Manage Reports

Reports Overview

Cisco EPN Manager reports provide information about system and network health as well as fault information. You can customize and schedule reports to run on a regular basis. Reports can present data in a tabular, or graphical format (or a mixture of these formats). You can also save reports in CSV or PDF format. The CSV or PDF files can be saved on the Cisco EPN Manager server for later download, or sent to an e-mail address.

Cisco EPN Manager provide the following type of data:

- Current—Provides a snapshot of data that is not time-dependent.

- Historical—Periodically retrieves data from the device and stores it in the Cisco EPN Manager r database.

- Trend—Generates a report using aggregated data, which is collected and summarized as minimums, maximums, and averages.

With Cisco EPN Manager , you can filter these reports based on a specific criteria. For example, IPSLA Y.1731 reports can be filtered based on probes and PWE3 reports can be filtered based on Virtual Connection Identifier (VCID). You can also export reports, sort reports into logical groups, and archive reports for long-term storage.

Reports Available

The Reports Launch Pad provides access to the following Cisco EPN Manager reports:

- Carrier Ethernet (CE) Performance Reports, on page 2

Carrier Ethernet (CE) Performance Reports

This section lists the Carrier Ethernet (CE) Performance reports supported by Cisco EPN Manager . It also includes the monitoring policies that must be enabled so that the proper report data is collected. For more information about monitoring policies, see How Device Health and Performance Is Monitored: Monitoring Policies.

Flap Reports

A tabular representation of the number of flaps that happened in a device in a given period of time.

IPSLA Graphs

A collection of graphs representing the trends of IPSLA performance measurements over time. These reports include graphs of delay, jitter, packet loss and availability. To generate report data, you must activate an *IPSLA* monitoring policy on your devices. For details about the information collected by IPSLA monitoring policies, see IP SLA Monitoring Policy.

Report Type	Provides:
IPSLA Delay Two Way Graph	Graphical representation of the average two-way delay measurements over time between the source and destination.
IPSLA Delay Forward Graph	Graphical representation of the average frame delay over time from the source to the destination.
IPSLA Delay Backward Graph	Graphical representation of the average frame delay over time from the destination to the source.
IPSLA Loss Forward Graph	Graphical representation of the average ratio of the frames lost when transmitted from the source to the destination.
IPSLA Loss Backward Graph	Graphical representation of the average ratio of the frames lost when transmitted from the destination to the source.
IPSLA Merged Graph	Graphical representation of all the IPSLA performance measurements in terms of average two way delay, frame delay and packet loss over time between the source and destination.

IPSLA Statistics

These reports display the IPSLA performance measurements of traffic and loss, including two-way/backward/forward delay and jitter. To generate report data, you must activate an *IPSLA* monitoring policy on your devices. For details about the information collected by IPSLA monitoring policies, see IP SLA Monitoring Policy.

Report Type	Provides:
IPSLA Delay and Jitter	Tabular representation of the average two-way delay, forward delay, backward delay, forward and backward jitter measurements between the source and destination endpoints in your network. It also lists the probe index, type of service, VRF name, and the IPSLA type.
IPSLA Frame Loss Ratio	Tabular representation of the forward and backward packet loss ratio between source and destination. The packet loss ratio is calculated as the number of frames lost divided by the total number of frames during a time interval.
IPSLA Merged Statistics	Tabular representation of all the IPSLA measurements, including average two-way delay, forward delay, backward delay, forward jitter, backward jitter, forward packet loss ratio, backward packet loss ratio and the average packet loss ratio forward and backward (expressed in percentage), and the availability percentage.

IPSLA Top N

A collection of Top N reports of IPSLA performance measurements, including Top N delay, jitter, packet loss and availability. To generate report data, you must activate an *IPSLA* monitoring policy on your devices. For details about the information collected by IPSLA monitoring policies, see IP SLA Monitoring Policy.

Report Type	Provides:
IPSLA Top N Delay Two Way	Tabular representation of the highest average two-way delay measurements over time between the source and destination.
IPSLA Top N Delay Forward	Tabular representation of the highest average frame delay measurements over time from the source to the destination.
IPSLA Top N Delay Backward	Tabular representation of the highest average frame delay measurements over time from the destination to the source.
IPSLA Top N Loss Forward	Tabular representation of the highest average ratio of the frames lost when transmitted from the source to the destination.
IPSLA Top N Loss Backward	Tabular representation of the highest average ratio of the frames lost when transmitted from the destination to the source.
IPSLA Top N Merged	Tabular representation of the all the highest IPSLA performance measurements over time between the source and destination.
IPSLA Top N Jitter Forward	Tabular representation of the highest average jitter measurements over time from the source to the destination.
IPSLA Top N Jitter Backward	Tabular representation of the highest average jitter measurements over time from the destination to the source.

IPSLA Y.1731 Graphs

A collection of graphs representing the trends of Y.1731 performance measurements over time. The reports include graphs of delay, jitter and frame loss. To generate report data, you must activate an *IPSLA Y.1731* monitoring policy on your devices. For details about the information collected by IPSLA Y.1731 monitoring policies, see IP SLA Y.1731 Monitoring Policy.

Report Type	Provides:
IPSLA Y.1731 Delay Two Way Graph	Graphical representation of the average two-way Ethernet Frame Delay Measurements (ETH-DM) between MEPs for a service instance that is configured using the Y.1731 technology.
IPSLA Y.1731 Delay Backward Graph	Graphical representation of the average ETH-DM from the destination MEP to the source MEP for a service instance that is configured using the Y.1731 technology.
IPSLA Y.1731 Delay Forward Graph	Graphical representation of the average ETH-DM from the source MEP to the destination MEP for a service instance that is configured using the Y.1731 technology.
IPSLA Y.1731 Jitter Two Way Graph	Graphical representation of the measurement of variations in the frame delay between MEPs for a service instance that is configured using the Y.1731 technology.
IPSLA Y.1731 Forward Frame Loss Ratio Graph	Graphical representation of the average ratio of the frames lost when transmitted from the source MEP to the destination MEP a service instance that is configured using the Y.1731 technology. The Frame Loss Ratio (FLR) is expressed as percentage.
IPSLA Y.1731 Backward Frame Loss Ratio Graph	Graphical representation of the average ratio of the frames lost when transmitted from the destination MEP to the source MEP for a service instance that is configured using the Y.1731 technology. The Frame Loss Ratio (FLR) is expressed as percentage.

IPSLA Y.1731 Statistics

These reports display the Y.1731 performance measurements of traffic and loss, including two-way/forward/backward delay, jitter and forward/backward frame loss of the Y.1731 probe. To generate report data, you must activate an *IPSLA Y.1731* monitoring policy on your devices. For details about the information collected by IPSLA Y.1731 monitoring policies, see IP SLA Y.1731 Monitoring Policy.

Report Type	Provides:
IPSLA Y.1731 Delay and Jitter	Tabular representation of the average two-way delay, forward delay, backward delay, and delay variation measurements between the source and destination MEPs for a service instance in your network. It provides the reachability percentage of the Y.1731 probe, which is calculated by the success rate of the Y.1731 operations. It also lists the probe index, type of operation, CFM domain, and source and destination MEPs.

Report Type	Provides:
IPSLA Y.1731 Frame Loss Ratio	Tabular representation of the forward and backward frame loss ratio between MEPs for a service instant that is configured using the Y.1731 technology. The frame loss ratio is calculated as the number of frames lost divided by the total number of frames during a time interval.
IPSLA Y.1731 Merged Statistics	Tabular representation of all the IPSLA Y.1731 measurements, including average two-way delay, forward delay, backward delay, forward jitter, backward jitter, average jitter, forward frame loss ratio, backward frame loss ratio and the availability percentage of the Y.1731 probe.

IPSLA Y.1731 Top N

A collection of Top N reports of Y.1731 performance measurements including Top N delay, jitter, and frame loss. These reports also lists the probe index, type of operation, CFM domain, source, and destination MEPs for the devices that are configured using the Y.1731 technology. You can choose the number of records to be displayed in these reports.

To generate report data, you must activate an *IPSLA Y.1731* monitoring policy on your devices. For details about the information collected by IPSLA Y.1731 monitoring policies, see IP SLA Y.1731 Monitoring Policy.

Report Type	Provides:
IPSLA Y.1731 Top N Delay Two Way	Tabular representation of the probes with highest two-way ETH-DM in milliseconds between MEPs for a service instance in your network.
IPSLA Y.1731 Top N Delay Forward	Tabular representation of the probes with highest ETH-DM in milliseconds from the source MEP to the destination MEP for a service instance in your network.
IPSLA Y.1731 Top N Delay Backward	Tabular representation of the probes with highest ETH-DM in milliseconds from the destination MEP to the source MEP for a service instance in your network.
IPSLA Y.1731 Top N Loss Forward	Tabular representation of the probes with highest frame loss ratio between the source MEP and the destination MEP for a service instance in your network.
IPSLA Y.1731 Top N Loss Backward	Tabular representation of the probes with highest frame loss ratio between the destination MEP and the source MEP for a service instance in your network.

Interface Graphs

A collection of graphs representing the trends of interfaces traffic statistics over time. The reports include graphs of in/out traffic rates and in/out utilization. To generate report data, you must activate an *Interface Health* monitoring policy on your devices. For details about the information collected by Interface Health monitoring policies, see Interface Health Monitoring Policy.

Report Type	Provides:
Interface In Utilization Graph	Graphical representation of utilization percentage of interface bandwidth for inbound octets.
Interface In Traffic Graph	Graphical representation of incoming traffic, measured in bits per second, for interfaces over a specified time period.
Interface Out Utilization Graph	Graphical representation of utilization percentage of interface bandwidth for outbound octets.
Interface Out Traffic Graph	Graphical representation of outgoing traffic, measured in bits per second, for interfaces over a specified time period.

Interface Top N

A collection of Top N reports of interface traffic statistics including in/out traffic rates, in/out utilization, and interface availability. To generate report data, you must activate an *Interface Health* monitoring policy on your devices. For details about the information collected by Interface Health monitoring policies, see Interface Health Monitoring Policy.

Report Type	Provides:
Interface Top N In Utilization	Tabular representation of the list of interfaces with highest input utilization by the devices in your network. It also provides the interface index, speed, and the maximum utilization in percentage.
Interface Top N In Traffic	Tabular representation of the list of interfaces with highest incoming traffic in your network.
Interface Top N In Utilization	Tabular representation of the list of interfaces with highest output utilization by the devices in your network.
Interface Top N Out Traffic	Tabular representation of the list of interfaces with highest outgoing traffic in your network.
Interface Top N Bottom Availability	Tabular representation of the list of interfaces with lowest availability in percentage. You can customize the report result to include various other data such as, incoming/outgoing traffic, input/output utilization, input/output errors and discards for the interfaces in your network.

Interface Traffic

These reports display the interface traffic statistics including in/out traffic rates, in/out interface utilization ratio, interface availability, and interface errors and discards. You can view these reports either by sites or by service. To generate report data, you must activate an *Interface Health* monitoring policy on your devices. For details about the information collected by Interface Health monitoring policies, see Interface Health Monitoring Policy.

Report Type	Provides:
Interface Errors and Discards	Tabular representation of the list of devices and interfaces with errors and discards in your network.
Interface Traffic Report	Tabular representation of the list of interfaces with incoming and outgoing traffic measured in bits per second. It also provides the input and output traffic utilization in percentage.

Link Utilization

These reports display the interface utilization of the interfaces participating in the link, including the link aggregate group they belong to. The prerequisite for this report is to have CDP/LLDP enabled links in the network.

PWE3 Statistics

These reports display the PWE3 traffic and availability statistics including in/out traffic rates and global/in/out availability. To generate report data, you must activate an *Pseudowire Emulation Edge to Edge* monitoring policy on your devices. For details about the information collected by Pseudowire Emulation Edge to Edge monitoring policies, see Pseudowire Emulation Edge to Edge Monitoring Policy.

Report Type	Provides:
PWE3 Traffic Statistics	Tabular representation of the In byte rate, Out byte rate, In bit rate, Out bit rate, In packet rate, and Out packet rate of the Pseudowire configured on the network devices.
PWE3 Availability Statistics	Tabular representation of the percentage of global availability, percentage of In availability, and percentage of Out availability of the Pseudowire configured on the network devices.

PWE3 Top N

A collection of Top N reports of PWE3 statistics including in/out traffic rates and availability. To generate report data, you must activate an *Pseudowire Emulation Edge to Edge* monitoring policy on your devices. For details about the information collected by Pseudowire Emulation Edge to Edge monitoring policies, see Pseudowire Emulation Edge to Edge Monitoring Policy.

Report Type	Provides:
PWE3 Top N In Byte	Tabular representation of the list of devices with highest average In bytes rate and maximum In bytes rate in your network.
PWE3 Top N Out Byte	Tabular representation of the list of devices with highest average Out bytes rate and maximum Out bytes rate in your network.
PWE3 Top N In Bit	Tabular representation of the list of devices with highest average In bit rate and maximum In bit rate in your network.

Report Type	Provides:
PWE3 Top N Out Bit	Tabular representation of the list of devices with highest average Out bit rate and maximum Out bit rate in your network.
PWE3 Top N In Packet	Tabular representation of the list of devices with highest average In packet rate and maximum In packet rate in your network.
PWE3 Top N Out Packet	Tabular representation of the list of devices with highest average Out packet rate and maximum Out packet rate in your network.
PWE3 Top N Bottom Availability	Tabular representation of the list of devices with lowest percentage of global, inbound, and outbound availability in your network.

PWE3 Traffic Graphs

A collection of graphs representing the trends of PWE3 traffic over time, including in/out traffic rates and global/in/out availability. To generate report data, you must activate an *Pseudowire Emulation Edge to Edge* monitoring policy on your devices. For details about the information collected by Pseudowire Emulation Edge to Edge monitoring policies, see Pseudowire Emulation Edge to Edge Monitoring Policy.

Report Type	Provides:
PWE3 In Byte Rate Graph	Graphical representation of the actual In byte rate of the Pseudowire configured on the network devices.
PWE3 Out Byte Rate Graph	Graphical representation of the actual Out byte rate of the Pseudowire configured on the network devices.
PWE3 In Bit Rate Graph	Graphical representation of the actual In bit rate of the Pseudowire configured on the network devices.
PWE3 Out Bit Rate Graph	Graphical representation of the actual Out bit rate of the Pseudowire configured on the network devices.
PWE3 In Packet Rate Graph	Graphical representation of the actual In packet rate of the Pseudowire configured on the network devices.
PWE3 Out Packet Rate Graph	Graphical representation of the actual Out packet rate of the Pseudowire configured on the network devices.
PWE3 Global Availability Graph	Graphical representation of the percentage of global availability of the Pseudowire configured on the network devices.
PWE3 Inbound Availability Graph	Graphical representation of the percentage of inbound availability of the Pseudowire configured on the network devices.
PWE3 Outbound Availability Graph	Graphical representation of the percentage of outbound availability of the Pseudowire configured on the network devices.

Power Level Reports

A tabular representation of the Tx and Rx power levels of the A and Z end devices and their interfaces. These reports are supported only for Optical SFP and to generate this report data, you must activate an *Optical SFP* monitoring policy on your devices. For more details about the information collected by Optical SFP monitoring policies, see Optical SFP Monitoring Policy.

QoS Policing

Graphical and tabular reports that provide details about the policy map: ClassMap. The details include, direction of the policy map, average and maximum exceed byte rates, maximum exceed date, average and maximum violate byte rates, maximum violate date, average and maximum conformed byte rates, maximum conformed date, CIR and EIR current rates.

To generate report data, you must activate an *Quality of Service* monitoring policy on your devices. For details about the information collected by Quality of Service monitoring policies, see Quality of Service Monitoring Policy.

QoS Policy

Graphical and tabular reports that provide details about the policy map: ClassMap. The details include, direction of the policy map, average and maximum pre-policy and post-policy byte rates, maximum pre-policy and post-policy dates, average and maximum drop in percentage, maximum drop date, average and maximum pre-policy of CIR and interface speed in percentage, and maximum pre-policy of CIR and interface speed date.

To generate report data, you must activate an *Quality of Service* monitoring policy on your devices. For details about the information collected by Quality of Service monitoring policies, see Quality of Service Monitoring Policy.

Optical Performance Reports

Table 1: Optical Performance Reports lists the Optical Performance reports supported by Cisco EPN Manager . For all the graphical reports, ensure that you select a maximum of four interfaces when you schedule or run these reports. For all the tabular reports, use the Show field to specify the number of records to be displayed in a page when you schedule or run these reports.

The performance data displayed when you generate these reports depend on the monitoring policy parameter that you activate when you enable the monitoring policy. For a detailed list of monitoring type and the associated performance counters, see Monitoring Policies Reference. For more information about monitoring policies, see Monitor Device and Network Health and Performance. For information about how to interpret the report results, see Report Output Examples: Web GUI Output and CSV File Output, on page 18.

Note   Enable the *Optical 1 day* or *Optical 15 mins* monitoring policies to populate data for these reports.

Table 1: Optical Performance Reports

Report	Report Type	Provides:	Monitoring Policy Parameters That Must Be Activated	Parameters That Must Be Polled
Ethernet	Ethernet Reports–NCS1K, NCS2K and NCS4K	Graphical and tabular reports that lists the total number of packets requested by the higher-level protocols to be transmitted, and which were not addressed to a multicast or broadcast address at this sub-layer, including those that were discarded or not sent. The details also include total number of multicast frames transmitted error free, total number of packets requested by higher-level protocols, total number of transmitted octects, total number of octets received on the interface and number of received packets that were discarded because of errors. To customize the report output for a new report, choose **Reports** > **Report Launch Pad** > **Ethernet**, click **New**, and then click **Customize** in the **Settings** area . To customize the report output for an existing report, choose **Reports** > **Report Launch Pad** > **Ethernet**, click the required report link, and then click **Customize** in the **Settings** area.	*Optical 1 day* or *Optical 15 mins* For details about the information collected by optical monitoring policies, see Monitoring Policies Reference. For information about how to interpret the report results, see Report Output Examples: Web GUI Output and CSV File Output, on page 18.	Ethernet

Report	Report Type	Provides:	Monitoring Policy Parameters That Must Be Activated	Parameters That Must Be Polled
OTN	Section Monitoring NEnd & FEnd Reports- NCS1K, NCS2K and NCS4K	Graphical and tabular reports that list the OTN section monitoring details of devices and interfaces in the OTN circuit type. The details include number of background block errors and its ratio, number of errored seconds and its ratio, number of severely errored seconds and its ratio, number of unavailable seconds, and number of failure counts.	*Optical 1 day* or *Optical 15 mins* For details about the information collected by optical monitoring policies, seeMonitoring Policies Reference. For information about how to interpret the report results, see Report Output Examples: Web GUI Output and CSV File Output, on page 18.	OTN DWDM Infrastructure[1]
	Path Monitoring NEnd & FEnd Reports	Graphical and tabular reports that list the OTN path monitoring details of devices and interfaces in OTN circuit type. They provide details such as number of background block errors and its ratio, number of errored seconds and its ratio, number of severely errored seconds and its ratio, number of unavailable seconds, and number of failure counts.		
	Forward Error Correction Reports- NCS1K, NCS2K and NCS4K	Graphical and tabular reports that list the OTN forward error correction details of devices and interfaces in the OTN circuit type. The details include the number of bit errors corrected, number of uncorrectable words, and Pre-forward error correction based bit error counts detected during the performance monitoring time interval.		
	Tandem Connection Monitoring NEnd & FEnd Reports	Graphical and tabular reports that provide the tandem connection monitoring details for the devices and interfaces in the OTN circuit type. The details include number of background block errors and its ratio, number of errored seconds and its ratio, number of severely errored seconds and its ratio, number of unavailable seconds, and number of failure counts.		OTN
	GFP Statistics Reports–NCS2K and NCS4K	Graphical and tabular reports that provide the generic framing procedure (GFP) statistics for the devices in the OTN circuit type. The GFP statistics include number of GFP frames and bytes received and transmitted, number of single and multiple bit errors received, number of packets received with CRC errors, invalid GFP type, and invalid CID, number of CMF frames received and transmitted, and number of cHEC and tHEC multiple bit errors.		OTN DWDM Infrastructure[1]

Report	Report Type	Provides:	Monitoring Policy Parameters That Must Be Activated	Parameters That Must Be Polled
Physical	Optical Power Reports-NCS1K, NCS2K, and NCS4K	Graphical and tabular reports that provide the average, minimum, and maximum percentage of optical input and output power of the received and transmitted signal for devices in a physical circuit type.	*Optical 1 day* or *Optical 15 mins* For details about the information collected by optical monitoring policies, see Monitoring Policies Reference. For information about how to interpret the report results, see Report Output Examples: Web GUI Output and CSV File Output, on page 18.	Physical DWDM Infrastructure[1]
	Laser Bias Current Reports-NCS1K, NCS2K, and NCS4K	Graphical and tabular reports that provide the average, minimum, and maximum percentage of laser bias current. The laser bias current is the normalized value expressed as the integer percentage.		
	Optical Physical Report -NCS1K, NCS2K, NCS4K	Graphical and tabular reports that provide the average, minimum, and maximum value of optical power on the unidirectional port. The details include the average, minimum and maximum Optical Service Channel power level The details of average, minimum and maximum optical signal-to-noise ratio, optical power warning, chromatic dispersion, second order polarization mode dispersion, polarization dependent loss, differential group delay, polarization change rate, and phase noise.		

Report	Report Type	Provides:	Monitoring Policy Parameters That Must Be Activated	Parameters That Must Be Polled
SDH Or SONET	SDH Regenerator Section Report	Graphical and tabular reports that provide the performance monitoring details of the SDH regenerator section layer for the devices in your network. The details include the number of background block errors and its ratio, number of errored seconds and its ratio, number of severely errored seconds and its ratio, number of unavailable seconds, number of errored block, and number of out-of-frame seconds.	*Optical 1 day* or *Optical 15 mins* For details about the information collected by optical monitoring policies, see Monitoring Policies Reference. For information about how to interpret the report results, see Report Output Examples: Web GUI Output and CSV File Output, on page 18.	SDH/SONET DWDM Infrastructure[1]
	SDH Multiplex Section NEnd & FEnd Reports - NCS2K	Graphical and tabular reports that provide the performance monitoring details of SDH multiplex section layer for the devices in your network. The details include number of background block errors and its ratio, number of errored seconds and its ratio, number of severely errored seconds and its ratio, number of unavailable seconds, number of errored blocks, number of failure counts, protection switching — Switching count, ring count, span count, working count, duration, ring duration, span duration and working duration.		
	SDH Multiplex Section NEnd & FEnd Reports - NCS4K	Graphical and tabular reports that provide the performance monitoring details of SDH multiplex section layer for the devices in your network. The details include number of background block errors and its ratio, number of errored seconds and its ratio, number of severely errored seconds and its ratio, number of unavailable seconds, and number of errored blocks.		
	SONET Section Report	Graphical and tabular reports that provide performance monitoring details of SONET section layer for the devices in your network. The details include number of coding violations, number of errored seconds, number of severely errored seconds, and number severely errored frame seconds.		
	SONET Line NEnd & FEnd Reports - NCS2K	Graphical and tabular reports that provide performance monitoring details of SONET line layer for the devices in your network. The details include number of coding violations, number of errored seconds, number of severely errored seconds, number of unavailable seconds, number of failure counts, protection switching— Switching count, ring count, span count, working count, duration, ring duration, span duration and working duration.		

Report	Report Type	Provides:	Monitoring Policy Parameters That Must Be Activated	Parameters That Must Be Polled
	SONET Line NEnd & FEnd Reports - NCS4K	Graphical and tabular reports that provide performance monitoring details of SONET line layer for the devices in your network. The details include number of coding violations, number of errored seconds, number of severely errored seconds, number of unavailable seconds, and number of failure counts.		

1. You must activate this parameter for all Cisco Optical Networking Services (ONS) and Cisco Network Convergence System (NCS) 2000 series devices.

Performance Reports

Table 2: Performance Reports, on page 14 lists the basic performance reports supported by Cisco EPN Manager . It also lists the monitoring policies and parameters that must be enabled for each of the report type. These reports are applicable for both Optical and Carrier Ethernet technologies.

Note   These reports are not supported for Cisco NCS 2000 devices.

For more information about monitoring policies, see Monitor Device and Network Health and Performance.

Table 2: Performance Reports

Report	Report Type	Provides:	Monitoring Policies That Must Be Enabled	Parameters That Must Be Activated
Environmental Temperature	Top N Environmental Temperature	Current, average, minimum, and maximum temperature for network devices.	*Device Health*For details about the Device Health monitoring policy, see Device Health Monitoring Policy.	Environment Temperature
	Bottom N Environmental Temperature			

Report	Report Type	Provides:	Monitoring Policies That Must Be Enabled	Parameters That Must Be Activated
Interface Errors and Discards	Top N Interface Errors and Discards	Lists devices with errors and discards in your network.	*Interface Health*For details about the Interface Health monitoring policy, see Interface Health Monitoring Policy.	In/Out Packet Rate In/Out Broadcast Packet Rate
	Bottom N Interface Errors and Discards			Inbound/Outbound Discards Percentage
Threshold Violations	Threshold Violation Reports	Lists the threshold violation alarms data for your network.		Admin Status Up/Down Operational Status Up/Down Admin Status Up and Operational Status Down Percentage

Device Reports

Table 3: Device Reports, on page 15 lists the device reports supported by Cisco EPN Manager . It also lists the monitoring policies and parameters that must be enabled for each of the report type. These reports are applicable for both Optical and Carrier Ethernet technologies.

Note Device reports are not supported for Cisco NCS 2000 devices.

For more information about monitoring policies, see Monitor Device and Network Health and Performance.

Table 3: Device Reports

Report Category	Report Type	Provides:	Monitoring Policies That Must Be Enabled	Parameters That Must Be Activated
CPU Utilization	CPU Utilization	CPU utilization (%) in graph form for a specified time period. Includes information for all CPU modules on device.	*Device Health* For details about the Device Health monitoring policy, see Device Health Monitoring Policy.	CPU Utilization
	Top CPU Utilization	CPU utilization (%) in graph form for a specified time period. Includes information for all CPU modules on device.		
	Bottom CPU Utilization	Table listing all devices in descending order according to their average CPU usage for a specified time period.		

Report Category	Report Type	Provides:	Monitoring Policies That Must Be Enabled	Parameters That Must Be Activated
Detailed Hardware	Detailed Hardware	Table listing all devices in ascending order according to their average CPU usage for a specified time period.	N/A	N/A
Detailed Software	Detailed Software	Hardware information for the entire inventory or device types (for example, Switches and Hubs, Routers, and Optical Transport). Provides system information and the last time the system was updated.	N/A	N/A
Device Credential Verification	Immediate Report Check Device And Show	The credential status of the devices in your network. Includes the login, reachability, and protocol statuses of each device. Also, includes the last modified date and time for the device.	N/A	N/A
Device Health	N/A	CPU utilization, memory utilization, and availability information of the network devices for a specified time period. Includes minimum, maximum, and average for all CPU modules and memory pools on a device.	*Device Health* For details about the Device Health monitoring policy, see Device Health Monitoring Policy.	CPU Utilization
Memory Utilization	Memory Utilization Top Memory Utilization Bottom Memory Utilization	Memory utilization information for a specified time period. Includes information for all memory pools/modules.		Memory Pool Utilization

Compliance Reports

Table 4: Compliance Reports, on page 17 lists the Compliance report along with the monitoring policy and parameters that must be enabled for this report. This report is applicable for all technologies.

For more information about monitoring policies, see Monitor Device and Network Health and Performance .

Table 4: Compliance Reports

Report Category	Report Type	Provides:	Monitoring Policies That Must Be Enabled	Parameters That Must Be Polled
Change Audit	Change Audit	All actions and changes made using the system during a specified period of time, creating an audit trail. Includes a description of the action (device added, monitoring policy created, and so forth), the action category (admin, inventory), the user ID, the device IP address, and the time of the change.	N/A	N/A

Create, Schedule, and Run a New Report

The Report Launch Pad provides access to all Cisco EPN Manager reports from a single page. From this page, you can perform all report operations: Create, save, view, schedule, and customize.

To see more report details, hover the cursor over the toop tip next to the report type.

To create, schedule, and run a new report:

Step 1   From the left sidebar, choose **Reports** > **Report Launch Pad**.

Step 2   Locate the report you want to launch, then click **New**.

Step 3   In the Report Details page, complete the required fields. You can filter the reports using Report by drop-down list, filter options vary according to the report type. The parameters shown in the Report Details page depend on the report type you chose. With some reports, you are required to customize the report results. For more information about how to customize a report result, see Customize Report Results, on page 18.

Step 4   If you plan to run this report later or as a recurring report, enter the required Schedule parameters.

Step 5   To run the report, choose one of the following options:

• Run—Runs the report without saving the report setup.

• Save—Saves this report setup without immediately running the report. If you have entered Schedule parameters, the report runs automatically at the scheduled date and time.

• Run and Save—Saves this report setup and runs the report immediately.

• Save and Export—Saves the report, runs it, and exports the results to a file. You will be prompted to:

   ◦ Select the exported report's file format (CSV or PDF).

   ◦ Choose whether to send an email when the report has been generated. If you choose this option, you must enter the destination email address and the email subject line content, and choose whether you want the exported file included as an attachment to the email.

When you are finished, click **OK**.

• Save and Email—Saves the report, runs it, exports the results as a file, and emails the file. You will be prompted to:

  ◦ Select the exported report file format.

  ◦ Enter the destination email address and the email subject line content.

When you are finished, click **OK**.

• Cancel—Returns to the previous page without running or saving this report.

Customize Report Results

Many reports allow you to customize their results, letting you include or exclude different types of information. Reports that support this feature display a Customize button. Click this button to access the Create Custom Report page and customize the report results.

To customize a report result:

Step 1   Choose the report you want to customize:
a) Create a new report. Click **Reports** > **Report Launch Pad**.
b) Customize a recurring report. Click **Reports** > **Saved Report Templates** and, then click the report name hyperlink.

Step 2   In the Report Details page, click **Customize**.

Step 3   On the Create Custom Report page, complete the required information, then click **Apply** to confirm the changes.

Step 4   Click **Save** in the Report Details page.

Report Output Examples: Web GUI Output and CSV File Output

In this example, a section monitoring report is generated for Cisco NCS 2000 series devices that are available in the near end of the network. You can choose to view the result, either at the bottom of the Report Details page, or export the results to a CSV or PDF file. For more information about how to create and run a report, see Create, Schedule, and Run a New Report, on page 17.

The following figure shows how the results are displayed at the bottom of the Report Details page.

If you choose to export the result to a CSV file, the report is saved in the repository named /localdisk/ftp/reports. You can adjust the location of the report repository. For more information, see Report Purging.

The file naming convention for the CSV file is *ReportTitle_yyyymmdd_hhmmss*.csv, where *yyyymmdd* is the year, month, and date, and *hhmmss* is the hours, minutes, and seconds when the report result was exported.

The following figure shows how the results are displayed in a CSV file.

The following table explains how you can interpret the section monitoring report result.

Column Name	Description
Device Name	Name of the device that is in the near end of the network.
Device IP Address	IP address of the device.
Interface	Interface name of the device.
DateTime	Date and time when the section monitoring data was collected for the device. The value in this column depends on the report interval that you chose when you created the report. The report interval can be 15 minutes or 24 hours.
BBE-SM	Number of background block errors for the device.
BBER-SM	Background block error ratio for the device.
ES-SM	Number of errored seconds for the device.
ESR-SM	Errored seconds ratio for the device.

Column Name	Description
SES-SM	Number of severely errored seconds for the device.
SESR-SM	Severely errored seconds ratio for the device.
UAS-SM	Number of unavailable seconds for the device.
FC-SM	Number of failure counts (AIS/RFI detected) for the device.

For detailed descriptions of performance counters that are displayed in the results of other optical performance reports, see Performance Counters for Optical Monitoring Policies .

Troubleshooting Tips for an Empty Report

If the report was run successfully but you do not have an output file that can be exported, you can try one of the following troubleshooting tips:

Check if you have...	For example:
...enabled the correct monitoring policy. For details on what monitoring policies must be enabled, see Monitoring Policies Reference.	For QoS reports, QoS monitoring policy must be enabled.
... enabled the correct polling job.	For any System Monitoring report, the polling job must be enabled.
... chosen the correct device type for a particular report.	Do not choose NCS devices for generating CE Performance reports as they are optical devices.
... selected the correct time period while generating a report.	You cannot choose a 2-week time period if you enabled the policy only 2 days ago.
... configured the device properly. For more details, see Configure Devices So They Can Be Modeled and Monitored.	For QoS reports, QoS must be configured/enabled on the device.
... successful device inventory collection. For more details, see Find Devices With Inventory Collection or Discovery Problems	For the reports to have data, the inventory collection status must be **Completed**.