Node Functional View

This chapter describes the Node Functional View (NFV) used in Cisco NCS 2000 SVO and its related tasks.

Table 1: Feature History

Feature Name	Release Information	Feature Description
Node Functional View (NFV) Enhancements	Cisco NCS 2000 Release 12.2	The following NFV enhancements are introduced to improve the user experience: • When you open a node or a side in the map view, the cards belonging to them are highlighted in the physical view. • Displays the last timestamp of NFV pane refresh using **Last graph update** icon. • In the **Display Neighbors** tab, clicking the IP address of the neighbor node opens the SVO Web User Interface of the neighbor node in a new browser tab. • In the **Card List** tab, the shelf number and slot number are displayed with the card name. The port number of the trunk port is also displayed for TXP cards. • You can set the width of the left shoulder.

Understanding Node Functional View

The NFV provides you with a display of the components and the association links between them in a graphical view. The graphical representation allows you to understand the connections and also guides you to troubleshoot.

The NFV can be accessed by clicking the hamburger icon at the top-left of the page in SVO web interface and selecting **Node Functional View**.

There are three views in the NFV representation:

View	Description
Physical view	Displays a physical representation of the node with the rack and all the cards inside.
Map view	Displays a map representation of the node in terms of components (sides, cards, and so on). The components are connected to each other using patch cords, according to the physical connections.
	You can have different context in the map view such as node view, side view, card view, circuit view, port view, and patch cord view. The appropriate details are displayed in the right shoulder based on the context in the map view.
	When you open a node or a side in the map view, the cards belonging to them are highlighted in the physical view.
	When you open a card in the map view, the card is zoomed and the corresponding rack is highlighted and zoomed in the physical view.
	You can view the circuits and patch cords at node view, side view, card view, and port views.
Detail view	Displays all the relevant information about the node, side, card, circuit, port, or patch cord depending on the context in the map view.

Alarm Status

The highest alarm severity is displayed as the overall status in the right shoulder. The possible alarm statuses, sorted by severity level, are:

- Normal - Displayed with White color

- Minor - Displayed with Yellow color

- Major - Displayed with Orange color

- Critical - Displayed with Red color

Action Icons in NFV

Icon	Description
Scroll View/Fit View	Scrolls or fits the rack view.
Zoom Reset	Resets the zoomed view to normal view.
Refresh	Refreshes the view with current information.
Last graph update	Displays the last timestamp of NFV pane refresh that is done using the **Refresh** button.
Open/Close Rack View	Opens or closes the rack view.
Status Filters	Displays only the alarms with specific severity. Click this button and check the **Critical**, **Major**, **Minor**, or **Normal** check boxes and click **Apply**.
User Settings	Sets the user preferences. See Set User Preferences, on page 10.
Zoom In	Zooms in the map view.
Zoom Out	Zooms out the map view.
Show/Hide Shoulder	Displays or hides the right shoulder.

View Details of Node

Use this task to view the details of the node in NFV.

Before you begin

- Log into the SVO Web Interface

Procedure

Step 1   Click the hamburger icon at the top-left of the page, and select **Node Functional View**.

The Node Functional View page appears.

Step 2   Click **Show/Hide Shoulder** to open the right shoulder.

Step 3   View the **Name**, **Topology**, and **Status** fields in the right shoulder.

The **Status** field shows the most severe problem on the node.

Step 4   View the **Side List** pane that has two tabs - **Info on side** and **Display Neighbors**.

The **Info on side** tab displays the following information:

- Current status

- Span loss

- (Optional) OTDR, OSC, and PPC information is displayed when available

The **Display Neighbors** tab displays the list of optional neighbors of the components of the node. The following information is displayed for each side:

- Name of the side

- Icon corresponding to the alarm severity level

- (Optional) IP address of the node of its optional neighbor. To open the SVO web UI of the neighbor node in a new browser tab, click the IP address of the neighbor node.

- Degree of its optional neighbor

View Details of OLA Node

Use this task to view the details of the OLA node in NFV.

> **Note**   In OLA database, all the cards must be placed in the same degree and only one degree must be present in the node.

Before you begin

- Log into the SVO Web Interface

Procedure

Step 1   Click the hamburger icon at the top-left of the page, and select **Node Functional View**.

The Node Functional View page appears.

Step 2   Click **Show/Hide Shoulder** to open the right shoulder.

Step 3   View the **Name**, **Topology**, and **Status** fields in the right shoulder.

The **Status** field shows the most severe problem on the node.

Step 4   View the **Side List** pane that has two tabs - **Info on side** and **Display Neighbors**.

The **Info on side** tab displays the following information:

- Current status
- Span loss for both the sides
- (Optional) OTDR, OSC, and PPC information is displayed when available

The **Display Neighbors** tab displays the list of optional neighbors of the components of the node. The following information is displayed for each side:

- Name of the side
- Neighbor node
- At Degree

Step 5   View the **Circuit List** tab that displays the list of all the circuits present in the side.

View Details of Side

Use this task to view the details of the side in NFV.

Before you begin

- Log into the SVO Web Interface

Procedure

Step 1   Click the hamburger icon at the top-left of the page, and select **Node Functional View**.

The Node Functional View page appears.

Step 2   Right-click a side in the map view and choose **View Details** to view the details of the selected side along with the right shoulder.

Step 3   View the following information that is displayed in the right shoulder. Optional means that the information is displayed when available.

- Name of the side
- Overall alarm status as a colored label and an icon
- (Optional) Span loss

- (Optional) ORL of OTDR

- (Optional) Fiber End of OTDR

- (Optional) OSC power

- (Optional) IP address of the node of its optional neighbor. To open the SVO web UI of the neighbor node in a new browser tab, click the IP address of the neighbor node.

- Degree of its optional neighbor

- **Card List** tab - Displays the list of all the cards present in the side. The shelf number and slot number are displayed with the card name. The trunk port number is also displayed for TXP cards.

  To sort the list of cards, click the vertical ellipsis icon and choose **A-Z**, **Z-A**, **High Severity**, or **Low Severity**.

- **Circuit List** tab - Displays the list of all the circuits present in the side.

  To sort the list of circuits, click the vertical ellipsis icon and choose **A-Z**, **Z-A**, **High Severity**, or **Low Severity**.

View Details of Side for OLA Node

Use this task to view the details of the side for OLA node in NFV.

Before you begin

- Log into the SVO Web Interface

Procedure

Step 1 Click the hamburger icon at the top-left of the page, and select **Node Functional View**.

The Node Functional View page appears.

Step 2 Right-click a side in the map view and choose **View Details** to view the details of the selected side along with the right shoulder.

Or

Click the arrow near the side name that is displayed inside the right shoulder.

Step 3 View Side 1 and Side 2 merged information that is displayed in the right shoulder. Optional means that the information is displayed when available.

- Overall alarm status as a colored label and an icon

- (Optional) Span loss

- (Optional) ORL of OTDR

- (Optional) Fiber End of OTDR

• (Optional) OSC power

• (Optional) IP address of the node of its optional neighbor. To open the SVO web UI of the neighbor node in a new browser tab, click the IP address of the neighbor node.

• Degree of its optional neighbor

• **Card List** tab - Displays the list of all the cards present in both sides. The shelf number and slot number are displayed with the card name. The trunk port number is also displayed for TXP cards.

To sort the list of cards, click the vertical ellipsis icon and choose **A-Z**, **Z-A**, **High Severity**, or **Low Severity**.

• **Circuit List** tab - Displays the list of all the circuits present in the side.

To sort the list of circuits, click the vertical ellipsis icon and choose **A-Z**, **Z-A**, **High Severity**, or **Low Severity**.

View Details of Card

Use this task to view the details of the card in NFV.

Before you begin

• Log into the SVO Web Interface

Procedure

Step 1   Click the hamburger icon at the top-left of the page, and select **Node Functional View**.

The Node Functional View page appears.

Step 2   Right-click a side in the map view and choose **Open**.

Step 3   Right-click a card in the map view and choose **View Details**.

Step 4   View the following information that is displayed in the right shoulder:

• Name of the card

• Overall alarm status as a colored label and an icon

• **Port List** tab - Displays the list of all the ports with their aggregate power.

To sort the list of ports, click the vertical ellipsis icon and choose **A-Z**, **Z-A**, **High Severity**, or **Low Severity**.

• **Circuit List** tab: Displays the list of all the circuits present in the card.

To sort the list of circuits, click the vertical ellipsis icon and choose **A-Z**, **Z-A**, **High Severity**, or **Low Severity**.

View Details of Port

Use this task to view the details of the port in NFV.

Before you begin

- Log into the SVO Web Interface

Procedure

Step 1 Click the hamburger icon at the top-left of the page, and select **Node Functional View**.

The Node Functional View page appears.

Step 2 Right-click a side in the map view and choose **Open**.

Step 3 Right-click a card in the map view and choose **Open**.

Step 4 Click the port name in the map view.

Step 5 View the following information that is displayed in the right shoulder:

- Name of the port

- Overall alarm status as a colored label and an icon

- **Agg. Powers** tab - Displays the list of all the links with their aggregate power.

  The aggregate power displays the current power in case of a single port. The aggregate power displays a list of all the different power levels in case of an MPO port or logical group.

  To sort the list of links, click the vertical ellipsis icon and choose **A-Z**, **Z-A**, **High Setpoint**, or **Low Setpoint**.

- **Circuit List** tab: Displays the list of all the circuits present in the port.

  To sort the list of circuits, click the vertical ellipsis icon and choose **A-Z**, **Z-A**, **High Severity**, or **Low Severity**.

View Details of Patch Cord

Use this task to view the details of the patch cord in NFV.

Before you begin

- Log into the SVO Web Interface

Procedure

Step 1   Click the hamburger icon at the top-left of the page, and select **Node Functional View**.

The Node Functional View page appears.

Step 2   Click the patch cord in the map view.

Step 3   View the following information that is displayed in the right shoulder:

- Type of the patch cord

- Status of the patch cord as a colored label and an icon

- **Connections** tab - Displays the ports that the patch cord connects with their cards and the aggregate power.

   To sort the list of patch cords, click the vertical ellipsis icon and choose **A-Z**, **Z-A**, **High Severity**, or **Low Severity**.

View Details of Circuit

Use this task to view the details of the circuit in NFV.

Circuits are created in EPNM and displayed as read-only in the **Optical Cross Connections** tab.

Before you begin

- Log into the SVO Web Interface

Procedure

Step 1   Click the hamburger icon at the top-left of the page, and select **Node Functional View**.

The Node Functional View page appears.

Step 2   Click **Show/Hide Shoulder** to open the right shoulder.

Step 3   Click > against the circuit in the right shoulder to view the sides that are involved in the circuit in graphical view.

Step 4   View the following information that is displayed in the right shoulder:

- **Circuit Info** pane - Displays information on **Admin State**, **Frequency**, **From Degree**, and **To Degree**.

- **Path (Forward path)** pane - Click **:** next to the Path (Forward Path) pane and choose **Forward path**, **Backwards path**, or **Both paths** to specify the order of display of internal links. The pane name changes correspondingly.

Set User Preferences

Use this task to set the user preferences in NFV. The user preferences are stored in the local storage of the browser and are retained for that browser.

Before you begin

- Log into the SVO Web Interface

Procedure

Step 1   Click the hamburger icon at the top-left of the page, and select **Node Functional View**.

The Node Functional View page appears.

Step 2   Click the **User Settings** icon.

The **Preferences** dialog box appears.

Step 3   From the **shoulder element order** drop-down list, choose **A-Z**, **Z-A**, **Low Severity**, or **High Severity** to sort the components in the right shoulder based on name and alarm severity.

Step 4   Enter a value in the **Layers spacing** field to set the horizontal distance between the components in the map view.

Refresh the browser to apply this value.

Step 5   Enter a value in the **Column spacing** field to set the vertical distance between the components in the map view.

Refresh the browser to apply this value.

Step 6   Enter the zoom scale value in the **Zoom scaling factor** field.

Step 7   From the **Circuit path sorting** drop-down list, choose **Forward path**, **Backward path**, or **Both paths** to set the link path between source and destination.

Step 8   Enter a value in the **Rack opacity factor** field to highlight the cards of interest in physical view. The other cards are covered by overlay with transparency depending on the value provided.

The range is from 0 to 1.

Step 9   Enter the value in the **Left shoulder width (px)** field to set the width of the left shoulder.

The range is from 400 to 600.

Step 10   Check the **Show only visible cards on the rack** check box to display only the visible cards in the rack view.

Step 11   Check the **Always display details** check box to automatically display the right shoulder upon opening NFV.

Step 12   Click **Apply** to apply the user settings.

Step 13   Click **Reset** to reset the user settings to default values.

Active Circuit Count

Table 2: Feature History

Feature Name	Release Information	Feature Description
Display the Number of Active Circuits	Cisco NCS 2000 Release 12.3.1	You can now view the total number of active circuits passing through a particular card on a degree. The active circuit count is visible on the **Node Functional View** window of the SVO Web User Interface.

Display Active Circuit List

Use this task to view the total number of circuits passing through a degree and a selected card.

Before you begin

- Log into the SVO Web Interface

Procedure

Step 1   Click the hamburger icon at the top-left of the page, and select **Node Functional View**.

Step 2   Select and right click **Degree**. Click Open.

In the right side pane, you can see the total number of circuits passing through the degree under **Circuit List**.

Step 3   Select and right click the card. Click Open.

In the right side pane, you can see the total number of circuits passing through the card under **Circuit List**.