View Network Reports

Table 1: Feature History

Feature Name	Release Information	Description

Simplified Navigation to Results Tab	Cisco ONP Release 5.1	Cisco ONP now provides a simplified approach to navigate to the **Results** tab to view reports for analyzed multinode network topologies with the following enhancements:
		• Right-click a particular site in the network tree to view:
		  • BOM details
		  • Optical Reports
		• Right-click a particular circuit/media/wave in the network tree to view:
		  • Optical Report
		  • Traffic Report
		• New **IPC** tab —The **IPC** tab is introduced in **Cabling Reports** to intuitively view the internal patch connections for a site.
		• Search Box—The **Results** tab is enhanced with a Search Box at the top. You can use this search box to find a particular site in the topology by entering the site name.

Network Reports

Cisco ONP provides network reports, which are listed under the report availability tabs. Reports are available depending on whether a network is analyzed, or not. Reports are also available in site properties after analyzing the network.

Cisco ONP provides the following reports:

- Dashboard
- Elements
- Map
- BOM
- Layout
- Results

The Cisco ONP home page has multiple tabs to access the reports of the analyzed network. You can also view the reports for specific site, fiber, or wave properties by clicking the respective report in the Network Tree pane.

From Release 5.1, a search box is introduced in the **BOM** and **Results** tab. You can use the search box in the **BOM**, **Optical Report**, **Traffic Report**, and **Cabling Report** tabs to search for any specific site, fiber, or wave in the reports.

View Reports in the Dashboard Tab

The **Dashboard** tab provides the total count of sites, fibers, SRLGs, services, waves/media channels/circuits, and messages that exist in the network.

View Reports in the Elements Tab

The **Elements** tab provides detailed reports of the network elements and messages.

Report	Description
Sites	Shows the site information, which consists of the name of the sites, type and their X and Y coordinate values.
Fibers	Shows the information about the fiber length between the source and the destination for corresponding sites.
Services	Shows the service type, source and destination sites for particular service, quantity, protection type, and status. For each service, the report shows the primary path, secondary path, and their status.

Report	Description
Waves	The Waves report shows the number of waves available in the network and the wave utilization. Click each wave to view the following details: • Wave—Consists of a wave UID and its source and destination sites. • Wave Details—Provides details of wave OSNR, channel path, OTN services associated to wave and excluded channels. • Channels—Port details of the source and destination cards, wavelength that is used, and its utilization demands. • Optical Results—Provides details of optical parameters such as OSNR, SOL, EOL, Power margin, CD, and PMD.
SRLGs	Lists the names of created SRLGs and their fiber details. Click **Export** at the bottom to export the report in .xlsx format.
Messages	Shows messages that are related to errors occurred while analyzing the network. By default, only critical messages for the analyzed network are listed here. You can disable the **Critical Only** toggle button to view all messages.

Note Click the Pop-up icon to view the reports in a larger, resizable window.

View Details of the BOM Report

Table 2: Feature History

Feature Name	Release Information	Feature Description
Support for New PIDs for SMR-20 Card	Cisco ONP Release 4.2	The following new licensed PIDs for the SMR-20 card are displayed on the BOM page so that you can view the price details and consider ordering. • NCS2K-FSSMR-2LIC= • E-NCS2K-1P-LIC= • E-NCS2K-5P-LIC= • E-NCS2K-10P-LIC=

Table 3: Feature History

Feature Name	Release Information	Feature Description
MLP Brownfield with Diff BOM	Cisco ONP Release 4.1	This feature allows you to perform the following: • Compare the BOMs of two or more LNI imported networks. • Upgrade brownfield network. • Upgrade the Cisco ONP network with traffic sites.

The BOM report consists of individual site price lists and the total BOM of the network. Click each site to view BOM of OTN and DWDM separately.

You can compare the BOM of the existing network with other networks using the **Compare with: Other Networks** option.

You can export the BOM details in the form of a spreadsheet, by clicking **Export** and saving it to your local system.

We recommend that you export the BOM report only in the analyze mode. Exporting the reports in the upgrade and release upgrade modes may be inaccurate.

Note You can also compare the BOM of LNI imported networks.

Note From Release 4.2, Cisco ONP supports the listing of new licensed PIDs for the SMR-20 card. The PIDs are chosen based on the demand. This is applicable only for the newly designed and upgraded networks.

- NCS2K-FSSMR-2-LIC=—20-port FS-SMR licensed to enable two ports
- E-NCS2K-1P-LIC=—Software license to enable one port on licensed 20-port FS-SMR
- E-NCS2K-5P-LIC=—Software license to enable five ports on licensed 20-port FS-SMR
- E-NCS2K-10P-LIC=—Software license to enable ten ports on licensed 20-port FS-SMR

Note From Release 5.1, Cisco ONP allows you to view the BoM details for any particular site. You must analyze the network to view the BoM details of individual sites. The following steps allow you to check the PID information for a selected site.

1. In the network tree, expand **Site** and right-click the required site.
2. Click **Open BoM**.

   The Cisco ONP opens the **BoM** tab and provides the BoM details of the selected site.
3. Expand the Site to view the PID information.

View Details of Layout and Internal Connections

To get the details of layout and internal connections, perform the following steps:

Before you begin

Log in to Cisco ONP Web Interface.

Step 1 Click the **Layout** tab on the Cisco ONP home page.

Step 2 Type the site name in the search box, or select a site from the **Sites** drop-down list.

The site layout is displayed with its racks and cards. Hover the mouse pointer over the transponder card to view the details of slot, PID of the card, and ports. Expand the Ports to view details, such as wavelength and trunk mode. Similarly, hover the mouse pointer over chassis to know the total power consumption.

SVO supports up to 50 UIDs, beyond which, the site layout displays incorrect UID for the chassis.

Step 3 Click the **IPC** tab to view the selected site's internal patch connections.

Export Internal Connections

Cisco ONP allows you to export internal fiber connection in two ways, either at Site-level or Network-level. To export the details, right-click the internal fiber connection or site, and click **Export**.

Compare the Installation Parameters of Two Networks

Table 4: Feature History

Feature Name	Release Information	Feature Description
UI Revamp of Optical Reports	Cisco ONP Release 4.1	This feature improves the user experience while comparing the installation parameters and optical reports of two networks.

Use this task to compare the installation parameters of two networks.

Before you begin

Log in to Cisco ONP Web Interface.

Step 1 Click the **Results** tab on the Cisco ONP home page.

Step 2 Click **Installation Parameters**.

Step 3 Click **Other Networks**.

Step 4 From the list of networks, choose the network to compare with.

You can find a new parameter called **diffBy**.

Note You can click **Clear** to stop the comparison of two networks.

Compare the Optical Report of Two Networks

Use this task to compare the optical report of two networks.

Before you begin

Log in to Cisco ONP Web Interface.

Step 1 Click the **Results** tab on the Cisco ONP home page.

Step 2 Click **Optical Report**.

Step 3 Click **Other Networks**.

Step 4 From the list of networks, choose the network to compare with.

You can find two values in the optical parameters such as Protection, SOL, EOL, SE, P/F, Source, Src Colorless, Src Contentionless, Destination, Dst Colorless, Dst Contentionless, Wavelength, Src Tx Type, Dst Tx type, Span, Suggested Regen Locations, BER Target, SOL OSNR, EOL OSNR, SOL OSNR margin, EOL OSNR margin, SOL RX, EOL RX, SOL Power Margin, EOL Power Margin, SOL Overload, EOL Overload, Residual CD, CD robustness, Single-Channel NLE Status, Multi-Channel NLE Status, Min GB, Filtering Penalty, PMD, RX Atten, TX Atten, Encryption, SNLE Components, MNLE Components, OSNR Penalties and POWER Penalties.

Note You can click **Clear** to stop the comparison of two networks.

View Optical Results

Use this task to view the details of optical reports, installation parameters, traffic reports, and cabling reports.

Note Optical results are available only in upgrade and release upgrade modes. You can refer the optical results data to check and correct the optically not feasible channels. Later analyze again to get the optical results updated based on the new modifications in upgrade and release upgrade mode.

Before you begin

Log in to Cisco ONP Web Interface.

Step 1 Click the **Results** tab on the Cisco ONP home page.

By default, the **Optical Report** tab appears. Each row in the tab shows the performance of one optical path:

From Release 5.1, the **OSNR RBW** drop-down list allows you to select the OSNR Resolution bandwidth between 0.5 nm and 0.1 nm. The default value is 0.5 nm. This value can be changed in all the modes such as Design mode, Analyzed mode, Upgrade mode, and Release upgrade mode. When you change the value to 0.1 nm the SOL G-OSNR and EOL G-OSNR value increases to 7dB.

From Release 5.1, Cisco ONP allows you to view the optical report for any particular optical path. You must analyze the network to view the optical report of an individual optical path. The following steps allow you to check the wave and aggregated wave information for a selected circuit.

a. In the network tree, expand **Circuits/Waves/Media Channels** and right-click the required optical path.

b. Click **Open Results**.

The Cisco ONP opens the **Optical Report** tab and provides the details of the selected optical path.

c. Expand the optical path to view the wave information.

Optical Parameter	
Name	Displays the ID number of the wave and aggregated waves. ID is automatically generated based on the site name.
Protection	Displays the protection type of the wave.
SOL	Displays an icon indicating the results summary of the analysis that is run with Start of Life (SOL) fiber loss values: • Green indicates success. • Yellow indicates success with a marginal failure risk. • Orange indicates that the channel has a higher risk of failure. • Red indicates failure.
EOL	Displays an icon indicating the results summary of the analysis that is run with End of Life (EOL) fiber loss values. The indicator shows the optical performance for the path at the end of the fiber life: • Green indicates success. • Yellow indicates success with a marginal failure risk. • Orange indicates that the channel has a higher risk of failure. • Red indicates failure.
SE	Indicates a system-related error that may impact the analysis of the design. If the indicator is red, review the messages that are reported at the end of the analysis or determine which units or sites have a problem.

Optical Parameter	
P/F	Displays the present or forecast services indication.
Source	Displays the name of the source site and side; for example, Site 1-E.
Src Colorless	Displays whether the colorless functionality is enabled on source ports.
Src Contentionless	Displays whether the contentionless functionality is enabled on source ports.
Destination	Displays the name of the destination site and side; for example, Site 1-E.
Dst Colorless	Displays whether the colorless functionality is enabled on destination ports.
Dst Contentionless	Displays whether the contentionless functionality is enabled on destination ports.
Wavelength	Displays the wavelength of the optical channel.
Band Type	Displays the band type of the optical path.
Src Tx Type	Displays the type of DWDM unit or pluggable port module that is used at the source of the specific Optical Channel (OCH) trail. The class of the DWDM unit is also displayed.
Dst Tx type	Displays the type of DWDM unit or pluggable port module that is used at the destination of the specific OCH Trail. The class of the DWDM unit is also displayed.
Span	Displays the total span length (source to destination) for this path in kilometers.
Suggested Regen Locations	Displays the regeneration locations.
BER Target	Displays the bit error rate (BER) target for this channel, based on the capability of the channel's optical interface. It is 1.0E-15 for the interfaces using forward error correction (FEC) and 1.0E-12 for interfaces without FEC.
SOL OSNR	Displays the start of life average Optical Signal to Noise Ratio (OSNR) value at the receiver.
EOL OSNR	Displays the end of life average OSNR value at the receiver.
SOL OSNR margin	Displays the SOL OSNR margin calculation. It is the difference between the OSNR value at certain power of the working point of the receiver client and the working area boundary.
EOL OSNR margin	Displays the EOL OSNR margin calculation, which is the difference between the OSNR value at a certain power of the working point of the receiver client and the working area boundary.
SOL RX	Displays the SOL average power that is received at the destination site in dBm.
EOL RX	Displays the EOL average power that is received at the destination site in dBm.
SOL Power Margin	Displays the SOL power budget margin at the receiver in decibels. It is defined as the offset between the receiver working point and the BER curve with margin. A positive value indicates that there are no power problems.
EOL Power Margin	Displays the EOL power budget margin at the receiver in decibels. It is defined as the offset between the receiver working point and the BER curve with margin. A positive value indicates that there are no power problems.
SOL Overload	Displays the SOL overload margin at the receiver in decibels. A positive value indicates that there are no overload problems.
EOL Overload	Displays the EOL overload margin at the receiver in decibels. A positive value indicates that there are no overload problems.

Optical Parameter	
Residual CD	Displays the chromatic dispersion (CD) margin of the demand.
CD robustness	Displays the robustness to chromatic dispersion of the receiver.
Single-Channel NLE Status	Displays the status of alarms if any nonlinear effect (NLE) is present in the demand.
Multi-Channel NLE Status	Provides the status of the nonlinear effect (NLE) on a particular channel or demand due to other channels or demands.
Min GB	Displays the minimum Guard Band (GB) requirement between channels on the 40G CP-DQPSK MXP and 40G CP-DQPSK ME MXP cards, and other transponders in a mixed any-to-any connectivity.
Filtering Penalty	Displays the value of the penalties that are caused by different filter types (OADM, ROADM, and arrayed waveguide grating (AWG)).
PMD	Displays the calculated total Polarization Mode dispersion (PMD) for each circuit. If the overall PMD for the link overcomes the maximum that is allowed, the PMD value is displayed in a red-colored font. The maximum allowed value depends on the client interface. For these special cases, the network must be manually resolved by contacting a Cisco TAC team.
RX Atten	Displays the attenuation at the input of the receiver.
TX Atten	Displays the attenuation at the output of the receiver.
Encryption	Displays the encryption type of the channel. Possible values are N/A, Yes, No.

Step 2 Click **Export Report** to export the optical reports details in an Excel sheet.

We recommend that you export the optical report only in the analyze mode. Exporting the reports in the upgrade and release upgrade modes may be inaccurate.

Step 3 Click the **Installation Parameters** tab.

The Installation Parameters report shows the values to be set (provisioned) at the installation time on each site in the network.

You can view the installation parameters for **ANS** (automatic node setup), and **ANP** (automatic node provisioning), for each side of the Network Element (NE) in all the sites:

Step 4 Click the **ANS** tab to view the following parameters:

Table 5: ANS Parameters

Parameter	Description
Name	Displays the name of the site
Side	Displays the line side
Position	Displays the rack, shelf number, and slot position of the card where the patch cord originates.
Unit	Displays the name of the card.
Port	Displays the port number where the patch cord originates.

Parameter	Description
Port ID	Displays the port ID.
Port Label	Displays the name of the port.
Parameter	Displays the name of the parameter to be set, such as RX Power Low.
Value	Displays the name of the value to be set for the parameter.
Measurement Unit	Displays the measurement unit for the related installation parameter value, such as dBm.
Manual Set	Indicates with a Yes or No which parameters must be manually set using the Cisco Transport Controller (CTC) interface.

Step 5 Click the **ANP** tab to view the following parameters:

Table 6: ANP Parameters

Parameter	Description
Name	Displays the name of the site.
Unit ID	Displays the unit (slot number) of the passive units in the shelf.
Shelf ID	Displays the shelf identifier.
Rack Number	Displays the rack number.
Rack Position	Identifies the rack position in the shelf.
Slot Position	Identifies the slot position in the shelf for the card.
Equipment Type	Displays the card type.
Description	Displays the details of the card type.

Step 6 Click the **Traffic Report** tab.

You can view the aggregated demand channel data in the form of the following traffic reports:

Note To view the traffic report for any particular optical path, do the following:

a. In the network tree, expand **Circuit** and right-click the required optical path.

b. Click **Open Results**.

The Cisco ONP displays the traffic report for selected optical path.

Note By default, clicking **Open Results** opens **Optical Result** under the **Results** tab. You must click **Traffic Report** to view traffic reports.

c. Expand the optical path to view the wave information.

In Release 5.1, you can view traffic report for all imported networks except the imported .mpz networks. To view the traffic report for individual optical path in imported .mpz networks, you must manually search in the Search box.

Table 7: Traffic Reports

Traffic Report	Description
Demand	Categorizes each demand type. Each demand is further categorized into service, trails, and sections.
Section	Displays the sections under every service.
Src Site	Displays the site name for the optical channel source.
Band Type	Displays the band type for the optical path.
Src Position	Displays the rack, shelf ID, and slot identifiers for the source of the optical channel.
Src Card	Displays the unit name for the optical channel source.
Dst Site	Displays the site name for the optical channel destination.
Dst Position	Displays the rack, shelf ID, and slot identifiers for the destination of the optical channel.
Dst Card	Displays the unit name for the optical channel destination.
Client Service Type	Displays the client service type of the demand; for example, OC-48.
Protection Type	Displays the protection type of the demand
Encryption	Displays whether the demand is encrypted or not, values are NA, Yes, No.
Wavelength	Displays the wavelength value of the optical channel, and the serial number of the wavelength in the wavelength band.
Max Latency	Displays the latency time for the current circuit. This value includes all the latency components for the circuit, including fiber and DWDM units on the path.

Step 7 Click the **Cabling Report** tab.

You can view the patch cord connections related to internal patch connections and multi-shelf management. This report is available for the networks starting from NCS 2000 system Release 12.1.0.

From Release 5.1, Cisco ONP allows you to view the internal patch connections for any particular site. You must analyze the network to view the IPC details of individual sites. The following steps allow you to check the IPC information for a selected site.

a. In the network tree, expand **Site** and right-click the required site.

b. Click **Open Cabling Report**.

The Cisco ONP opens the **Cabling Report** tab. By default, the **IPC** tab appears and provides the IPC details of the selected site.

c. Expand the Site to view the internal patch connections.

Table 8: IPC

Parameter	Description
Name	Displays the name of the site.
Src Unit Type	Displays the source unit.
Src Position	Displays the rack, shelf, and slot position of the card from which the patch cord originates.
Src Port Label	Displays the name of the port.
Cable	Displays the type of cable.
Dst Unit Type	Displays the source unit.
Dst Position	Displays the rack, shelf, and slot position of the card from which the patch cord terminated.
Dst Port Label	Displays the name of the port.

Table 9: MSM

Parameter	Description
Name	Displays the name of the site.
Src Unit Type	Displays the source unit.
Src Position	Displays the rack, shelf, and slot position of the card from which the patch cord originates.
Src ID	Displays the source unit ID.
Src Port Label	Displays the name of the port.
Cable Type	Displays the type of cable.

Parameter	Description
Dst Unit Type	Displays the source unit.
Dst Position	Displays the rack, shelf, and slot position of the card from which the patch cord terminated.
Dst ID	Displays the destination unit ID.
Dst Port Label	Displays the name of the port.
W/P	Displays whether the connection relates to a present or forecast circuit.

Use the Search box on top of the reports to search for any specific site or wave in the reports. The following steps help you to find any specific information in the reports.

a. Enter the name of the specific site or wave in the Search box.

b. Choose **equals** or **contains** from the drop-down list.

c. Click the Search icon to search for the required site or wave.

Confidential Banner

Table 10: Feature History

Feature Name	Release Information	Feature Description
Confidential Banner	Cisco ONP Release 4.1	This feature indicates the confidentiality of the reports or results generated by Cisco ONP for a network. The CONFIDENTIAL banner is placed in all the exported reports. It is placed in the first row and first cell of the Excel sheet, followed by a blank row and the contents of the exported report.

Table 11: Feature History

Feature Name	Release Information	Feature Description
Customizable Confidential Banner	Cisco ONP Release 4.2	The Confidential Banner string can be customized as required. An admin user can modify the banner string when the *confidentialBanner.enabled* field is set to true in the *feature.properties* file.

The **CONFIDENTIAL** banner is to be present in all the exported reports. It is placed in the first row, first cell of the Excel sheet (.xslx), followed by a blank row and the contents of the exported report.

The exported reports include:

- Sites
- Fibers
- Services
- Waves
- Traffic
- Failure (Plan and Restore)
- BOM
- Media Channel
- SRLG
- Messages
- Optical Result
- Failure Group
- Cabling Report
- Service Aggregation
- IPC (Individual and All sites)

Note

- The **CONFIDENTIAL** banner is present in all the sheets, if multiple sheets are present in the xlsx file.
- The **CONFIDENTIAL** banner is updated, only when you export the reports in .xlsx format.
- The server admin can customize the banner string **CONFIDENTIAL** in the *confidentialBanner.content* field as required. The admin must set the *confidentialBanner.enabled* field to *true* in the *feature.properties* file to enable banner change. By default, the *confidentialBanner.enabled* value is set to *false*.