three dots (. . .) to access the **Metrics** tab.

   The tabs and their fields on the page are explained in the following sections.

   - CPU and Memory
   - Temperature
   - Power

CPU and Memory

The **CPU** tab is displayed by default. The fields in the **CPU** and **Memory** tabs are described in the following table.

Field	Description
Switch Name	Specifies the name of the switch. Click the name of a switch to access a **Switch** slide-in pane with the switch details. Click the graph icon to view the CPU or memory performance chart.
IP Address	Specifies the switch IP address.
Low Value (%)	Specifies the lowest CPU utilization value on the switch.
Avg. Value (%)	Specifies the average CPU utilization value on the switch.
High Value (%)	Specifies the high CPU utilization value on the switch.
Low to High Value Range (Preview)	Specifies the linear range preview.

Click the drop-down list to view CPU or memory data for the selected **Day**, **Week**, **Month**, or **Year**.

ⓘ The label for the drop-down list changes based on your selection. For example, if you clicked **Day**, the label changes to **Show last day**.

Temperature

The fields in the **Temperature** tab are described in the following table.

Field	Description
Switch Name	Specifies the name of switch. Click the name of a switch to access a **Switch** slide-in pane with the switch details.
IP Address	Specifies the switch IP address.
Temperature Module	Specifies the module of temperature.
Low Value	Specifies the lowest temperature value in degrees.
Avg. Value	Specifies the average temperature value in degrees.
High Value	Specifies the high temperature value in degrees.

Click the drop-down list to view temperature data for the selected **Hour**, **Day**, **Week**, or **Month**.

ⓘ The label for the drop-down list changes based on your selection. For example, if you clicked **Day**, the label changes to **Show last day**.

The following table describes the columns that appear on the **Power** tab.

Power

Field	Description
Power Module	Specifies the power module. Click the graph icon to view the power usage chart.
Power Usage (%)	Specifies the power usage as a percentage with subcategories based on the selected switch.
Avg	Specifies the average power usage.
Min	Specifies the minimum power usage.
Max	Specifies the maximum power usage.
Capacity (AMPs)	Specifies the capacity in (amps) amperes.
Draw (AMPs)	Specifies the power usage draw with subcategories based on the selected switch.

Avg	Specifies the average power usage draw.
Min	Specifies the minimum power usage draw.
Max	Specifies the maximum power usage based.
Capacity (WATTs)	Specifies the power capacity in watts.
Draw (WATTs)	Specifies the power usage draw in watts with subcategories based on the selected switch.
Avg	Specifies the average power usage draw in watts.
Min	Specifies the minimum power usage draw in watts.
Max	Specifies the maximum power usage draw in watts.

Power Module	Click on the graph icon under the **Power Module** column to filter the power usage based on the chosen data type.
	
	Options include:
	
	   · **Usage (%)**
	   · **Draw (AMPs)**
	   · **Draw (WATTs)**
	
	Click on **Day**, **Week**, or **Month** to filter the data based on time increments.
	
	If you click on the **Day** increment, the graph displays one line for the selected data type. If you click on the **Week** or **Month** option, the graph displays the average, minimum, or maximum power usage values depending on the chosen data type.

Click the drop-down list to view power data for the selected **Hour**, **Day**, **Week**, or **Month**.

> ℹ The label for the drop-down list changes based on your selection. For example, if you clicked **Hour**, the label changes to **Show last hour**.

Device Manager

See Device Manager for descriptions and instructions for using the Cisco MDS 9000 Device Manager.

> **ⓘ** A Device Manager session is terminated when you navigate to another tab on the **Switch Overview** screen.

Monitoring Zone/FCNS/FLOGI Limitations

Beginning with NDFC release 12.2.1, support is now available to monitor zone, Fibre Channel Name Server (FCNS), and Fabric login (FLOGI) limitations.

To monitor the zone, Fibre Channel Name Server (FCNS), and Fabric login (FLOGI) limitations:

1. Navigate to the **Switch Overview** page:

   Manage > Inventory > Switches, then double-click a switch to bring up the **Switch Overview** page.

2. Click the **Max. Values** tab in the **Switch Overview** page.

3. View the zone, FCNS, and FLOGI limitations information in the **Max. Values** page.

   The **Max. Values** page shows the output from these CLI commands:

   - **show zone internal global-info | inc Limit**: This command is used to display the zone global information, with only the limitations information included in the output.

   - **show flogi internal info | inc EEM**: This command is used to display details about FLOGI scale optimization, with only the Embedded Event Manager (EEM) information included in the output.

   - **show fcns internal debug-info | inc EEM**: This command is used to to display the name server database and statistical information for a specified VSAN or for all VSANs, with only the EEM information included in the output.

Blades

You can view the interfaces of the UCS switches through **Manage > Inventory > Switches > Switch Overview**, on the SAN Controller Web UI.

> ℹ️ Ensure that the UCS switches are listed on SAN Controller and the status of these switches are correct. You can view these tabs only for UCS switches.

Blades tab displays information of all server blades attached to the UCS FI.

The UCS has three tabs:

- Blades
- vNICs
- vHBAs

The blades tab displays all blade information as cards. Click **More Details** icon on each blade area to view details on the side panel of the selected blade.

You can click the **Collapse All** or **Expand All** icon to collapse all or expand all blade areas respectively.

Blades tab displays information of all server blades attached to the UCS FI. Primary UCS FI only in redundancy setup or standalone UCS FI are displayed.

vNICs

vNICs tab displays the list of vNIC for that UCS FI. Click the chart icon to show the 24 hour traffic for the vNIC.

vHBAs

vHBAs tab displays the list of vHBA for that particular UCS FI. Click the chart icon to view 24 hour traffic for the vHBA.

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