



proNX Service Manager Dashboard User Guide

Release

7.8



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proNX Service Manager Dashboard User Guide

7.8

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About the Documentation

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Documentation and Release Notes

To obtain the most current version of all Juniper Networks® technical documentation, see the product documentation page on the Juniper Networks website at <https://www.juniper.net/documentation/>.

If the information in the latest release notes differs from the information in the documentation, follow the product Release Notes.

Juniper Networks Books publishes books by Juniper Networks engineers and subject matter experts. These books go beyond the technical documentation to explore the nuances of network architecture, deployment, and administration. The current list can be viewed at <https://www.juniper.net/books>.

Documentation Conventions

Table 1 on page x defines notice icons used in this guide.

Table 1: Notice Icons







Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.
	Tip	Indicates helpful information.
	Best practice	Alerts you to a recommended use or implementation.

Table 2 on page x defines the text and syntax conventions used in this guide.

Table 2: Text and Syntax Conventions

Convention	Description	Examples
Bold text like this	Represents text that you type.	To enter configuration mode, type the configure command: user@host> configure
Fixed-width text like this	Represents output that appears on the terminal screen.	user@host> show chassis alarms No alarms currently active
<i>Italic text like this</i>	<ul style="list-style-type: none"> Introduces or emphasizes important new terms. Identifies guide names. Identifies RFC and Internet draft titles. 	<ul style="list-style-type: none"> A policy <i>term</i> is a named structure that defines match conditions and actions. <i>Junos OS CLI User Guide</i> RFC 1997, <i>BGP Communities Attribute</i>
<i>Italic text like this</i>	Represents variables (options for which you substitute a value) in commands or configuration statements.	Configure the machine's domain name: [edit] root@# set system domain-name <i>domain-name</i>

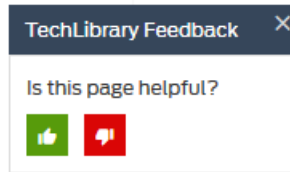
Table 2: Text and Syntax Conventions (continued)

Convention	Description	Examples
Text like this	Represents names of configuration statements, commands, files, and directories; configuration hierarchy levels; or labels on routing platform components.	<ul style="list-style-type: none">To configure a stub area, include the stub statement at the [edit protocols ospf area area-id] hierarchy level.The console port is labeled CONSOLE.
< > (angle brackets)	Encloses optional keywords or variables.	stub <default-metric <i>metric</i>>;
(pipe symbol)	Indicates a choice between the mutually exclusive keywords or variables on either side of the symbol. The set of choices is often enclosed in parentheses for clarity.	broadcast multicast (<i>string1</i> <i>string2</i> <i>string3</i>)
# (pound sign)	Indicates a comment specified on the same line as the configuration statement to which it applies.	rsvp { # Required for dynamic MPLS only
[] (square brackets)	Encloses a variable for which you can substitute one or more values.	community name members [<i>community-ids</i>]
Indentation and braces ({ })	Identifies a level in the configuration hierarchy.	<pre>[edit] routing-options { static { route default { nexthop <i>address</i>; retain; } } }</pre>
;(semicolon)	Identifies a leaf statement at a configuration hierarchy level.	
GUI Conventions		
Bold text like this	Represents graphical user interface (GUI) items you click or select.	<ul style="list-style-type: none">In the Logical Interfaces box, select All Interfaces.To cancel the configuration, click Cancel.
> (bold right angle bracket)	Separates levels in a hierarchy of menu selections.	In the configuration editor hierarchy, select Protocols>Ospf .

Documentation Feedback

We encourage you to provide feedback so that we can improve our documentation. You can use either of the following methods:

- Online feedback system—Click TechLibrary Feedback, on the lower right of any page on the [Juniper Networks TechLibrary](#) site, and do one of the following:



- Click the thumbs-up icon if the information on the page was helpful to you.
- Click the thumbs-down icon if the information on the page was not helpful to you or if you have suggestions for improvement, and use the pop-up form to provide feedback.
- E-mail—Send your comments to techpubs-comments@juniper.net. Include the document or topic name, URL or page number, and software version (if applicable).

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or Partner Support Service support contract, or are covered under warranty, and need post-sales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <https://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
- Product warranties—For product warranty information, visit <https://www.juniper.net/support/warranty/>.
- JTAC hours of operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: <https://www.juniper.net/customers/support/>
- Search for known bugs: <https://prsearch.juniper.net/>
- Find product documentation: <https://www.juniper.net/documentation/>
- Find solutions and answer questions using our Knowledge Base: <https://kb.juniper.net/>
- Download the latest versions of software and review release notes: <https://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://kb.juniper.net/InfoCenter/>

- Join and participate in the Juniper Networks Community Forum:
<https://www.juniper.net/company/communities/>
- Create a service request online: <https://myjuniper.juniper.net>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: <https://entitlementsearch.juniper.net/entitlementsearch/>

Creating a Service Request with JTAC

You can create a service request with JTAC on the Web or by telephone.

- Visit <https://myjuniper.juniper.net>.
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, see <https://support.juniper.net/support/requesting-support/>.

CHAPTER 1

Getting Started

- [proNX Service Manager Dashboard Overview on page 15](#)
- [Logging in to the proNX Service Manager Dashboard on page 16](#)
- [proNX Service Manager Dashboard Layout on page 17](#)
- [proNX Service Manager Dashboard Navigation on page 18](#)
- [Viewing the User Profile on page 24](#)
- [Changing the proNX Service Manager Dashboard Settings on page 24](#)
- [Logging Out Of the proNX Service Manager Dashboard on page 26](#)
- [Glossary Of proNX Service Manager Dashboard Glyphs on page 26](#)

proNX Service Manager Dashboard Overview

The proNX Service Manager Dashboard is a thin, web-based client that allows you to perform tasks such as viewing alarms and events, detecting network trends and anomalies, and checking the network inventory. It offers a quick way for you to assess the health of the managed network from any supported browser as long as the browser is on a machine that can reach the PSM server.



NOTE: For a list of supported browsers, see the *PSM Installation and Administration Guide*.

Unlike the PSM client, the proNX Service Manager Dashboard does not require Juniper Networks client software to be installed. Instead, users point their browsers to the PSM server to log on. User authentication for the proNX Service Manager Dashboard is performed in exactly the same manner as user authentication for the PSM client, which, by default, is by using the local RADIUS server. The browser uses HTTPS to connect to the PSM server.

The proNX Service Manager Dashboard complements the PSM client by providing an accessible alternative for monitoring the managed network. While the PSM client provides full PSM functionality, the proNX Service Manager Dashboard focuses on monitoring, visualization, and providing you with indications of network health. Summary information is presented in a way that allows you to see network issues and anomalies at a glance.

You can discover network elements, view and acknowledge alarms, and check on the health of network elements all from a browser.

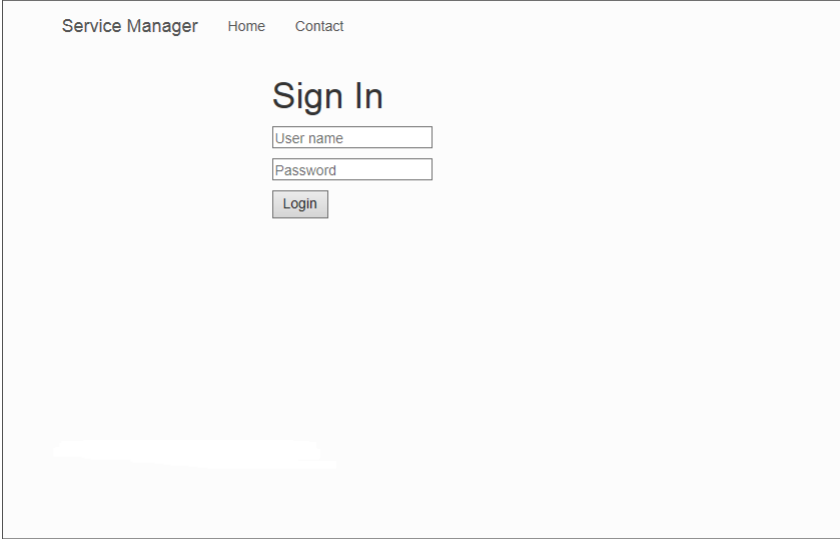
Logging in to the proNX Service Manager Dashboard

Ensure you are using a supported browser. For browser requirements, see the *proNX Service Manager Installation and Administration Guide*.

1. Point your browser to the PSM server and specify port 9000.

For example, **https://<PSM server IP>:9000**.

The login screen appears.



The screenshot shows the login interface of the proNX Service Manager Dashboard. At the top, there is a navigation bar with the text 'Service Manager' and two links, 'Home' and 'Contact'. The main heading is 'Sign In'. Below this heading are two input fields: 'User name' and 'Password'. A 'Login' button is positioned below the password field. The background of the page is a light gray with a subtle pattern.

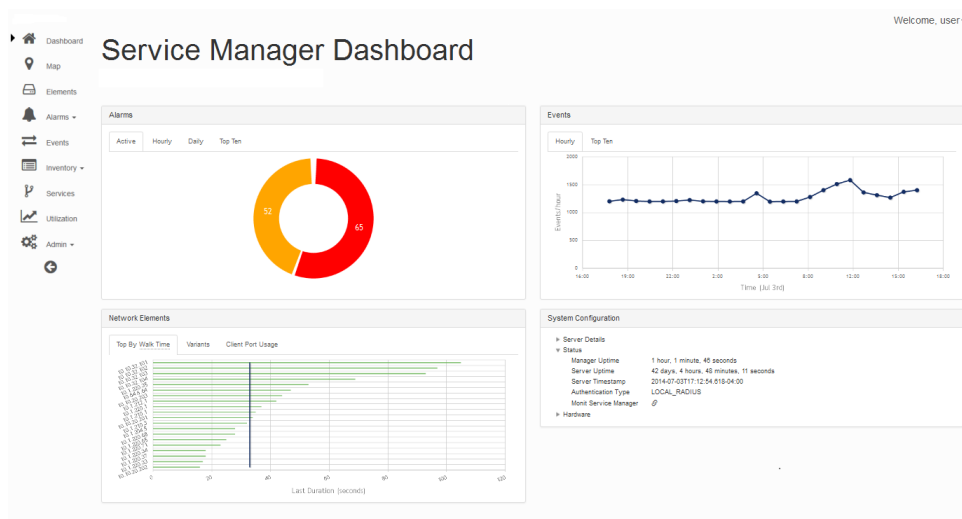


NOTE: If this is your first time connecting, your browser may complain about a possible invalid security certificate. Verify the certificate and add it as an exception.

2. Enter your username and password.

Use the same credentials as you use to log in with the PSM client.

After you log in, the proNX Service Manager Dashboard home page appears.



TIP: You can open multiple tabs in the same browser to display different proNX Service Manager Dashboard pages.



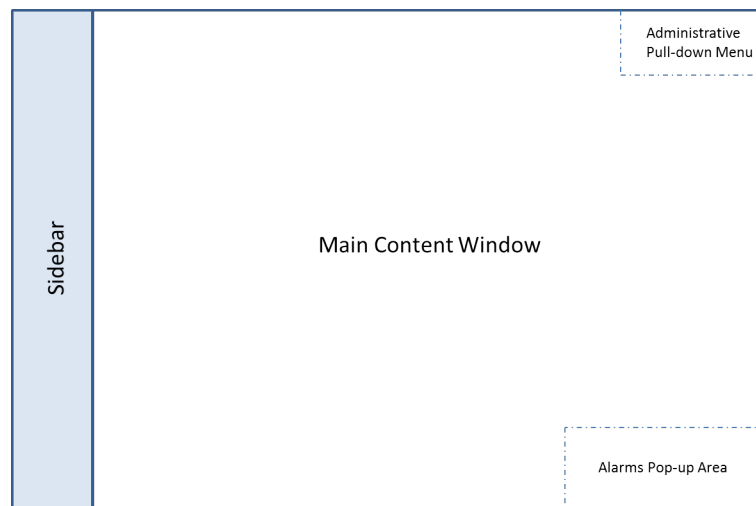
NOTE: User authorization is per browser. All proNX Service Manager Dashboard tabs in the same browser are associated with the same user. If you log out and log back in as a different user, all open proNX Service Manager Dashboard tabs will be associated with the new user.

proNX Service Manager Dashboard Layout

The proNX Service Manager Dashboard page layout consists of the following:

- a sidebar where you select the functional area you are interested in
- a main content window that is contextual with the sidebar selection
- an area for alarm pop-ups to appear
- an administrative menu for settings and user information

Figure 1: proNX Service Manager Dashboard Layout



proNX Service Manager Dashboard Navigation

The proNX Service Manager Dashboard presents content in graphical and tabular forms. Graphs allow you to see general trends and spot anomalies quickly, while tables provide you the ability to list and search for specific information. The proNX Service Manager Dashboard also presents content in pop-up windows, mouseovers, and detailed information panels.

In general, access to graphs is accomplished through the proNX Service Manager Dashboard summary view, and access to tables is accomplished through the sidebar. Links are provided in various places to allow you to navigate between different tables and graphs.

You can use the back button in the browser at any time to return to the previous page. This is particularly useful when navigating from one table back to a previous table.

- [proNX Service Manager Dashboard Summary View Navigation on page 18](#)
- [proNX Service Manager Dashboard Sidebar Navigation on page 19](#)
- [Working with Tables and Graphs on page 20](#)

proNX Service Manager Dashboard Summary View Navigation

The proNX Service Manager Dashboard summary view is the view you see when you first log in to the proNX Service Manager Dashboard. It can be reached at any time by selecting **Dashboard** from the sidebar.

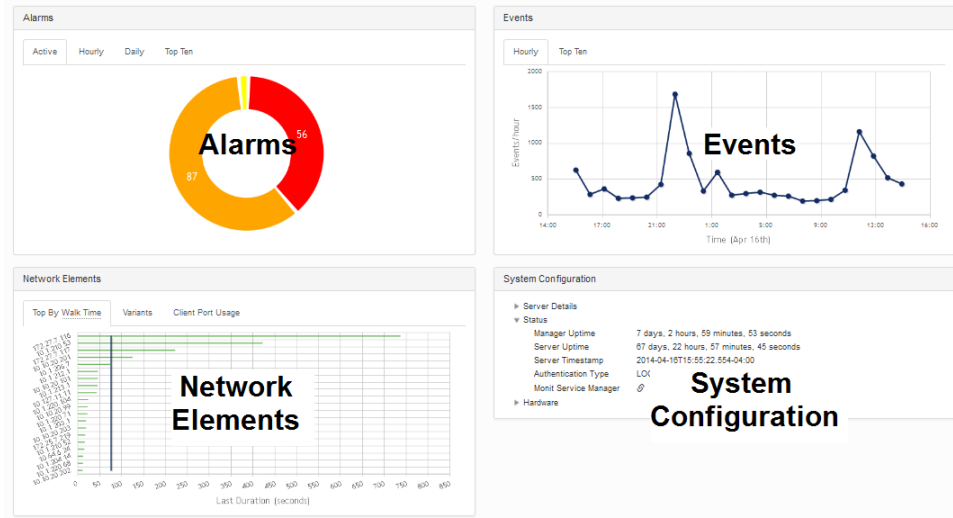
It is made up of the following sections:

- an Alarms panel that provides a graphical view of the alarms in the network
- an Events panel that provides a graphical view of the events in the network

- a Network Elements panel that provides a graphical view of network element information
- a System Configuration panel that provides information on the PSM server

Figure 2: proNX Service Manager Dashboard Summary View

Service Manager Dashboard



Additionally, alarm pop-ups may appear in the lower right corner of the proNX Service Manager Dashboard summary view. These pop-ups appear briefly when new alarms are raised.



NOTE: Alarm pop-ups may appear in other views as a configurable option.

To navigate the summary view, simply select the desired tab within a panel, and click on data in the graphs for more detail.

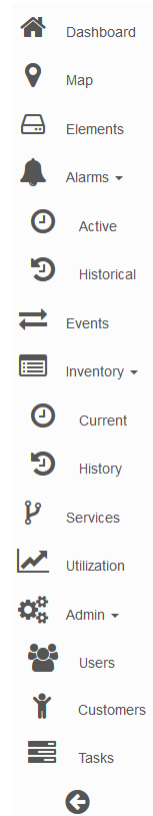
proNX Service Manager Dashboard Sidebar Navigation

The proNX Service Manager Dashboard sidebar provides direct links to the following:

- the proNX Service Manager Dashboard summary view
- the topology Map view
- network element tables
- active and historical alarms tables
- historical events tables
- current and historical inventory tables
- services tables

- utilization tables
- administration tasks

Figure 3: proNX Service Manager Dashboard Sidebar



When you select an entry in the sidebar, the main content window changes to display the selected information.

Working with Tables and Graphs

The proNX Service Manager Dashboard presents tables and graphs with a consistent look and feel regardless of the data set. Once you master working with the tables and graphs for one data set, you can use the same techniques to work with other data sets.

- [Working with Tables on page 20](#)
- [Changing the Scale in Line and Bar Graphs on page 22](#)

Working with Tables

The proNX Service Manager Dashboard provides all tables with a common set of functions regardless of the data set being presented.

Here is an example of an Events table:

Show entries

Copy Print Save Filter:

Network Element	Name	ID	Time Received
10.1.206.4	fanFault	1.3.6.1.4.1.3807.1.8012.1.3.2.4	2014-03-18 00:04:33 -0400
10.1.210.52	sysModuleMissing	1.3.6.1.4.1.18070.2.8.30.2.4.1.0.8	2014-03-04 15:57:32 -0500
10.1.210.53	sysModuleMissing	1.3.6.1.4.1.18070.2.8.30.2.4.1.0.8	2014-03-04 15:57:32 -0500
10.1.210.53	pdhAISControlWord	1.3.6.1.4.1.18070.2.8.30.2.4.5.0.8	2014-02-10 15:56:35 -0500
10.1.210.53	pdhLossOfSignal	1.3.6.1.4.1.18070.2.8.30.2.4.5.0.2	2014-02-10 15:56:28 -0500
10.1.210.53		1.3.6.1.4.1.18070.2.8.30.2.4.5.0.8	2014-02-05 17:10:52 -0500
10.1.210.53		1.3.6.1.4.1.18070.2.8.30.2.4.5.0.2	2014-02-05 17:10:44 -0500
10.1.210.53		1.3.6.1.4.1.18070.2.8.30.2.4.5.0.8	2014-02-05 15:46:47 -0500
10.1.210.53		1.3.6.1.4.1.18070.2.8.30.2.4.5.0.2	2014-02-04 04:31:47 -0500

Showing 1 to 9 of 9 entries

← Previous 1 Next →

- To sort the table entries based a particular attribute, click on the column heading for that attribute.

To reverse the order, click on the column heading again.

- To filter the table for any text string, type the text string into the **Filter** box.

The table shows the filtered entries as you type. For example:

Show entries

Copy Print Save Filter:

Network Element	Name	ID	Time Received
10.1.210.53	pdhAISControlWord	1.3.6.1.4.1.18070.2.8.30.2.4.5.0.8	2014-02-10 15:56:35 -0500
10.1.210.53	pdhLossOfSignal	1.3.6.1.4.1.18070.2.8.30.2.4.5.0.2	2014-02-10 15:56:28 -0500


Showing 1 to 2 of 2 entries (filtered from 9 total entries)

← Previous 1 Next →

- To see more detailed information for a particular row, click on that row.

An information panel appears. Here is an example of an **Event Details** panel:

Event Details	
Network Element	10.10.20.101 - Chicago
Name	oIOSCTcaEvt
ID	1.3.6.1.4.1.18070.2.2.2.1.33.1.0.2
Reference	10899038
Time Received	2014-07-09 15:41:12 -0400
Trap Count	320
First Time	2014-07-08 00:11:16 -0400
Last Time	2014-07-09 15:41:19 -0400



Panel elements with a faint underscore contain explanations. Hover over the element to see the explanation.

Panel elements with a dark underscore are links that take you to related information. Click on the link to see the related information. To return to this page after clicking on a link, use the browser back button.

- For some data sets, additional information can be obtained by clicking on the icon in the lower right corner of the pane.

A modal panel with additional information appears. Here is an example of the **Event Details** modal panel.

Event Details	
Name	Value
cpTypeIdx	1
cpShellIdx	1
cpSlotIdx	5
dbBackupAndRestoreAddress	172.25.8.117
dbBackupAndRestorePath	NeDbBackups/10.228.209.1_BT17000v12.2.2_20160616_041506
dbBackupAndRestoreResult	1
evtDateAndTime	07:e0:06:10:04:14:05:00
evtDescription	Database backup completed successfully.
evtObjectType	2
evtCodeType	31
trapSeqNum	568

Click anywhere outside the modal panel to close the modal panel.

- To copy (to clipboard), print, or save the table to a CSV, Excel, or PDF file, click on the **Copy**, **Print**, or **Save** buttons respectively.

This action applies to entries currently displayed in the table, after filtering has been applied.



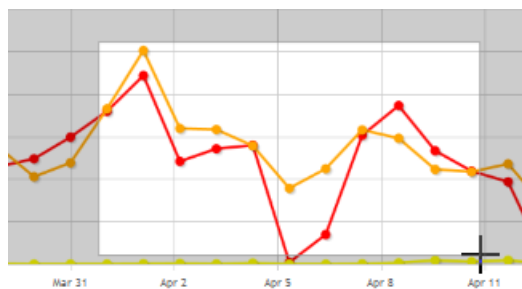
NOTE: The **Print** button puts the page into a printer-friendly view. Use the standard browser print function to print the page. Use the standard browser back button to exit the printer-friendly view.

Changing the Scale in Line and Bar Graphs

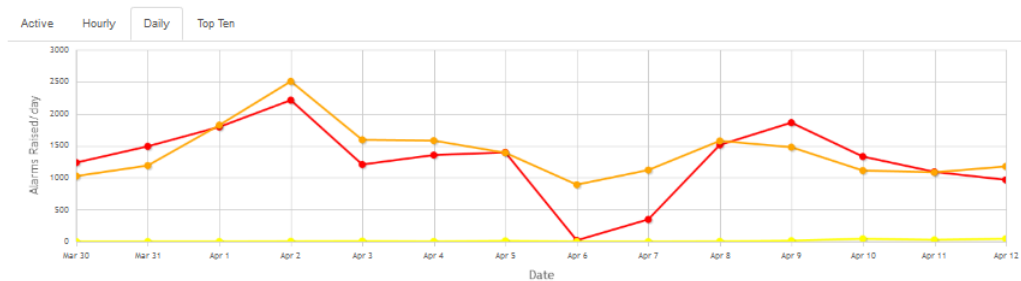
The proNX Service Manager Dashboard uses line and bar graphs to display data for some data sets. The scale of these graphs can be changed.

- To change the scale of a line graph to focus on a specific area, click and drag to form a box around the area.

For example:

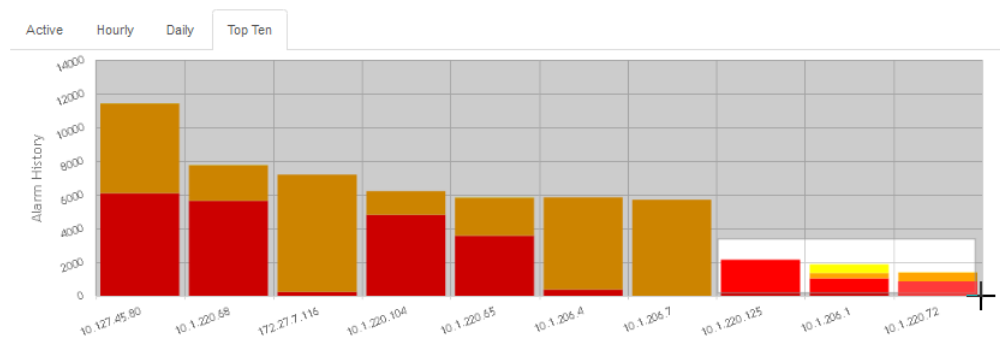


The horizontal and vertical scales of the graph are changed:

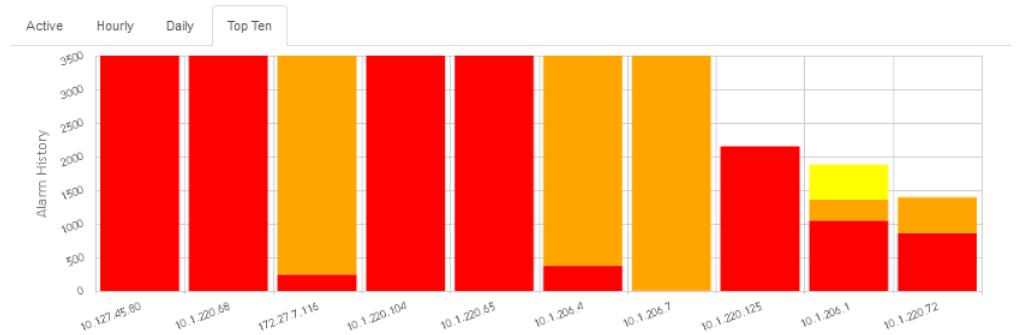


2. To change the vertical scale of a bar graph, click and drag to form the vertical delineation around the area.

For example:



The vertical scale of the graph is changed:



3. To change back to the original scale, double-click anywhere within the graph.

Viewing the User Profile

Use this procedure to view the profile of the current user.

You cannot use this procedure to change profile settings. To change user profile settings, see ["Managing Users" on page 83](#).

1. Bring up the **User Profile** window by selecting **Profile** in the administration drop-down menu (top right corner).

The **User Profile** window appears:

User Profile

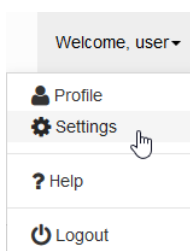
Username	user
Name	
Email	
Telephone	
Role	Administrator
Creation Date	2016-06-17T11:54:40-04:00
Local User	Yes

Changing the proNX Service Manager Dashboard Settings

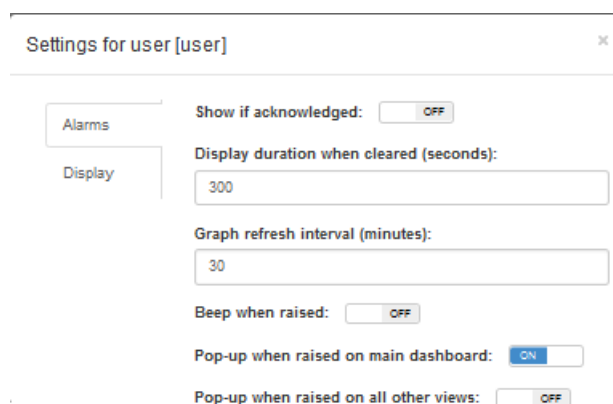
Use this procedure to change alarm and display settings.

1. Bring up the **Settings** menu by selecting **Settings** in the administration drop-down menu (top right corner).

For example:



The Settings window appears.



2. To change the alarms settings, click on **Alarms**.
 - a. To show or hide acknowledged alarms, set **Show if acknowledged** to **ON** or **OFF** respectively.

NOTE: If you change this setting while the Alarms table is being displayed, you will need to reload the Alarms table page for the change to take effect.
 - b. To set the time delay before removing cleared alarms from view, specify the **Display duration when cleared** in seconds.
 - c. To specify how often graphs are refreshed, enter the **Graph refresh interval** in minutes.
 - d. To turn on or off audio alerts for alarms, set **Beep when raised** to **ON** or **OFF** respectively.
 - e. To show alarm pop-ups in the proNX Service Manager Dashboard summary view, set **Pop-up when raised on main dashboard** to **ON**.
 - f. To show alarm pop-ups in all other views, set **Pop-up when raised on all other views** to **ON**.
3. To change the display settings, click **Display**.

- a. Specify the **Percent port utilization threshold for highlighting**.

This is the threshold at which a port is highlighted in the Port Utilization table.





Logging Out Of the proNX Service Manager Dashboard

1. From the administration drop-down menu (top right corner), select **Logout**.

This logs you out of the current tab and all other proNX Service Manager Dashboard tabs that are open in this browser.

Glossary Of proNX Service Manager Dashboard Glyphs

These glyphs are used in detailed information panels.

Glyph	Description
	Information not entered or not applicable
	Yes
	No
	Additional details

CHAPTER 2

Topology Map

- [Viewing the Topology Map on page 27](#)
- [Placing Sites on the Topology Map on page 29](#)
- [Changing the Attributes for a Site on page 30](#)
- [Viewing Optical Utilization from the Topology Map on page 30](#)

Viewing the Topology Map

The topology **Map** displays network element sites and links on a map of the world. The placement of a site on the topology **Map** is dictated by the site's latitude and longitude coordinates. These coordinates are specified in a site's Notes and can be modified using either the proNX Service Manager Dashboard or the PSM client. If no sites have been created, or if no coordinates have been configured, the **Map** is unpopulated.


This topology **Map** is independent of the topology **Map** in the PSM client. The placement of a site on the proNX Service Manager Dashboard topology **Map** is based on the configured latitude and longitude coordinates. The placement of a site on the PSM client topology **Map** is based on manual positioning.


1. Click on the **Map** icon in the left sidebar.

The proNX Service Manager Dashboard reads the latitude and longitude coordinates stored on the PSM server for each site, and places the sites and draws the links on the topology **Map**. Only those sites with latitude and longitude coordinates defined are displayed.

2. To pan around, click anywhere within the **Map** and drag the **Map** in any direction .

3. To zoom in and out:

To zoom in, click the  in the lower right corner. Alternatively, you can zoom in by double clicking anywhere on the **Map** or using your mouse scroll wheel.

To zoom out, click the  in the lower right corner. Alternatively, you can zoom out by using your mouse scroll wheel.



NOTE: If you zoom out such that two or more sites are on top of each other, a single cluster icon is displayed. To see the sites represented by the cluster icon, click on the cluster icon.

4. To see information for a site, click on the site.

An information box appears in the upper left corner, displaying the following information for the site:

- The name of the site.
 - The approximate address of the site. This address information is searched for and retrieved from an external database. It is only available if the browser machine has Internet access.
 - A visual indication of the number of alarms at the different severities for that site.
 - A list of network elements that belong to that site.
5. To see information on a network element within a site, click on the network element from within the site's information box.

A network element information box appears, displaying the following information for the network element:

- The IP address of the network element.
- The name of the element if it exists.
- The type of network element.
- A visual indication of the number of alarms at the different severities for that network element.

A link is available to take you to the network elements table, filtered for that network element.

6. To search for a site, type the name of the site in the search box in the upper left corner and click the search icon.

The topology **Map** zooms in and centers on the specified site, and the site information box appears in the upper left corner.

7. To search for a network element, type the name or IP address of the network element in the search box in the upper left corner and click the search icon.




The topology **Map** zooms in and centers on the site containing the network element, and both the site and network element information boxes appear in the upper left corner.

8. To see information on a link, click on the link.

The following information is displayed:

- The source and destination network element IP addresses and names.
- The source and destination equipment endpoints.
- The state of the link.
- The number of wavelengths used (applicable to DOL and ROADM links only).

If multiple links are represented, then information on all links is displayed.


9. To zoom out to see all sites in the **Map**, click the  icon in the lower right corner.
10. To see the **Map** in the full browser window, click on the  icon in the top right corner.
Click the  icon to go back to the regular view.

Placing Sites on the Topology Map

The topology **Map** displays all sites that have latitude and longitude coordinates configured. Use this procedure to place unmapped sites onto the topology **Map**.

1. Click on the **Map** icon in the left sidebar.

The topology **Map** is displayed, showing existing sites and links between sites.

2. Click on the **Menu**  icon in the upper left corner of the topology **Map**.

3. Select **Create or Locate Site** from the menu.

A list of discovered network elements and sites is displayed.

4. Scroll through and click on a site or network element and drag it onto the desired location on the topology **Map**.

When you drag and drop a site, the site's coordinates are automatically updated to reflect the drop location.

If you drag a network element to an empty spot on the **Map**, the network element is placed into a newly created site at the drop location, and the new site's name is automatically set to the name of the closest city or town, and the new site's coordinates are set to the drop location.

If you drag a network element onto an existing site, the network element is placed into that site.



NOTE: To change a site's name or location, see [“Changing the Attributes for a Site” on page 30](#).



NOTE: All changes made are reflected in the PSM client as well.

Changing the Attributes for a Site

You can change the name and placement of a site on the topology **Map**.




NOTE: It is recommended that you make these changes using the procedure below. If you modify a site's coordinates from the PSM client, the site is not redrawn on the proNX Service Manager Dashboard topology **Map** until you exit and reenter the **Map**.

1. Click on the **Map** icon in the left sidebar.

The topology **Map** is displayed, showing existing sites and links between sites.

2. Click on the site that you want to change.

The site information box is displayed in the upper left corner.

3. Click on the **Edit**  icon to change the site's attributes.

The **Edit Site** dialog appears displaying the following information:

- The site's name.
- The site's latitude and longitude coordinates in decimal notation. A latitude is positive for locations north of the equator. A latitude is negative for locations south of the equator. A longitude is positive when referencing a location in the eastward direction from the prime meridian. A longitude is negative when referencing a location in the westward direction from the prime meridian.

4. To change the site's name, click on the name and type in the new name.

For rules on the validity of the name, see the *proNX Service Manager User Guide*.

5. To change the site's coordinates, click on the location and type in the new coordinates in decimal notation.

6. Click **Save**.

The site is displayed at its new location with its new name, if applicable.

Viewing Optical Utilization from the Topology Map


Use this procedure to view optical utilization in a DOL or ROADM network.

Prerequisites:

- The network elements making up the DOL or ROADM network have been placed onto the map. For information on how to do this, see [“Placing Sites on the Topology Map” on page 29](#).

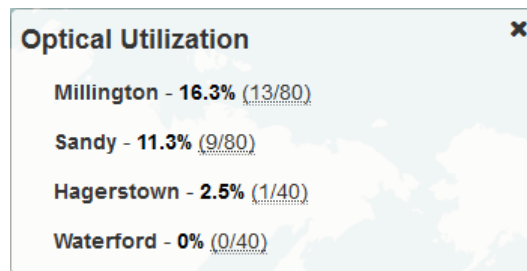
1. Click on the **Map** icon in the left sidebar.

The topology **Map** is displayed, showing existing sites and links between sites.

2. Click on the **Menu**  icon in the upper left corner of the topology **Map**.

3. Select **Optical Utilization** from the menu.

The **Optical Utilization** information box appears.



This box shows the number of wavelengths used at each site compared to the total wavelength capacity. A wavelength is considered used if it is added/dropped to a multiplexer/demultiplexer at that site, or if it is configured for passthrough at that site.

CHAPTER 3

Alarms

- [Introduction on page 33](#)
- [Viewing the Active Alarms Graph on page 33](#)
- [Viewing the Hourly Historical Alarms Graph on page 35](#)
- [Viewing the Daily Historical Alarms Graph on page 37](#)
- [Viewing the Top Ten Historical Alarms Graph on page 39](#)
- [Viewing the Active Alarms Table on page 41](#)
- [Viewing the Historical Alarms Table on page 43](#)

Introduction

The proNX Service Manager Dashboard displays active and historical alarms in both graphical and tabular forms. Operators can see at a glance problem network elements and spans, misconfigurations, and anomalous network conditions. The point-and-click interface allows operators to bring up detailed alarm data to quickly identify and isolate problems in the network.

Viewing the Active Alarms Graph

The active alarms graph shows the number of current outstanding alarms in the network and provides a clear visual indication of the current overall network health. A normal, well-behaved network should have no or very few active alarms.

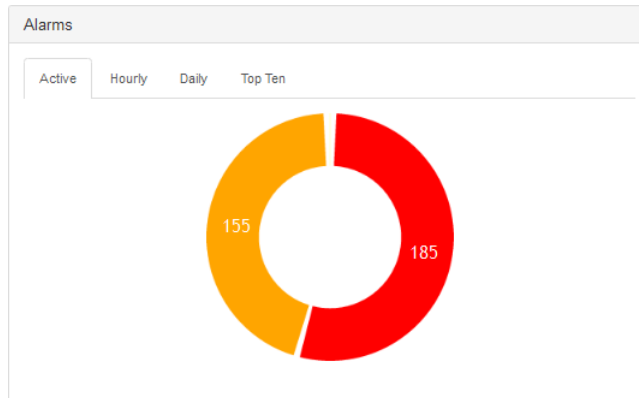
This procedure helps you identify the network elements that are raising the alarms, and to see the details of the actual alarms being raised.



NOTE: The examples in this section show a high number of alarms. This is for illustration purposes only.

1. In the **Alarms** panel on the proNX Service Manager Dashboard summary page, click the **Active** tab.

A doughnut graph depicting the number of alarms for each severity is shown. This graph is updated automatically as alarms occur.



- To view more details on the alarms for a particular severity, click on the graph within that severity.

A table pops up showing the network elements that have active alarms at that severity, sorted by number from most to least.

Counts for Major Alarms

Network Element	Alarm Count
10.127.45.80	36
10.1.220.65	12
10.1.210.53	12
10.1.206.7	11
10.65.10.231	9
10.1.206.6	8
10.1.220.68	7
10.10.20.101	5
10.1.220.104	5
10.1.220.71	5
10.1.210.52	4
10.10.20.201	3
10.1.213.1	3
172.25.7.219	3
10.1.212.1	2

- To view the actual alarms at that severity for a particular network element, click on the **Alarm Count** for that network element.

The **active alarms** table appears, filtered for the network element and severity that you selected.

Show 10 entries

Copy Print Save Filter: 10.1.206.6 major

Network Element	Description	Source	Source Type	Time Raised	Severity
10.1.206.6	Module Missing	SFP 2/3		2014-02-10 02:17:45 -0500	MAJOR
10.1.206.6	Module Missing	SFP 3/1		2014-02-10 02:11:17 -0500	MAJOR
10.1.206.6	Module Missing	SFP 3/4		2014-02-10 02:03:22 -0500	MAJOR
10.1.206.6	Module Missing	SFP 2/4		2014-02-10 02:03:21 -0500	MAJOR
10.1.206.6	Module Missing	SFP 2/2		2014-01-29 15:10:12 -0500	MAJOR
10.1.206.6	Module Missing	SFP 1/4		2014-01-29 14:43:21 -0500	MAJOR
10.1.206.6	Module Missing	SFP 1/3		2014-01-29 13:56:42 -0500	MAJOR
10.1.206.6	Module Missing	POWER 02		2014-01-09 14:37:41 -0500	MAJOR

Showing 1 to 8 of 8 entries (filtered from 343 total entries)

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For information on viewing and working with the **active alarms** table, see [“Viewing the Active Alarms Table” on page 41](#).

Viewing the Hourly Historical Alarms Graph

The hourly graph in the **Alarms** panel shows the historical alarm count over the past 24 hours. This information is useful for determining the times and durations of outages in the past 24 hours and can be used to correlate against trouble tickets or recent network maintenance periods.

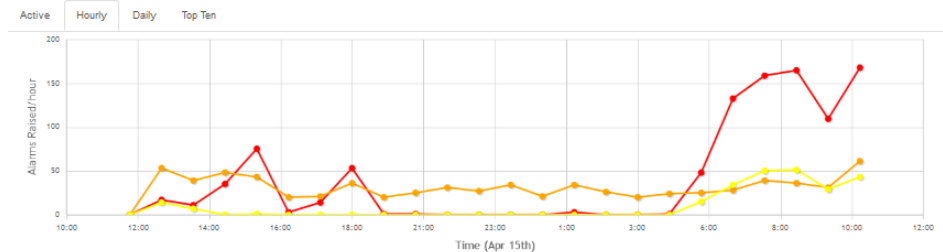
This procedure helps you identify the network elements that raised the alarms and to see the details of the actual alarms raised.



NOTE: The examples in this section show a high number of alarms. This is for illustration purposes only.

1. In the **Alarms** panel on the proNX Service Manager Dashboard summary page, click the **Hourly** tab.

A plot depicting the number of alarms that have occurred in each of the last 24 hours is displayed.



To change the scale of this graph, see [“Changing the Scale in Line and Bar Graphs”](#) on page 22.



NOTE: This graph is updated periodically based on a configurable setting (see [“Changing the proNX Service Manager Dashboard Settings”](#) on page 24), or on a browser refresh. The default update period is 30 minutes.

2. Hover over a data point to see the actual alarm count for that hour.
3. Click on a data point to see the breakdown of those alarms by network element for that hour.

A table pops up showing the network elements with alarms at that severity for that hour, sorted by number from most to least.

History Counts for Critical Alarms Raised from 05:00 to 06:00

Network Element	Alarms Total
10.1.206.1	40
10.1.206.4	7
10.1.206.5	1

4. To view the actual alarms at that severity for a particular network element, click on the **Alarms Total** for that network element.

The **historical alarms** table appears, filtered for the network element, severity, and hour that you selected.

Show 10 entries

Copy Print Save Filter: TICAL TimeRaised=2014-04-15H05

Network Element	Description	Source	Source Type	Time Raised	Time Cleared	Severity
10.1.206.1	Network element 10.1.206.1 is unreachable	PSM NE availability		2014-04-15 05:38:30 -0400		CRITICAL
10.1.206.1	Loss of signal	PWX-11-5-X2	L0, LINE	2014-04-15 05:37:57 -0400		CRITICAL
10.1.206.1	Loss of signal	PWX-11-5-G22	L0, LINE	2014-04-15 05:37:57 -0400		CRITICAL
10.1.206.1	Loss of signal	PWX-11-5-G4	L0, LINE	2014-04-15 05:37:57 -0400		CRITICAL
10.1.206.1	Loss of signal	PWX-11-5-G1	L0, LINE	2014-04-15 05:37:57 -0400		CRITICAL
10.1.206.1	Loss of signal	PWX-11-13-G2	L0, LINE	2014-04-15 05:37:59 -0400		CRITICAL
10.1.206.1	Link down	PWX-1-1-S-X2	L2, LINE	2014-04-15 05:38:04 -0400	2014-04-15 05:38:59 -0400	CRITICAL
10.1.206.1	Link down	PWX-1-1-S-G7	L2, LINE	2014-04-15 05:38:04 -0400	2014-04-15 05:38:59 -0400	CRITICAL
10.1.206.1	Link down	PWX-1-1-S-G3	L2, LINE	2014-04-15 05:38:04 -0400	2014-04-15 05:38:59 -0400	CRITICAL
10.1.206.1	Link down	PWX-1-1-S-G3	L2, LINE	2014-04-15 05:38:04 -0400	2014-04-15 05:39:32 -0400	CRITICAL

Showing 1 to 10 of 40 entries (filtered from 320,978 total entries)

Previous 1 2 3 4 Next

For information on viewing and working with the **historical alarms** table, see [“Viewing the Historical Alarms Table”](#) on page 43.

Viewing the Daily Historical Alarms Graph

The daily graph in the **Alarms** panel shows the historical alarm count over the past month. This information is useful for determining the times and durations of outages in the past month and can be used to correlate against trouble tickets or past network maintenance periods. It is also useful to help you spot network trends and to correlate the trends with other network activity such as the introduction of new nodes or software.

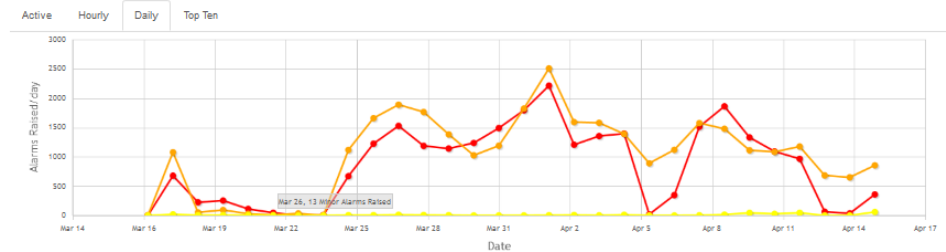
This procedure helps you identify the network elements that raised the alarms and to see the details of the actual alarms raised.



NOTE: The examples in this section show a high number of alarms. This is for illustration purposes only.

1. In the **Alarms** panel on the proNX Service Manager Dashboard summary page, click the **Daily** tab.

A plot depicting the number of alarms that have occurred in each of the last 30 days is displayed.



To change the scale of this graph, see [“Changing the Scale in Line and Bar Graphs”](#) on page 22.



NOTE: This graph is updated periodically based on a configurable setting (see [“Changing the proNX Service Manager Dashboard Settings”](#) on page 24), or on a browser refresh. The default update period is 30 minutes.

2. Hover over a data point to see the actual alarm count for that day.
3. Click on a data point to see the breakdown of those alarms by network element for that day.

A table pops up showing the network elements with alarms at that severity for that day, sorted by number from most to least.

History Counts for Critical Alarms Raised on Apr 9

Network Element	Alarms Total
10.127.45.80	411
10.1.220.104	259
10.1.220.68	240
10.1.212.1 - NewYork	101
10.1.213.1 - Dallas	95
10.1.220.65	73
10.10.20.99 - Miami	46
10.1.206.4	13
10.1.206.1	2

4. To view the actual alarms at that severity for a particular network element, click on the **Alarms Total** for that network element.

The **historical alarms** table appears, filtered for the network element, severity, and day that you selected.

Show 10 entries

Copy Print Save Filter: CRITICAL TimeRaised=2014-04-09

Network Element	Description	Source	Source Type	Time Raised	Time Cleared	Severity
10.1.212.1	Loss of frame	TPR-1-4-3	L1	2014-04-09 08:35:55 -0400	2014-04-09 08:37:53 -0400	CRITICAL
10.1.212.1	Loss of signal	TPR-1-4-3	L0	2014-04-09 08:35:57 -0400	2014-04-09 12:48:55 -0400	CRITICAL
10.1.212.1	Loss of frame	TPR-1-4-1	L1	2014-04-09 08:37:03 -0400	2014-04-09 08:37:59 -0400	CRITICAL
10.1.212.1	Loss of signal	TPR-1-4-1	L0	2014-04-09 08:37:04 -0400	2014-04-09 12:48:55 -0400	CRITICAL
10.1.212.1	Loss of frame	TPR-1-2-1	L1	2014-04-09 08:37:09 -0400	2014-04-09 08:38:04 -0400	CRITICAL
10.1.212.1	Loss of signal	TPR-1-2-1	L0	2014-04-09 08:37:10 -0400	2014-04-09 12:48:55 -0400	CRITICAL
10.1.212.1	Channel unequipped	ROB-1-19-L1-210		2014-04-09 12:11:43 -0400	2014-04-09 12:11:59 -0400	CRITICAL
10.1.212.1	Receive loss of light	ROB-1-19-C1-210		2014-04-09 12:11:46 -0400	2014-04-09 12:13:34 -0400	CRITICAL
10.1.212.1	Channel unequipped	ROB-1-19-L1-220		2014-04-09 12:14:57 -0400	2014-04-09 12:15:12 -0400	CRITICAL
10.1.212.1	Channel unequipped	ROB-1-19-L1-230		2014-04-09 12:17:48 -0400	2014-04-09 12:18:03 -0400	CRITICAL

Showing 1 to 10 of 101 entries (filtered from 320,978 total entries)

Previous 1 2 3 4 5 Next

For information on viewing and working with the **historical alarms** table, see “[Viewing the Historical Alarms Table](#)” on page 43.

Viewing the Top Ten Historical Alarms Graph

The top ten graph in the **Alarms** panel shows the historical alarm count for the ten network elements with the most alarms over the past month.

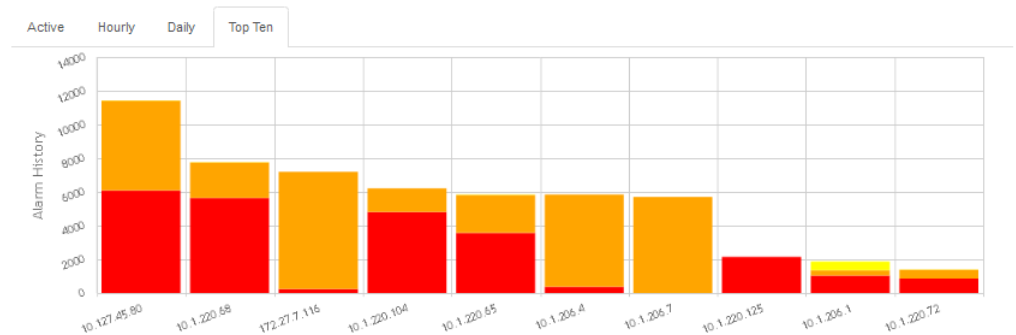
In many network situations, a misconfigured node or faulty hardware on a particular node may skew the network alarms count. This procedure allows you to quickly identify the culprit network element(s) and to see the details of the alarms raised.



NOTE: The examples in this section show a high number of alarms. This is for illustration purposes only.

1. In the **Alarms** panel on the proNX Service Manager Dashboard summary page, click the **Top Ten** tab.

A bar graph showing the number of alarms for the top ten network elements is displayed.



To change the scale of this graph, see [“Changing the Scale in Line and Bar Graphs”](#) on page 22.



NOTE: This graph is updated periodically based on a configurable setting (see [“Changing the proNX Service Manager Dashboard Settings”](#) on page 24), or on a browser refresh. The default update period is 30 minutes.

2. Click on a severity to see the breakdown of alarms for that NE by AID (access identifier). An access identifier uniquely identifies a component or object.

A table pops up showing the alarms at that severity for that NE, sorted from the AID with the most alarms to the AID with the least alarms.

Alarm History Counts for Critical Alarms at 10.1.206.4

AID	Alarm	First	Last	Count
GigE/3	Link down.	2014-02-25	2014-04-15	<u>80</u>
LAG/1	Link down.	2014-02-25	2014-04-15	<u>79</u>
GigE/11	Link down.	2014-02-25	2014-04-15	<u>40</u>
GigE/5	Link down.	2014-02-25	2014-04-15	<u>33</u>
XGig/25	Link down.	2014-02-11	2014-04-14	<u>11</u>
GigE/23	Link down.	2014-02-11	2014-04-14	<u>11</u>
GigE/16	Link down.	2014-02-11	2014-04-14	<u>11</u>
GigE/19	Link down.	2014-02-11	2014-04-14	<u>11</u>
LAG/2	Link down.	2014-02-11	2014-04-14	<u>11</u>
GigE/12	Link down.	2014-02-11	2014-04-14	<u>11</u>
GigE/18	Link down.	2014-02-11	2014-04-14	<u>11</u>
GigE/17	Link down.	2014-02-11	2014-04-14	<u>11</u>
GigE/15	Link down.	2014-02-11	2014-04-14	<u>11</u>
XGig/26	Link down.	2014-02-12	2014-04-14	<u>11</u>
LAG/4	Link down.	2014-02-12	2014-04-14	<u>11</u>

- To view the actual alarms at that severity for a particular AID, click on the **Count** for that AID.

The **historical alarms** table appears, filtered for the network element, severity, and AID that you selected.

Show 10 entries

Copy Print Save Filter: 10.1.206.4 LAG/2 Critical Link down

Network Element	Description	Source	Source Type	Time Raised	Time Cleared	Severity
10.1.206.4	Link down.	LAG/2		2014-02-11 15:19:47 -0500	2014-02-16 02:33:31 -0500	CRITICAL
10.1.206.4	Link down.	LAG/2		2014-02-19 02:35:51 -0500	2014-02-22 15:40:32 -0500	CRITICAL
10.1.206.4	Link down.	LAG/2		2014-02-22 15:43:05 -0500	2014-02-24 11:37:05 -0500	CRITICAL
10.1.206.4	Link down.	LAG/2		2014-02-24 11:53:37 -0500	2014-03-12 14:59:18 -0400	CRITICAL
10.1.206.4	Link down.	LAG/2		2014-03-12 15:00:09 -0400	2014-03-25 10:22:46 -0400	CRITICAL
10.1.206.4	Link down.	LAG/2		2014-03-25 10:27:05 -0400	2014-03-25 15:01:16 -0400	CRITICAL
10.1.206.4	Link down.	LAG/2		2014-03-25 15:04:35 -0400	2014-03-27 11:27:16 -0400	CRITICAL
10.1.206.4	Link down.	LAG/2		2014-03-27 11:28:23 -0400	2014-03-28 03:21:55 -0400	CRITICAL
10.1.206.4	Link down.	LAG/2		2014-03-28 03:32:25 -0400	2014-04-03 03:46:16 -0400	CRITICAL
10.1.206.4	Link down.	LAG/2		2014-04-03 03:46:05 -0400	2014-04-14 09:50:31 -0400	CRITICAL

Showing 1 to 10 of 11 entries (filtered from 320,306 total entries)

Previous 1 2 Next

For information on viewing and working with the **historical alarms** table, see [“Viewing the Historical Alarms Table”](#) on page 43.

Viewing the Active Alarms Table

The active alarms table shows detailed information on active alarms and can be reached through the **Alarms** panel or directly through the sidebar.

1. Click on the **Alarms** icon in the left sidebar and select **Active**.

The alarms table is displayed:

Show entries

Copy Print Save Filter:

Network Element	Description	Source	Source Type	Time Raised	Severity
10.127.45.80	Loss of Signal	10ge:1/12/2/9	L0, CLIENT	2014-03-17 19:15:56 -0400	CRITICAL
10.127.45.80	Loss of Signal	10ge:1/12/2/4	L0, CLIENT	2014-03-17 19:15:56 -0400	CRITICAL
10.127.45.80	Loss of Signal	10ge:1/12/2/2	L0, CLIENT	2014-03-17 19:15:56 -0400	CRITICAL
10.127.45.80	ODU Open Connection Indication	odu2:1/12/1/7	LINE	2014-03-17 19:15:56 -0400	CRITICAL
10.127.45.80	Loss of Signal	10ge:1/12/2/1	L0, CLIENT	2014-03-17 19:15:56 -0400	CRITICAL
10.127.45.80	Loss of Signal	10ge:1/3/1/11	L0, CLIENT	2014-03-17 19:15:55 -0400	CRITICAL
10.127.45.80	Loss of Signal	otu2:1/10/2/8	L0, LINE	2014-03-17 19:15:49 -0400	CRITICAL
10.127.45.80	Loss of Signal	10ge:1/6/1/6	L0, CLIENT	2014-03-17 19:15:38 -0400	CRITICAL
10.127.45.80	Loss of Signal	otu2:2/6/1/12	L0, LINE	2014-03-17 19:15:38 -0400	CRITICAL
10.127.45.80	Loss of Signal	10ge:2/6/1/11	L0, CLIENT	2014-03-17 19:15:38 -0400	CRITICAL

Showing 1 to 10 of 343 entries

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By default, the alarms are sorted first by **Severity** then by **Time Raised**.



NOTE: This table is updated automatically as alarms occur.

2. To pause the updating of the alarms table, click the pause button.

To resume updating the alarms table, click the play button.

3. To see more details on an alarm, click on a row.

The **Active Alarm Details** panel appears:

Active Alarm Details	
Network Element	<u>10.1.212.1 - NewYork</u>
Description	Loss of synchronization.
Source	TPR-1-2-4
Reference	<u>1812306</u>
Time Raised	2014-07-09 14:18:53 -0400
Time Cleared	2014-07-09 14:19:06 -0400
Severity	CRITICAL
Service Affecting	<input checked="" type="checkbox"/>
Assigned User	<input type="checkbox"/>
Acknowledged	<input type="checkbox"/>
Category	XCVR
Condition Type	Loss of synchronization.
Identifier	<input type="checkbox"/>
Alarm Count	9
First Time	2014-07-07 14:51:02 -0400
Last Time	2014-07-09 14:18:53 -0400



NOTE: Panel elements with a faint underscore contain explanations. Hover over the element to see this information.



NOTE: To see more information for the network element, click the network element link. This brings up the network elements table, filtered for the network element. For information on viewing the network elements table, see “[Viewing the Network Elements Table](#)” on page 57.



NOTE: The Reference link allows you to see the raw Representational State Transfer (REST) data provided by PSM for this alarm. Depending on the browser, you can save the REST data as a file, or you can open a webpage to the REST data stored on the PSM server. If you want to view the REST data as a webpage, ensure that your browser meets the requirements specified in the *proNX Service Manager Installation and Administration Guide*.



TIP: When navigating between the different tables, use the browser back button to return to the previous page.

4. To acknowledge an alarm, right-click an unacknowledged alarm and select **Acknowledge**.
5. To unacknowledge an alarm, right-click an acknowledged alarm and select **Unacknowledge**.
6. To sort, filter, copy, print, or save table entries, see “[Working with Tables](#)” on page 20.

Viewing the Historical Alarms Table

The historical alarms table shows detailed information on historical alarms and can be reached through the **Alarms** panel or directly through the sidebar.

1. Click on the **Alarms** icon in the left sidebar and select **Historical**.

The historical alarms table is displayed:

Show 10 entries

Copy Print Save Filter

Network Element	Description	Source	Source Type	Time Raised	Time Cleared	Severity
10.1.220.4	Fan Fault	Fan 3		2014-04-15 13:44:03 -0400		MAJOR
10.1.220.4	Fan Fault	Fan 3		2014-04-15 13:43:11 -0400	2014-04-15 13:44:01 -0400	MAJOR
10.1.220.72	Equipment Mgmt: Communications	ether1/2		2014-04-15 13:42:01 -0400	2014-04-15 13:44:47 -0400	MAJOR
10.1.220.4	Fan Fault	Fan 3		2014-04-15 13:41:48 -0400	2014-04-15 13:42:01 -0400	MAJOR
10.1.220.4	Fan Fault	Fan 3		2014-04-15 13:36:47 -0400	2014-04-15 13:38:01 -0400	MAJOR
10.1.220.72	Network element 10.1.220.72 is unreachable	PSM NE availability		2014-04-15 13:36:30 -0400	2014-04-15 13:38:38 -0400	CRITICAL
10.1.220.104	Optical Power Re Low Threshold	10ge1/9/2/12	CLIENT	2014-04-15 13:36:22 -0400	2014-04-15 13:40:48 -0400	MAJOR
10.1.220.88	Equipment Mgmt: Communications	comm1/B		2014-04-15 13:34:30 -0400		MAJOR
10.1.220.88	Equipment Missing	comm1/B		2014-04-15 13:33:55 -0400	2014-04-15 13:34:30 -0400	CRITICAL
10.1.220.4	Fan Fault	Fan 3		2014-04-15 13:33:50 -0400	2014-04-15 13:34:01 -0400	MAJOR

Showing 1 to 10 of 320,565 entries

Previous 1 2 3 4 5 Next

By default, the alarms are sorted by **Time Raised**.

2. To see the next level of information for an alarm, click on the row for that alarm.

The **Historical Alarm Details** panel appears:

Historical Alarm Details	
Network Element	10.1.210.50
Description	Module Missing
Source	PWR02
Reference	12438
Time Raised	2013-04-02 20:20:04 -0400
Severity	MAJOR
Service Affecting	<input type="checkbox"/>
Assigned User	<input checked="" type="checkbox"/>
Acknowledged	<input type="checkbox"/>
Category	SYSTEM
Condition Type	sysModuleMissing
Identifier	<input checked="" type="checkbox"/>
Alarm Count	1
First Time	2013-04-02 20:20:04 -0400
Last Time	2013-04-02 20:20:04 -0400



NOTE: Panel elements with a faint underscore contain explanations. Hover over the element to see this information.



NOTE: To see more information for the network element, click on the network element link. This brings up the network elements table, filtered for the network element. For information on viewing the network elements table, see “[Viewing the Network Elements Table](#)” on page 57.



NOTE: The Reference link allows you to see the raw Representational State Transfer (REST) data provided by PSM for this alarm. Depending on the browser, you can save the REST data as a file, or you can open a webpage to the REST data stored on the PSM server. If you want to view the REST data as a webpage, ensure that your browser meets the requirements specified in the *proNX Service Manager Installation and Administration Guide*.



TIP: When navigating between the different tables, use the browser back button to return to the previous page.

3. To sort, filter, copy, print, or save table entries, see “[Working with Tables](#)” on page 20.

CHAPTER 4

Events

- [Introduction on page 45](#)
- [Viewing the Hourly Historical Events Graph on page 45](#)
- [Viewing the Top Ten Historical Events Graph on page 47](#)
- [Viewing the Historical Events Table on page 49](#)

Introduction

The proNX Service Manager Dashboard displays events in both graphical and tabular forms. Events include alarms, non-alarmed conditions such as threshold crossing alerts, as well as notifications of routine transactions and behavior. A high event count does not necessarily indicate errors in the network but should warrant further investigation. The point-and-click interface allows you to bring up detailed event data to quickly analyze events in the network.

Viewing the Hourly Historical Events Graph

The hourly graph in the **Events** panel shows the historical event count over the past 24 hours. A high event count is not necessarily anomalous, but should be analyzed further.

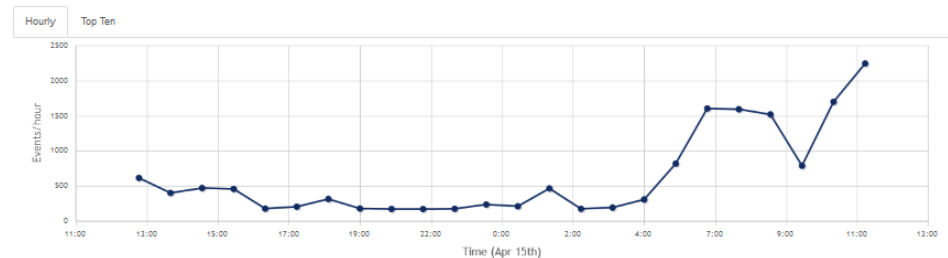
This procedure helps you identify the network elements that raised the events and to see the details of the actual events raised.



NOTE: The examples in this section show a high number of events. This is for illustration purposes only.

1. In the **Events** panel on the proNX Service Manager Dashboard summary page, click the **Hourly** tab.

A plot depicting the number of events that have occurred in each of the last 24 hours is displayed.



To change the scale of this graph, see [“Changing the Scale in Line and Bar Graphs”](#) on page 22.



NOTE: This graph is updated periodically based on a configurable setting (see [“Changing the proNX Service Manager Dashboard Settings”](#) on page 24), or on a browser refresh. The default update period is 30 minutes.

2. Hover over a data point to see the event count for that hour.
3. Click on a data point to see a breakdown of those events by network element.

A table pops up showing the network elements with events over the specified hour, sorted by number from most to least.

Counts for Events from 01:00 to 02:00

Network Element	Events Hourly Total
172.27.7.117	<u>298</u>
10.10.20.201 - East	<u>62</u>
10.10.20.203 - West	<u>32</u>
10.1.208.1	<u>20</u>
10.1.208.4	<u>18</u>
10.10.20.202 - NorthWest	<u>17</u>
10.1.213.1 - Dallas	<u>16</u>
10.1.212.1 - NewYork	<u>1</u>
10.10.20.99 - Miami	<u>1</u>

4. To see event details for a particular network element, click on the **Events Hourly Total** for that network element.

The **events** table appears, filtered for the network element and hour that you selected.

Show 10 entries

Copy Print Save Filter: 101 TimeReceived=2014-04-14H18

Network Element	Name	ID	Time Received
10.10.20.201 - East	privESrvdWPrfBDWUtzToaEvt	1.3.6.1.4.1.18070.2.2.2.1.26.0.1	2014-04-14 18:59:00 -0400
10.10.20.201 - East	privESrvdWPrfBDWUtzToaEvt	1.3.6.1.4.1.18070.2.2.2.1.26.0.1	2014-04-14 18:59:13 -0400
10.10.20.201 - East	privESrvdWPrfBDWUtzToaEvt	1.3.6.1.4.1.18070.2.2.2.1.26.0.1	2014-04-14 18:59:26 -0400
10.10.20.201 - East	privESrvdWPrfBDWUtzToaEvt	1.3.6.1.4.1.18070.2.2.2.1.26.0.1	2014-04-14 18:59:10 -0400
10.10.20.201 - East	privESrvdWPrfBDWUtzToaEvt	1.3.6.1.4.1.18070.2.2.2.1.26.0.1	2014-04-14 18:59:59 -0400
10.10.20.201 - East	ethL1IFToaEvt	1.3.6.1.4.1.18070.2.2.2.1.21.0.2	2014-04-14 18:45:12 -0400
10.10.20.201 - East	ethL1IFToaEvt	1.3.6.1.4.1.18070.2.2.2.1.21.0.2	2014-04-14 18:45:12 -0400
10.10.20.201 - East	ethL1IFToaEvt	1.3.6.1.4.1.18070.2.2.2.1.21.0.2	2014-04-14 18:45:12 -0400
10.10.20.201 - East	ethL1IFToaEvt	1.3.6.1.4.1.18070.2.2.2.1.21.0.2	2014-04-14 18:45:12 -0400
10.10.20.201 - East	ethL1IFToaEvt	1.3.6.1.4.1.18070.2.2.2.1.21.0.2	2014-04-14 18:45:12 -0400

Showing 1 to 10 of 60 entries (filtered from 20,257 total entries)

Previous 1 2 3 4 5 Next

For information on viewing and working with the **events** table, see [“Viewing the Historical Events Table”](#) on page 49.

Viewing the Top Ten Historical Events Graph

The top ten graph in the **Events** panel shows the historical event count for the ten network elements with the most events in the past 24 hours.

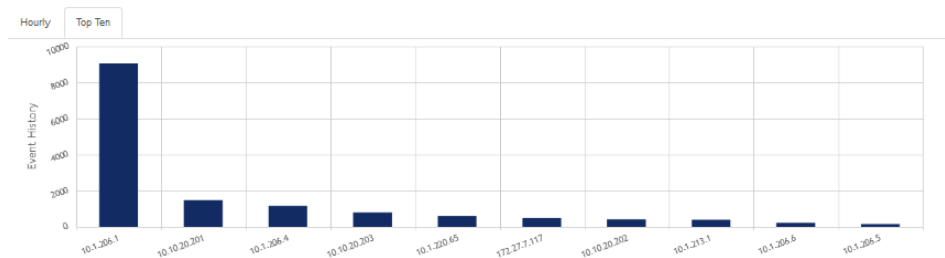
In many network situations, a misconfigured node or faulty hardware on a particular node may skew the network events count. This procedure allows you to quickly identify the culprit network element(s) and to see the details of the events raised.



NOTE: The examples in this section show a high number of events. This is for illustration purposes only.

1. In the **Events** panel on the proNX Service Manager Dashboard summary page, click the **Top Ten** tab.

A bar graph showing the number of events for the top ten network elements is displayed.



To change the scale of this graph, see [“Changing the Scale in Line and Bar Graphs”](#) on page 22.



NOTE: This graph is updated periodically based on a configurable setting (see [“Changing the proNX Service Manager Dashboard Settings”](#) on page 24), or on a browser refresh. The default update period is 30 minutes.

2. Click on a bar to see the breakdown of events for that NE by event type.

A table pops up showing the events for that NE, sorted from the event with the most occurrences to the event with the least occurrences.

Event History Counts for 10.10.20.202

Event	First	Last	Count
ethL1IFTcaEvt	2014-04-15	2014-04-16	629
dbChangeEvt	2014-04-15	2014-04-16	110
cfmRMepState...	2014-04-15	2014-04-16	77
pvxESrvOper...	2014-04-16	2014-04-16	57
ethL1IFStatusC...	2014-04-15	2014-04-16	32
olsLinkDownClear	2014-04-15	2014-04-16	18
olsLinkDownCond	2014-04-15	2014-04-16	18
pvxVlanPortRe...	2014-04-16	2014-04-16	11
pvxLldpRemTab...	2014-04-15	2014-04-16	10
dbChangeSecu...	2014-04-16	2014-04-16	9
opDbBackupRe...	2014-04-15	2014-04-16	9
pluggableInvPlu...	2014-04-16	2014-04-16	9
pvxVlanPortAdd...	2014-04-16	2014-04-16	9
olsInputLOSClear	2014-04-15	2014-04-16	7

- To view the actual events for a specific type, click on the **Count** for that event.

The **historical events** table appears, filtered for the network element and event that you selected.

Show 10 entries

Copy Print Save Filter: 10.10.20.201 dbChangeSecuEvt

Network Element	Name	ID	Time Received
10.10.20.201 - East	dbChangeSecuEvt	1.3.6.1.4.1.18070.2.2.3.0.3	2014-04-16 16:08:32 -0400
10.10.20.201 - East	dbChangeSecuEvt	1.3.6.1.4.1.18070.2.2.3.0.3	2014-04-16 15:27:14 -0400
10.10.20.201 - East	dbChangeSecuEvt	1.3.6.1.4.1.18070.2.2.3.0.3	2014-04-16 15:25:13 -0400
10.10.20.201 - East	dbChangeSecuEvt	1.3.6.1.4.1.18070.2.2.3.0.3	2014-04-16 15:25:09 -0400
10.10.20.201 - East	dbChangeSecuEvt	1.3.6.1.4.1.18070.2.2.3.0.3	2014-04-16 15:06:37 -0400
10.10.20.201 - East	dbChangeSecuEvt	1.3.6.1.4.1.18070.2.2.3.0.3	2014-04-16 15:06:32 -0400
10.10.20.201 - East	dbChangeSecuEvt	1.3.6.1.4.1.18070.2.2.3.0.3	2014-04-16 13:37:29 -0400
10.10.20.201 - East	dbChangeSecuEvt	1.3.6.1.4.1.18070.2.2.3.0.3	2014-04-16 13:34:05 -0400
10.10.20.201 - East	dbChangeSecuEvt	1.3.6.1.4.1.18070.2.2.3.0.3	2014-04-16 13:34:02 -0400
10.10.20.201 - East	dbChangeSecuEvt	1.3.6.1.4.1.18070.2.2.3.0.3	2014-04-16 12:02:10 -0400

Showing 1 to 10 of 18 entries (filtered from 20,990 total entries)

Previous 1 2 Next

For information on viewing and working with the **historical events** table, see [“Viewing the Historical Events Table” on page 49](#).

Viewing the Historical Events Table

The events table shows information on historical events and can be reached through the Events panel or directly through the sidebar.

1. Click on the **Events** icon in the left sidebar.

The events table is displayed:

Show entries

Copy Print Save Filter

Network Element	Name	ID	Time Received
10.1.206.4	fanFault	1.3.6.1.4.1.3807.1.8012.1.3.2.4	2014-03-18 00:04:33 -0400
10.1.210.52	sysModuleMissing	1.3.6.1.4.1.18070.2.8.30.2.4.1.0.8	2014-03-04 15:57:32 -0500
10.1.210.53	sysModuleMissing	1.3.6.1.4.1.18070.2.8.30.2.4.1.0.8	2014-03-04 15:57:32 -0500
10.1.210.53	pdhAISControlWord	1.3.6.1.4.1.18070.2.8.30.2.4.5.0.8	2014-02-10 15:56:35 -0500
10.1.210.53	pdhLossOfSignal	1.3.6.1.4.1.18070.2.8.30.2.4.5.0.2	2014-02-10 15:56:28 -0500
10.1.210.53		1.3.6.1.4.1.18070.2.8.30.2.4.5.0.8	2014-02-05 17:10:52 -0500
10.1.210.53		1.3.6.1.4.1.18070.2.8.30.2.4.5.0.2	2014-02-05 17:10:44 -0500
10.1.210.53		1.3.6.1.4.1.18070.2.8.30.2.4.5.0.8	2014-02-05 15:46:47 -0500
10.1.210.53		1.3.6.1.4.1.18070.2.8.30.2.4.5.0.2	2014-02-04 04:31:47 -0500

Showing 1 to 9 of 9 entries

← Previous 1 Next →

By default, the events are sorted by **Time Received**.



NOTE: New events are not automatically updated on the screen. To see the new events, exit and reenter the events table screen (or refresh your browser).

2. To see more details on an event, click on a row.

The **Event Details** pane appears. For example:

Event Details	
Network Element	10.10.20.101 - Chicago
Name	oIOSCTeaEvt
ID	1.3.6.1.4.1.18070.2.2.2.1.33.1.0.2
Reference	10899038
Time Received	2014-07-09 15:41:12 -0400
Trap Count	320
First Time	2014-07-08 00:11:16 -0400
Last Time	2014-07-09 15:41:19 -0400



NOTE: Panel elements with a faint underscore contain explanations. Hover over the element to see this information.



NOTE: To see more information for the network element, click on the network element link. This brings up the network elements table, filtered for the network element. For information on viewing the network elements table, see [“Viewing the Network Elements Table” on page 57](#).



NOTE: The Reference link allows you to see the raw Representational State Transfer (REST) data provided by PSM for this event. Depending on the browser, you can save the REST data as a file, or you can open up webpage to the REST data stored on the PSM server. If you want to view the REST data as a webpage, ensure that your browser meets the requirements specified in the *proNX Service Manager Installation and Administration Guide*.



TIP: When navigating between the different tables, use the browser back button to return to the previous page.

3. To see the event details in a different (raw) format, click on the additional information icon in the lower right corner of the pane.

The **Event Details** modal panel appears. For example:

Event Details	
Name	Value
cpTypeIdx	1
cpShellIdx	1
cpSlotIdx	5
dbBackupAndRestoreAddress	172.25.8.117
dbBackupAndRestorePath	NeDbBackups/10.228.209.1_BT17000v12.2.2_20160616_041506
dbBackupAndRestoreResult	1
evtDateAndTime	07-e0.06:10:04:14:05:00
evtDescription	Database backup completed successfully.
evtObjectType	2
evtCodeType	31
trapSeqNum	568

Click anywhere outside the modal panel to close the modal panel.

4. To sort, filter, copy, print, or save table entries, see [“Working with Tables” on page 20](#).

CHAPTER 5

Network Elements and Inventory

- [Introduction on page 53](#)
- [Viewing the Network Elements Walk Time Graph on page 53](#)
- [Viewing the Network Elements Variants Graph on page 55](#)
- [Viewing the Network Elements Client Port Usage Graph on page 56](#)
- [Viewing the Network Elements Table on page 57](#)
- [Discovering a Network Element on page 59](#)
- [Undiscovering a Network Element on page 61](#)
- [Viewing the Current Inventory Table on page 62](#)
- [Viewing the Inventory History on page 63](#)

Introduction

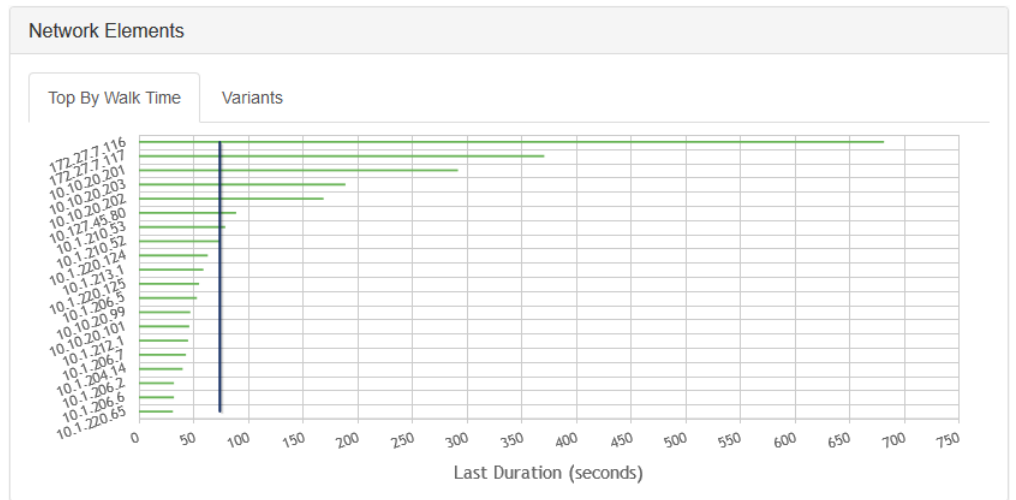
The proNX Service Manager Dashboard presents network element and inventory information in graphical and tabular forms. You can see at a glance the types of network elements deployed in the network, their data retrieval times, the network client port capacities, as well as detailed inventory information.

Viewing the Network Elements Walk Time Graph

The top by walk time graph in the **Network Elements** panel shows the network elements organized by their most recent data retrieval (walk) time, which is the time the PSM server takes to read the complete set of information from a network element. While highly populated network elements with many services tend to require longer walk times, a long walk time may also indicate excessive network latency, which could impact services and SLAs.

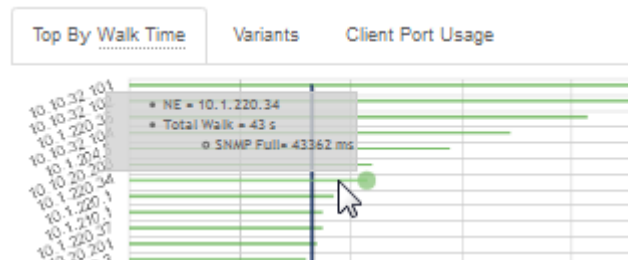
1. In the **Network Elements** pane on the proNX Service Manager Dashboard summary view, click the **Top By Walk Time** tab.

A graph listing the 20 network elements with the longest walk times is displayed.

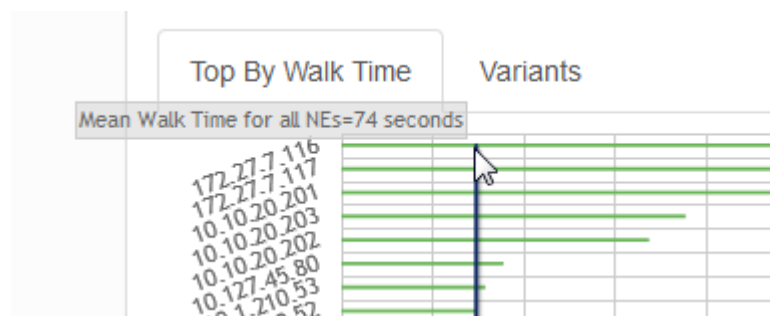


NOTE: This graph is updated periodically based on a configurable setting (see [“Changing the proNX Service Manager Dashboard Settings”](#) on page 24), or on a browser refresh. The default update period is 30 minutes.

- Each bar in the graph represents the walk time for the respective network element. Hover over a bar to see the actual walk time value.



- The vertical line represents the mean walk time for the network. Hover over the line to see the mean walk time value.

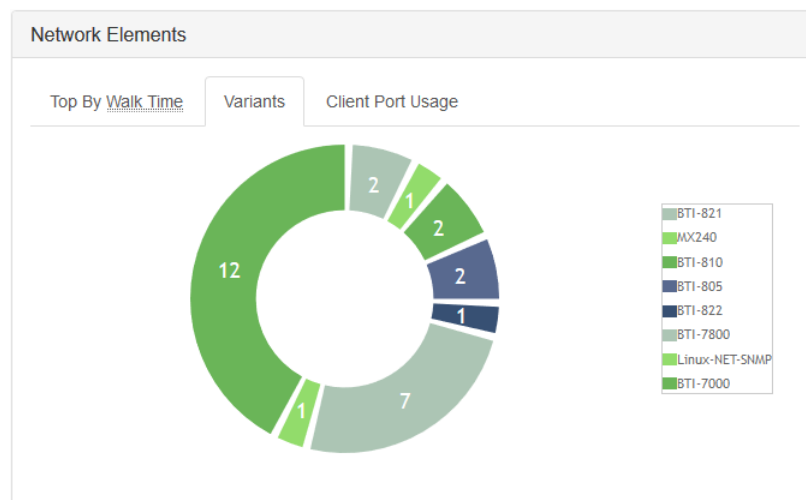


Viewing the Network Elements Variants Graph

The variants graph in the **Network Elements** panel shows the network elements organized by network element type. This information allows the operator to quickly see the distribution of the types of network elements within the network.

1. In the **Network Elements** pane on the proNX Service Manager Dashboard summary view, click the **Variants** tab.

A graph showing the network element types and their quantities is displayed. If there is only one network element in a given type, the type is shown in the graph without the quantity displayed.



NOTE: This graph is updated periodically based on a configurable setting (see [“Changing the proNX Service Manager Dashboard Settings” on page 24](#)), or on a browser refresh. The default update period is 30 minutes.

2. To view more details on a particular network element type, click on the type within the variants graph.

A pop-up window appears showing information on the network element type selected.

Counts for BTI-7000 Versions		
Software	Total Installed	
13.2.0 C002	5	
12.2.2 C006	5	
11.3.0 C005	2	

- To copy the list of IP addresses, click the copy icon on the right.

For example:

Counts for BTI-7000 Versions

Software	Total Installed
13.2.0 C002	5
12.2.2 C006	5
11.3.0 C005	2

Copies addresses of all network elements to clipboard.

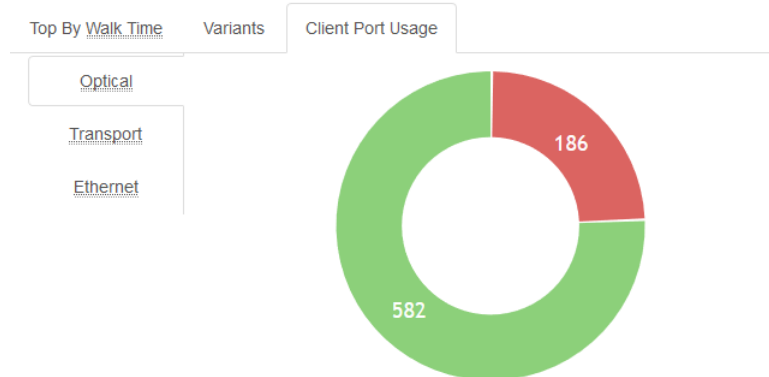
The list of IP addresses is copied to the clipboard.

Viewing the Network Elements Client Port Usage Graph

The client port usage graph in the **Network Elements** panel shows the number of client ports that are in use and the number of client ports that are available. This information is useful for capacity planning purposes.

- In the **Network Elements** panel on the proNX Service Manager Dashboard summary view, click the **Client Port Usage** tab.

A graph showing the client port counts is displayed.



NOTE: This graph is updated periodically based on a configurable setting (see [“Changing the proNX Service Manager Dashboard Settings” on page 24](#)), or on a browser refresh. The default update period is 30 minutes.

The color green denotes the client ports that are available. The color red denotes the client ports that are in use.

- To view the Optical client ports, select **Optical**.

Optical client ports represent the multiplexer/demultiplexer ports in the network. Used ports refer to all multiplexer/demultiplexer ports that have been assigned directly as an add/drop cross-connect, or that are unavailable because the associated channel is used in a passthrough cross-connect in that degree. All other multiplexer/demultiplexer ports are considered available.

3. To view the Transport client ports, select **Transport**.

Transport client ports represent the transponder and muxponder client ports in a BTI7000 Series network, and non-100G UFM ports in a BTI7800 Series network. Used ports refer to all provisioned client ports. Available ports refer to all unprovisioned client ports.

4. To view the Ethernet client ports, select **Ethernet**.

Ethernet client ports represent the Gigabit Ethernet ports in the network. Used ports refer to all Gigabit Ethernet ports that have been configured as UNIs. Available ports refer to unprovisioned Gigabit Ethernet ports. Ports that are configured as NNIs are not included in either count.

Viewing the Network Elements Table

The network elements table lists the network elements in the network.

1. Click the **Elements** icon in the left sidebar.

The network elements table is displayed:

Show 10 entries

[+ Discovery](#) [Copy](#) [Print](#) [Save](#) Filter:

Network Element	Type	Alarms			
		Cri	Maj	Min	Ack
10.1.111.8	BTI-7000 (10.3.5 C004)	0	2	0	0
10.1.212.1	BTI-7000 (10.3.51 C002)	0	3	0	0
10.1.213.1	BTI-7000 (10.3.51 C002)	0	3	0	0
10.10.20.99	BTI-7000 (10.3.51 C002)	0	3	0	0
10.10.20.101	BTI-7000 (10.3.51 C002)	6	5	0	0
10.1.203.1	BTI-7000 (11.1.0 C001)	0	2	0	0
10.10.20.201	BTI-7000 (11.1.1 C005)	8	3	0	0
10.10.20.202	BTI-7000 (11.1.1 C005)	5	2	0	0
10.10.20.203	BTI-7000 (11.1.1 C005)	3	2	0	0
10.1.206.1	BTI-7000 (11.3.0 C005)	15	0	0	0

Showing 1 to 10 of 36 entries

← Previous 1 2 3 4 Next →

By default, the network elements are sorted by **Type**.



NOTE: This table is updated automatically as network elements are added or deleted.

2. To see more information for a network element, click the row for that element.

The **Network Element Details** panel appears:

Network Element Details

System

10.10.20.101

Model

BTI 7080

Software -

11.2.3 C001 (10.3.51 C002)

Active (Inactive)

Time Discovered

2014-07-09 14:00:05 -0400

Reachable

☒

Out Of Service

☐

Contact

Description

BTI 7000;BTI 7080;11.2.3 C001

Auto Provisioning Mode

IN SERVICE

Location

Management Domain Name

Default

SNMP Full Walk

14874 ms

Ping Latency

0 ms

Netconf Full Retrieval

☒

Uptime

51 days, 3:58:58

Vendor

Serial Number

SE09390990 (SCP)

Time - Current

2014-07-09 14:04:01 -0400

Time - Offset

☒

Time Zone

USA Eastern

Time - Auto DST

ON

- To see the equipment within a network element, expand the network element.

For example:

10.10.20.201	BTI-7000 (11.1.1 C005)	10	3	0	0
10.10.20.202	BTI-7000 (11.1.1 C005)	8	2	0	0
<div> <div>Name</div> <div>Location</div> <div>Type</div> <div>PEC</div> <div>Serial Number</div> <div>Wavelength</div> </div>					
<div> <div>12 PORT PACKETVX SERVICE AGGREGATION MODULE (2 XFP PORTS)</div> <div>MS-1</div> <div>MS7080</div> <div>BT7A50AA</div> </div>					
<div> <div>SFP</div> <div>SFP-1-3-G1</div> <div>SFP</div> <div>BP3AM1MS</div> <div>8225259045</div> <div>1310.00nm</div> </div>					
<div> <div>XFP</div> <div>XFP-1-3-X1</div> <div>XFP</div> <div>BP3AM4MS</div> <div>SZS03R</div> <div>1310.00nm</div> </div>					
<div> <div>SFP</div> <div>SFP-1-3-G2</div> <div>SFP</div> <div>UNKNOWN</div> <div></div> <div></div> </div>					
<div> <div>XFP</div> <div>XFP-1-3-X2</div> <div>XFP</div> <div>BP3AM4MS</div> <div>SZS02P</div> <div>1310.00nm</div> </div>					
<div> <div>SFP</div> <div>SFP-1-3-G5</div> <div>SFP</div> <div>BP3AD1SS</div> <div>PMP2AGV</div> <div>850.00nm</div> </div>					
<div> <div>SFP</div> <div>SFP-1-3-G10</div> <div>SFP</div> <div>BP3AM1MS</div> <div>6331002925</div> <div>1310.00nm</div> </div>					
<div> <div>7080 System Control Processor</div> <div>SLOT-1-5</div> <div>SCP</div> <div>BT7A20CA</div> <div>SE10500157</div> </div>					
<div> <div>Dual 10G Multiprotocol Transponder</div> <div>SLOT-1-8</div> <div>DTPR</div> <div>BT7A49AA</div> <div>SE11120900</div> </div>					
<div> <div>XFP</div> <div>XFP-1-8-1</div> <div>XFP</div> <div>BP3AM4MS</div> <div>FB41109400E3</div> <div>1310.00nm</div> </div>					
<div> <div>7080 MAIN SHELF INTERFACE</div> <div>MSI-1</div> <div>MSI</div> <div>BT7A53BA</div> <div>SE09270768</div> </div>					
<div> <div>7080 COOLING UNIT</div> <div>CU-1</div> <div>CU</div> <div>BT7A52DA</div> <div>SE09270107</div> </div>					
10.10.20.203 - West	BTI-7000 (11.1.1 C005)	3	2	0	0

A red dot  indicates an alarmed port.



NOTE: When you are in this expanded view, updates to the shelf inventory are not automatically updated on the screen. To see updates, collapse and re-expand the network element.

- To see alarms, events, or services associated with a network element, right-click the network element and select **Alarms**, **Events**, or **Services** respectively.

Based on your selection, the active alarms table, the events table, or the services table appears, filtered for the network element you selected.



TIP: When navigating between the different tables, use the browser back button to return to the previous page.

- To sort, filter, copy, print, or save table entries, see [“Working with Tables” on page 20](#).



NOTE: Module entries within a network element cannot be copied or saved.

Discovering a Network Element

Use this procedure to discover a network element.



NOTE: You need administrator privileges to perform this task.

- Click the **Elements** icon in the left sidebar.

The network elements table is displayed:

Show entries

+ Discovery Copy Print Save Filter:

Network Element	Type	Alarms			
		Cri	Maj	Min	Ack
10.1.111.8	BTI-7000 (10.3.5 C004)	0	2	0	0
10.1.212.1	BTI-7000 (10.3.51 C002)	0	3	0	0
10.1.213.1	BTI-7000 (10.3.51 C002)	0	3	0	0
10.10.20.99	BTI-7000 (10.3.51 C002)	0	3	0	0
10.10.20.101	BTI-7000 (10.3.51 C002)	6	5	0	0
10.1.203.1	BTI-7000 (11.1.0 C001)	0	2	0	0
10.10.20.201	BTI-7000 (11.1.1 C005)	8	3	0	0
10.10.20.202	BTI-7000 (11.1.1 C005)	5	2	0	0
10.10.20.203	BTI-7000 (11.1.1 C005)	3	2	0	0
10.1.206.1	BTI-7000 (11.3.0 C005)	15	0	0	0

Showing 1 to 10 of 36 entries

← Previous 1 2 3 4 Next →

- Click the **Discovery** button.

The **Discovery** dialog appears:

Discovery ✕

Address Pattern

Advanced Parameters ▼**Discover**

3. Specify the IP address of the network element(s) in the **Address Pattern** box.

4. To specify an SNMP community string and other parameters, click **Advanced Parameters**.

For more information on network discovery address formats and parameters, see the *proNX Service Manager User Guide*.

5. Click **Discover**.

This launches the discovery task.

6. To see the status of the discovery task, select **Admin** and then **Tasks** from the sidebar. Alternatively, click on the task completion notification when it appears in the lower left corner of the window.

Show entries


Copy Print Save ▼ Filter:

	ID ▼	Type	Username	State	Start Time	Details
+	1416059	PATTERN DISCOVERY	user	Failure	2016-06-17 18:35:46 -0400	192.168.0.11
+	1415688	PATTERN DISCOVERY	user	Success	2016-06-17 18:08:15 -0400	10.228.105.1
+	1415249	PATTERN DISCOVERY	user	Failure	2016-06-17 17:39:24 -0400	10.228.105.11
+	1409667	PATTERN DISCOVERY	user	Success	2016-06-16 15:40:46 -0400	192.168.0.111
+	1406984	PATTERN DISCOVERY	user	Success	2016-06-16 12:30:07 -0400	10.228.221.54
+	1405782	PATTERN DISCOVERY	user	Success	2016-06-16 10:55:53 -0400	10.228.220.104

Showing 1 to 6 of 6 entries

Previous **1** Next

7. If a task has subtasks, expand the task to see whether or not the discovery is successful.

	1415688	PATTERN DISCOVERY	user	Success	2016-
ID	Type	State	Start Time		
1415690	NE DISCOVERY	Success	2016-06-17 18:08:15 -0400		



NOTE: The parent (container) task might show success while the subtask shows failure. In this case, the discovery has failed for the specified network element.

- To sort, filter, copy, print, or save task table entries, see [“Working with Tables” on page 20](#).

Undiscovering a Network Element

Use this procedure to undiscover a network element.

- Click the **Elements** icon in the left sidebar.

The network elements table is displayed:

Show entries

[+ Discovery](#) [Copy](#) [Print](#) [Save](#) Filter:


Network Element	Type	Alarms			
		Cri	Maj	Min	Ack
10.1.111.8	BTI-7000 (10.3.5 C004)	0	2	0	0
10.1.212.1	BTI-7000 (10.3.51 C002)	0	3	0	0
10.1.213.1	BTI-7000 (10.3.51 C002)	0	3	0	0
10.10.20.99	BTI-7000 (10.3.51 C002)	0	3	0	0
10.10.20.101	BTI-7000 (10.3.51 C002)	6	5	0	0
10.1.203.1	BTI-7000 (11.1.0 C001)	0	2	0	0
10.10.20.201	BTI-7000 (11.1.1 C005)	8	3	0	0
10.10.20.202	BTI-7000 (11.1.1 C005)	5	2	0	0
10.10.20.203	BTI-7000 (11.1.1 C005)	3	2	0	0
10.1.206.1	BTI-7000 (11.3.0 C005)	15	0	0	0

Showing 1 to 10 of 36 entries

← Previous **1** 2 3 4 Next →

- Click the row of the network element you want to undiscover.

The **Network Element Details** panel appears:

Network Element Details


System 10.10.20.101
Model BTI 7060
Software - 11.2.3 C001 (10.3.51 C002)
Active (Inactive)
Time Discovered 2014-07-09 14:00:05 -0400
Reachable ☒
Out Of Service ☐
Contact
Description BTI 7000;BTI 7060;11.2.3 C001
Auto Provisioning Mode IN SERVICE
Location
Management Domain Name Default
SNMP Full Walk 14874 ms
Ping Latency 0 ms
Netconf Full Retrieval ☒
Uptime 51 days, 3:58:58
Vendor
Serial Number SE09390990 (SCP)
Time - Current 2014-07-09 14:04:01 -0400
Time - Offset ☒
Time Zone USA Eastern
Time - Auto DST ON

3. Click the **Trash** icon in the upper right corner.

4. Click **Undiscover** in the confirmation dialog.

The network element is undiscovered.

Viewing the Current Inventory Table

The inventory table shows the current network inventory.

1. Click **Inventory** and then **Current** in the left sidebar.

The inventory table is displayed:

Show entries
Copy Print Save Filter:

Network Element	Type	Location	PEC	Serial Number	Vendor
10.228.208.10 - BTI7000	Chassis	MS-1	BT7A50AA		
10.228.208.10 - BTI7000	Module	DLA-1-3	BT7A06CA	ZH11110002	
10.228.208.10 - BTI7000	Module	DLA-1-4	BT7A06CA	ZH11070004	
10.228.208.10 - BTI7000	Module	SCP-1-5	BT7A20CA	SE12500616	
10.228.208.10 - BTI7000	Module	MSI-1	BT7A53BB	SE12340710	
10.228.208.10 - BTI7000	Module	CU-1	BT7A52EA	SE12420807	
10.228.208.11 - BTI7000	Chassis	MS-1	BT7A50AA		
10.228.208.11 - BTI7000	Module	DLA-1-1	BT7A06CA	ZH11070001	
10.228.208.11 - BTI7000	Module	DLA-1-2	BT7A06CA	ZH11070006	
10.228.208.11 - BTI7000	Module	DLA-1-3	BT7A06CA	ZH10460007	

Showing 31 to 40 of 239 entries
Previous 1 2 3 4 5 ... 24 Next

By default, the inventory is sorted by Network Element.



NOTE: This table is a snapshot and is not updated automatically when changes to the network inventory occur. Use the standard browser page reload/refresh button to see the latest inventory view.

2. To see details for a particular item, click the row for that item.

The **Inventory Details** panel appears:

Inventory Details	
Network Element	10.228.208.10 - BTI7000
Type	Module
Location	DLA-1-3
Name	DWDM Line Amplifier - line/pre+booster
PEC	BT7A06CA
Serial	ZH11110002
Vendor	
Hardware Rev	2
Part Number	
Manufacture Date	2011-03-17

3. To sort, filter, copy, print, or save table entries, see [“Working with Tables” on page 20](#).

Viewing the Inventory History

Use this procedure to view a history of inventory changes for all network elements in the managed network.

1. Click on **Inventory** and then **History** in the left sidebar.

The inventory history table appears:

Show

10

entries

Filter

Clear

Delete History

Copy

Print

Save

Filter:

Network Element	Name	PEC	Serial Number	Operation	Date
10.1.204.4 - BTI7000	MS-1	BP1A5021		EXTRACTED	2016-03-24 12:14
10.1.204.3 - BTI7000	MS-1	BT7A50AA		INSERTED	2016-03-24 12:14
10.1.204.3 - BTI7000	MS-1	BT7A50AA		EXTRACTED	2016-03-24 12:14
10.1.204.5 - BTI7000	MS-1	BP1A5021		INSERTED	2016-03-24 12:14
10.1.204.5 - BTI7000	MS-1	BP1A5021		EXTRACTED	2016-03-24 12:12
10.1.204.3 - BTI7000	MS-1	BT7A50AA		INSERTED	2016-03-24 12:12
10.1.204.3 - BTI7000	MS-1	BT7A50AA		EXTRACTED	2016-03-24 12:12
10.1.204.4 - BTI7000	MS-1	BP1A5021		INSERTED	2016-03-24 12:12
10.1.204.4 - BTI7000	MS-1	BP1A5021		EXTRACTED	2016-03-24 12:10
10.1.204.3 - BTI7000	MS-1	BT7A50AA		INSERTED	2016-03-24 12:10

Showing 1 to 10 of 3,506 entries

Previous

1

2

3

4

5

...

351

Next

The events are ordered chronologically with the most recent event shown first.

2. To display a list of events within a specified date range, click the date **Filter** button and specify the date range in the **Search Date** dialog.

The inventory history table is updated to display events in the specified date range only.

3. To clear the filter and display all events, click **Clear**.
4. To delete all entries in the inventory history table, click **Delete History**.
5. To sort, filter, copy, print, or save table entries, see [“Working with Tables” on page 20](#).

CHAPTER 6

Services

- [Service Visualization on page 65](#)
- [Viewing a Service on page 70](#)
- [Additional Information for Visualizing BTI7000 Series Transport Services on page 73](#)

Service Visualization

The proNX Service Manager Dashboard allows you to visualize services in the managed network. The services are shown in both tabular and graphical form, displaying connectivity, state, and alarm information for each service using icons, tooltips, and embedded links that lead you to related information.

The following services can be visualized:

- transport services on BTI7800 Series equipment
- transport services on BTI7000 Series equipment
- optical services on BTI7800 Series equipment
- optical services on BTI7000 Series equipment with BTI7000 Series DOL port endpoints
- optical services on BTI7000 Series equipment with BTI7800 Series, MX Series, PTX Series, or QFX Series interface endpoints
- Ethernet E(V)PLINE and E(V)PLAN services on BTI7000 Series equipment
- Ethernet E(V)PLINE and E(V)PLAN services on BTI718E equipment
- Ethernet E(V)PLINE and E(V)PLAN services on BTI800 Series equipment



NOTE: Visualization of transport service interworking between a BTI7000 Series network element and a BTI7800 Series network element is not supported.




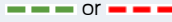




A service can be thought of as the conduit over which endpoints transfer data, where the endpoints can be internal or external to the network. A service is confined to a single layer, but can run over other services to give the appearance of spanning multiple layers. For example, a SONET/SDH transport service can run over the transmission medium

directly, or it can run over a wavelength service in an optical network. Another example is an Ethernet service that runs over a transport service that runs over an optical service.

To handle these myriad combinations, the proNX Service Manager Dashboard adopts a generic layer network architecture that allows you to visualize a service at its native layer and expand it as desired to show the lower layer services that it uses. The same look and feel is presented regardless of the layer.

Table 3 on page 66 shows the icons used in the service visualization display.

Table 3: Service Visualization Icons and Descriptions

Icon	Description
	A service endpoint, which is typically a port on a network element. It is green if the endpoint is up, red if the endpoint is down.
	An endpoint link between a service endpoint and the network element in which the endpoint resides. It is always grey.
	A network element. It is always black.
	A logical link between network elements. A logical link is a link that runs over a lower layer service. It is green if the link endpoints at this layer are up, red if the link endpoints at this layer are down.
	Located next to a logical link, used to expand or hide the display of the lower layer service.
	An adaptation point from an upper layer service to a lower layer service. This represents the transition between the upper layer service and the lower layer service.
	A physical link. It is green if the link is up, red if the link is down.
	An alarm indication. The color indicates the highest severity alarm outstanding. If an alarm exists, the alarm indication appears in the upper right corner of a network element or a service endpoint.

The following are examples of service visualization in the proNX Service Manager Dashboard. The display shows the endpoints of the service and how the endpoints are connected in the network. Additional information, including state information and alarms counts, appears in tooltips when you hover over the endpoints, network elements, and links. For illustration purposes, the following examples show multiple tooltips simultaneously.



NOTE: The alarms counts for a service endpoint include all alarms affecting the service at the service endpoint port and on all containing equipment such as the containing module, shelf/chassis, and common equipment. The alarms counts for a network element include all alarms on the network element that affect the service excluding the alarms on the service endpoint port.

- [Transponding Service Visualization on page 67](#)
- [Muxponding Service Visualization on page 67](#)
- [Optical Service Visualization on page 68](#)
- [Ethernet Service Visualization on page 68](#)
- [Multi-layer Service Visualization on page 69](#)

Transponding Service Visualization

Figure 4 on page 67 shows a basic transponding service (10GELAN to/from 10GELAN EFEC) within a single network element.

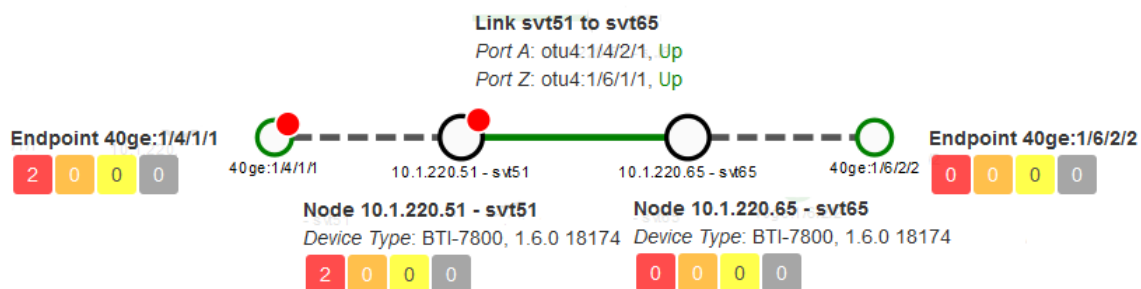
Figure 4: Transponding Within a Single Network Element



Muxponding Service Visualization

Figure 5 on page 67 shows a muxponding service (40GE to/from an ODU3 within an OTU4 to/from 40GE) across two network elements.

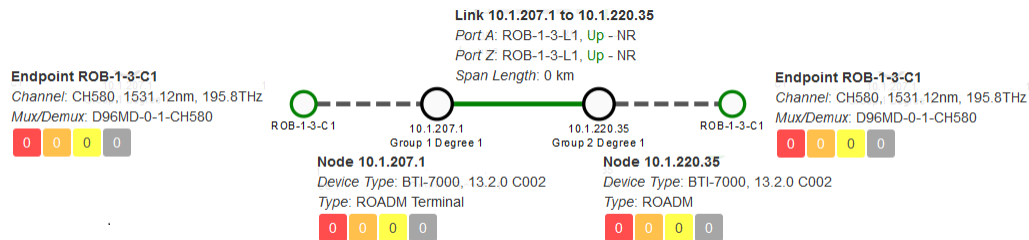
Figure 5: Muxponding Across Network Elements



Optical Service Visualization

Figure 6 on page 68 shows an optical service across two network elements. The service endpoints are the add/drop ports at the ROADM module at each end.

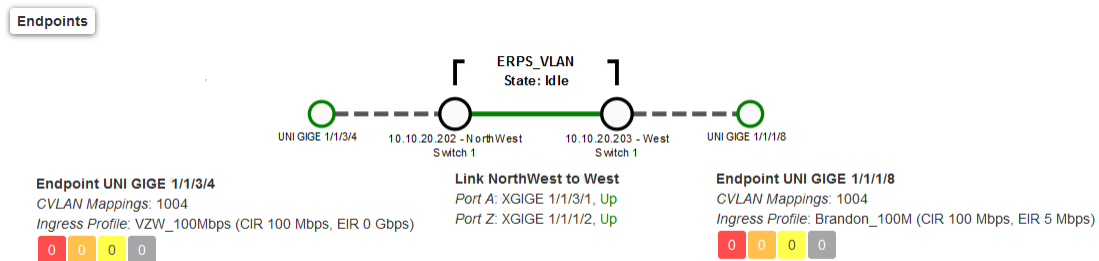
Figure 6: Optical Service Across Network Elements



Ethernet Service Visualization

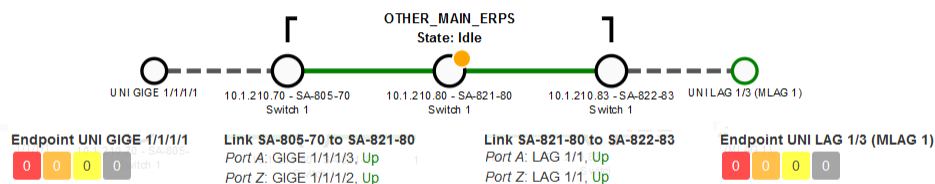
Figure 7 on page 68 shows an Ethernet service. If the service spans an ERPS ring, the ERPS ring is represented by an icon showing its name and state.

Figure 7: Ethernet Service Across Network Elements



If the service contains a multi-chassis LAG UNI, only the active link is shown.

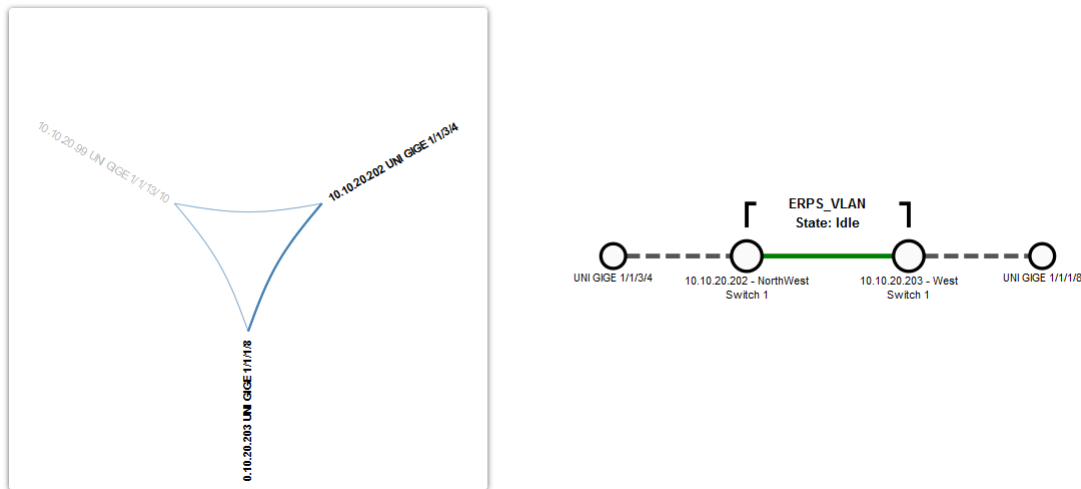
Figure 8: Ethernet Service with a Multi-chassis LAG



If the service has more than two endpoints, PSM automatically picks two endpoints to display and provides an **Endpoints** button in the upper left corner of the view to allow

you to select a different pair of endpoints. Only two endpoints can be displayed at any time. The Endpoints selector is shown in [Figure 9 on page 69](#).

Figure 9: Ethernet Service Endpoints Selector



Multi-layer Service Visualization

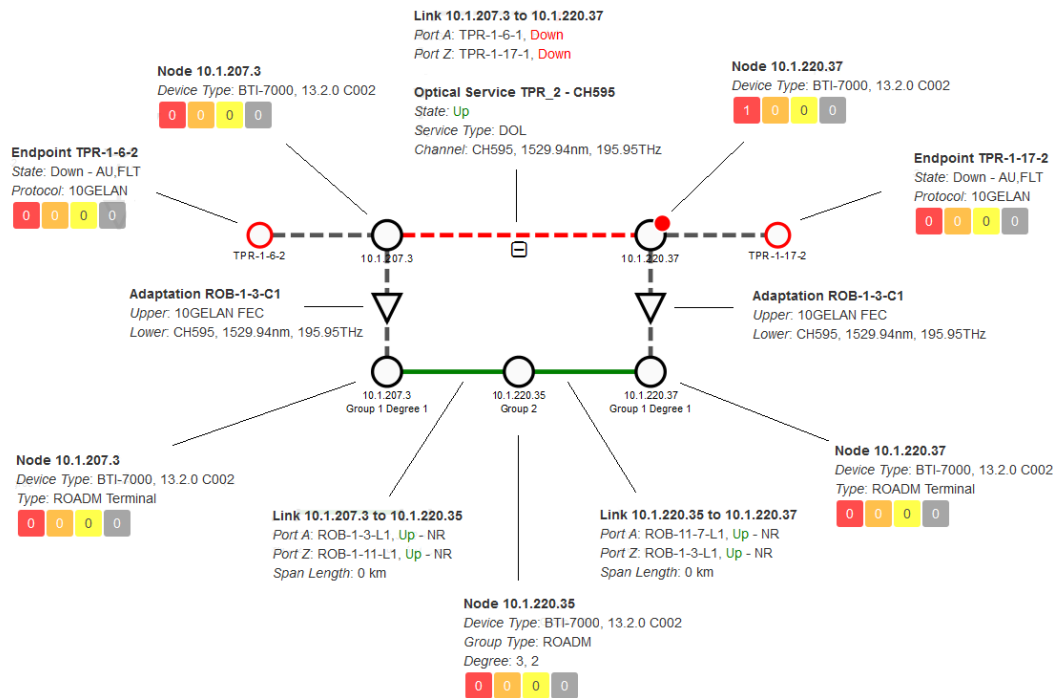
[Figure 10 on page 70](#) shows a transponding service between two network elements where the link between the two network elements runs over a wavelength provided by an optical service. By expanding on the logical link, you can see the underlying optical service. The adaptation points represent the transition between the upper layer service and the lower layer service.

Note that a logical link can be down while the lower layer service is up, but a logical link cannot be up when the lower layer service is down.



NOTE: Multi-layer service visualization for Ethernet services is not supported.

Figure 10: Transponding Over an Optical Service



Viewing a Service

Use this procedure to view transport, optical, and Ethernet services.

1. Click the **Services** icon in the left sidebar.

The services table is displayed. For example:

Name	Customer	Layer	State	Alarms			
				Cri	Maj	Min	Ack
10.1.220.104. oc192:1/10/2/5 to odu2:1/10/1/1.5		Transport	Down	0	0	0	0
10.1.220.104. oc192:1/8/2/5 to odu2:1/8/1/1.5		Transport	Down	0	0	0	0
10.1.220.104. odu2:1/10/2/1 to odu2:1/10/2/7		Transport	Down	1	0	0	0
10.1.220.104. odu2:1/10/2/6 to odu2:1/10/1/1.7		Transport	Down	1	0	0	0
10.1.220.104. odu2:1/10/2/8 to odu2:1/10/1/1.8		Transport	Down	1	0	0	0
10.1.220.104. odu2:1/8/2/1 to odu2:1/8/1/1.7		Transport	Down	0	0	0	0
10.1.220.35. TPR-1-5-1 to TPR-1-5-2		Transport	Down	2	0	0	0
10.1.220.37. TPR-1-17-1 to TPR-1-17-2		Transport	Down	1	0	0	0
svt51. 10ge:1/14/2/1 to 10ge:1/14/2/7		Transport	Down	3	0	0	0
svt65. 10ge:1/11/2/11 to svt51. odu2:1/9/1/1.1		Transport	Down	3	0	0	0

By default, the services are sorted by Layer.



NOTE: The services table is live, meaning that alarms and states are updated in the table as changes occur. However, changes from new, modified, or deleted services are not reflected in the table until you exit and reenter this window.

2. To sort, filter, copy, print, or save table entries, see [“Working with Tables” on page 20](#).
3. To see any outstanding alarms that affect a service, click on the alarms count in the Alarms column for the service that you want to see.

The active alarms table is displayed. To return to the services table, use the browser back button.

4. To see a visual representation of a service, click within the row of the desired service.

A visual representation of the service appears above the services table, centered and sized in the window to show the full service. For example:




This example shows a transponding service between a couple of network elements. The endpoints are down, as indicated by the red endpoint icons. The link between the two network elements is also down. This link is logical, meaning that it is running over a lower layer service.



NOTE: This view is a snapshot and is not updated automatically when changes to the service occur. Use the standard browser page reload/refresh button to see the latest service view.

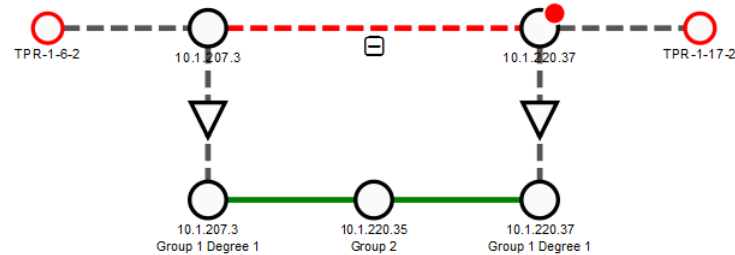


NOTE: When viewing an Ethernet service with more than two endpoints, an Endpoints button appears to allow you to select the two endpoints to view. See [“Ethernet Service Visualization” on page 68](#) for more information.

5. To move the service representation to a different part of the window, click and drag the service representation.
6. To zoom in or out, use the mouse scroll wheel.
7. If needed, click  to auto-center and auto-zoom the image in the window.
This is useful if you have resized the window, or moved or zoomed the image and you want to quickly return it to its original appearance.
8. To see additional details, hover over an endpoint, network element, or link.
A tooltip with additional information appears. For example:



9. Expand on the logical link to see the lower layer service.
The lower layer service appears. For example:



The lower layer service is an optical service, which is currently up and running. By hovering over various icons, you should be able to get enough information to determine the path that this service takes across the network.

Additional Information for Visualizing BTI7000 Series Transport Services

Before you can visualize BTI7000 Series transponder and muxponder services, you must ensure that the Remote IDs on the transponder and muxponder ports are configured correctly so that PSM can learn the topology:

- For a transponder service (between two transponder modules) running directly over the transmission media, the Remote IDs on the transponder line ports must point to each other.
- For a transponder service (between two transponder modules) running over an optical service, the Remote IDs on the transponder line ports and the Remote IDs on the associated multiplexer/demultiplexer client ports must point to each other.
- For a muxponder service (between two muxponder modules) running directly over the transmission media, the Remote IDs on the muxponder line ports must point to each other.
- For a muxponder service (between two muxponder modules) running over an optical service, the Remote IDs on the muxponder line ports and the Remote IDs on the associated multiplexer/demultiplexer client ports must point to each other.

For details on how to configure the Remote ID, see the *proNX Service Manager User Guide*.

Restrictions

The following restrictions apply to BTI7000 Series transport services:

- The proNX Service Manager Dashboard can display a transponding service in a BTI7000 Series network with at most two transponders. A transponding service with more than two transponders is represented by more than one service.
- The proNX Service Manager Dashboard can display a muxponding service in a BTI7000 Series network with at most two muxponders. A muxponding service with more than two muxponders is represented by more than one service.

CHAPTER 7

Performance Monitoring

- [Introduction on page 75](#)
- [Port Utilization on page 75](#)
- [Viewing the Port Utilization Table on page 77](#)

Introduction

The proNX Service Manager Dashboard displays historical performance monitoring statistics in graphical and tabular forms, enabling you to quickly identify problematic links in the network. You can sort entries based on the selected metric, and you can follow up with a detailed view of the troubled component. For some metrics, visual indications are provided when configurable thresholds are crossed. This simplifies the early detection of network problems allowing you to take action before outages occur.

Port Utilization

Port utilization is derived from historical PM counters. In order to view the utilization, you must enable historical PMs on the network elements that you want to monitor.

Port utilization is a measure of the amount of traffic on a link or a LAG relative to the link's or LAG's capacity over a period of time. The period over which the proNX Service Manager Dashboard reports a single utilization measurement is 15 minutes. This coincides with the 15-minute bins collected for performance monitoring, and it provides a meaningful measure by smoothing out the instantaneous bursts while providing sufficient granularity suitable for historical analysis.

Port utilization is supported for the following ports:

- GE, 10GE, and LAG ports on BT17000 Series PVX modules.
- GE, 10GE, and LAG ports on BT1800 Series devices.
- [Port Utilization on Individual Links on page 75](#)
- [Port Utilization on LAGs on page 76](#)

Port Utilization on Individual Links

The port utilization for individual full duplex links (and individual LAG members) is determined as follows:

- The transmitted and received octets in the 15-minute bins for the past 7 days are examined for the specified port.
- The representative octet count for each 15-minute bin is determined. The representative octet count is the higher of the transmitted octet count and the received octet count for that bin. For example, if a 15-minute bin contains a transmitted octet count of 30000 and a received octet count of 1300, then the transmitted octet count of 30000 is used to represent this 15-minute bin.
- The per-bin port utilization is calculated for all 15-minute bins, as follows:

$$\text{port utilization} = \frac{\text{octet_count} * 8}{15 \text{ minutes} * 60 \text{ seconds} * \text{port speed (bps)}} * 100$$

where *octet_count* is the representative octet count for that bin.

The per-bin port utilizations are graphed and displayed in the **Port Summary** panel. (If the port is a LAG member, the per-bin port utilizations are also used to determine the LAG port utilization.)

- From this list of per-bin port utilizations, the minimum, maximum, and average port utilizations are determined:
 - The minimum port utilization is the lowest per-bin port utilization from this list.
 - The maximum port utilization is the highest per-bin port utilization from this list.
 - The average port utilization is the average of all per-bin port utilizations from this list.

The minimum, maximum, and average port utilizations are shown in the port utilization table.

Port Utilization on LAGs

The port utilization for a LAG is calculated based on the port utilizations of its members, as follows:

- The per-bin port utilizations are determined for all LAG members.
- The per-bin LAG port utilization is determined by averaging the per-bin port utilization of each LAG member for the corresponding bins. The corresponding bins are the bins that represent the same 15-minute interval. This calculation results in a list of per-bin LAG port utilizations.

The per-bin LAG port utilizations are graphed and displayed in the **Port Summary** panel.

- From this list of per-bin LAG port utilizations, the minimum, maximum, and average utilizations are determined:
 - The minimum LAG port utilization is the lowest per-bin utilization from this list.
 - The maximum LAG port utilization is the highest per-bin utilization from this list.
 - The average LAG port utilization is the average of all per-bin utilizations from this list.

The minimum, maximum, and average LAG port utilizations are shown in the port utilization table.

Viewing the Port Utilization Table

Use this procedure to view the port utilization table.

Prerequisites:


- Historical PMs must be enabled on the network elements you want to view.

1. Click on the **Utilization** icon in the left sidebar.

The port utilization table is displayed:

NE	Port	Provisioned	Max	Min	Average
10.1.204.5 - TOR-204-5	1.1.1:GIGE.12	10%	98%	10%	41%
10.1.204.4	1.1.1:GIGE.12	50%	98%	9%	32%
10.10.20.201 - East	1.1.3:GIGE.1	1%	0%	0%	0%
10.10.20.201 - East	1.1.3:GIGE.12	0%	0%	0%	0%
10.10.20.201 - East	1.1.3:GIGE.2	10%	0%	0%	0%
10.10.20.201 - East	1.1.3:GIGE.3	0%	0%	0%	0%
10.10.20.201 - East	1.1.3:GIGE.5	10%	0%	0%	0%
10.10.20.201 - East	1.1.3:GIGE.6	0%	0%	0%	0%
10.10.20.201 - East	1.1.3:GIGE.7	5%	0%	0%	0%
10.1.204.3	1.LAG.1	0%	0%	0%	0%

By default, the utilization is sorted by the **Max** utilization.

The  icon next to a network element indicates a LAG port. Click on the icon to see the LAG members.

10.1.204.3		1.LAG.1		0%		0%		0%	
Port		Max	Min	Average					
1.1.1:GIGE.11		0%	0%	0%					
1.1.1:GIGE.10		0%	0%	0%					

The **Provisioned** column specifies the percent of link bandwidth allocated for provisioned services:

- For an individual link, this is the ratio of the sum of the Committed Information Rates (CIRs) to the link rate, expressed as a percentage. The CIRs are summed across all services for that port.
- For a LAG port, this is the ratio of the sum of the Committed Information Rates (CIRs) to the aggregate link rate, expressed as a percentage. The CIRs are summed across all services for that LAG port. The aggregate link rate is the sum of the link rates for all the active LAG members.

Similar to the port utilization calculations, the CIR that is being summed is the higher of the ingress and egress CIRs for each service.

For an individual link or LAG member, a row in the table is shown in red font if the **Max** utilization exceeds a specified percentage of the link rate. For a LAG port, a row is shown in red font if at least one of the following is true:

- The **Max** utilization of the LAG port exceeds a specified percentage of the aggregate link rate. The aggregate link rate is the sum of the link rates of all LAG members.
- One or more of its LAG members is shown in red font.

To specify the percentage of link rate at which a row is shown in red font, see [“Changing the proNX Service Manager Dashboard Settings” on page 24.](#)

2. Click the **UNI** or **NNI** tabs at the top to see the UNI or NNI entries respectively.

3. To see more detailed information for a port, click on a row for that port.

You can click on a row for a regular port, a LAG port, or a LAG member port.

The **Port Summary** panel appears:

Figure 11: Port Summary for a Regular Port or a LAG Member Port

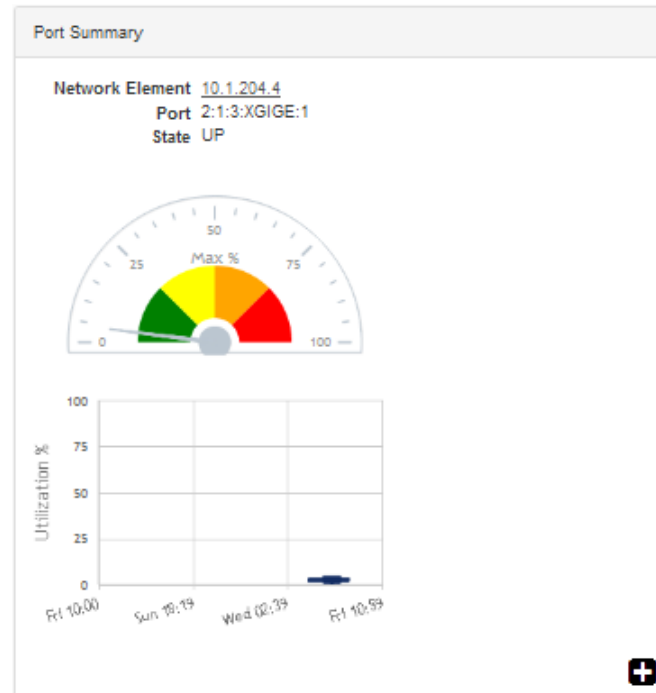
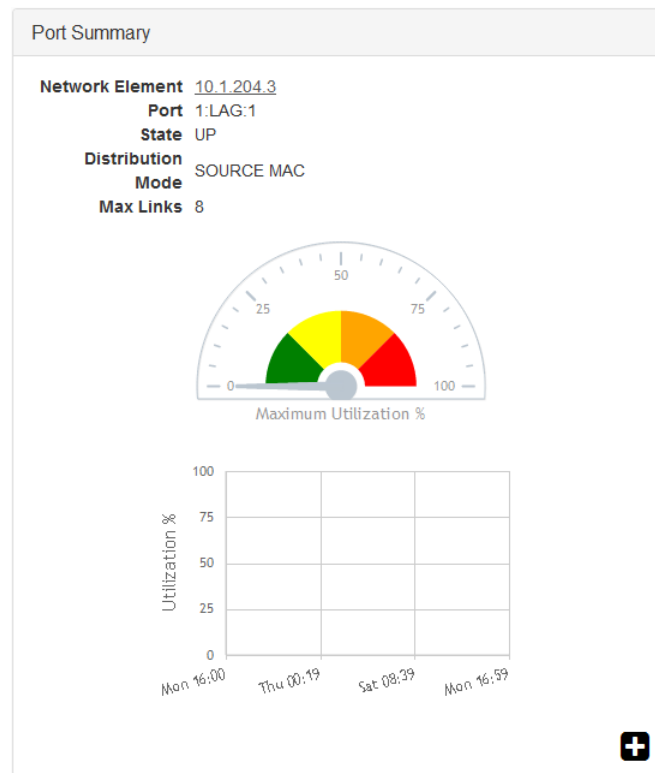


Figure 12: Port Summary for a LAG Port



The port summary shows a maximum utilization meter and a utilization graph for the selected port over the past 7 days.




NOTE: To change the scale of the utilization graph, see [“Changing the Scale in Line and Bar Graphs”](#) on page 22.



NOTE: To see information on the network element, click on the network element link. This brings up the network elements table, filtered for the network element. For information on viewing the network elements table, see [“Viewing the Network Elements Table”](#) on page 57.



TIP: When navigating between the different tables, use the browser back button to return to the previous page.

4. To see details for the selected port, click on the  icon in the lower right corner of the pane.

The **Port Details** modal panel appears.

Name	Value
L2 Type	NNI
Service Type	
Circuit ID	
Remote ID	
PVID	1
CPVID	
Frame Size	9600
TPID	0x88a8
L1 Admin/Oper	IS/UP
L2 Admin/Oper	IS/UP
Connector	PLUGGABLE
Wavelength	1310
Media Rate	AUTO
Description	

Click anywhere outside the modal panel to close the modal panel.

5. To sort, filter, copy, print, or save table entries, see “Working with Tables” on page 20.

CHAPTER 8

Administration

- [Introduction on page 83](#)
- [Managing Users on page 83](#)
- [Managing Customers on page 87](#)
- [Managing Tasks on page 90](#)

Introduction

The proNX Service Manager Dashboard allows you to perform administrative tasks, such as managing users and customers, and viewing a task's status. Some of these tasks require administrator privileges.

Managing Users

The proNX Service Manager Dashboard allows administrators to manage PSM users. PSM users can log in to the proNX Service Manager Dashboard or the PSM client.



NOTE: Only those users who are provisioned in the local RADIUS server can be managed.



NOTE: These tasks require administrator privileges.

- [Adding a User on page 83](#)
- [Viewing and Editing User Information on page 84](#)
- [Deleting a User on page 86](#)

Adding a User

Use this procedure to add a new PSM user to the default local RADIUS server database.



NOTE: This task requires administrator privileges.

1. Click **Admin** in the left sidebar and then click **Users**.

A table of PSM users is displayed:

Show	10	entries	Add User	Copy	Print	Save	Filter:	
Username	First Name	Last Name	Role	Customer				
user			Administrator					
				Previous	1	Next		



NOTE: This table is updated automatically as users are added or deleted.

2. Click **Add User** to add a new user.

The **Add User** dialog appears:

Add User

* Required Field

* Username

Username

First Name

Forename of User

Last Name

Surname of User

Email

Email Address

Telephone

Telephone Number

* Password

* Confirm

Role

NOC

Customer

Please select a customer

Time Zone

Please select a time zone

Locked

☐

Save

3. Specify the username, contact information, password, role, customer, and time zone.

You can also lock out the user by selecting **Locked**.

4. Click **Save**.

The new user appears in the table of users.

Viewing and Editing User Information

Use this procedure to view and/or edit information on a specific PSM user.



NOTE: This task requires administrator privileges.

1. Click **Admin** in the left sidebar and then click **Users**.

A table of PSM users is displayed:

Show	10	entries	Add User	Copy	Print	Save	Filter:	
Username	First Name	Last Name	Role	Customer				
user			Administrator					
				Previous	1	Next		



NOTE: This table is updated automatically as users are added or deleted.

2. To sort, filter, copy, print, or save table entries, see [“Working with Tables” on page 20](#).
3. To see information on a specific user, click the row for that user.

The **User Details** panel appears:

User Details

Username

user

First Name

Last Name

Role

NOC

Customer

Email

Telephone No.

Time Zone

PST

Creation Date

2015-09-28T15:03:46-04:00

Last Connected

2015-09-29T13:06:12-04:00

Locally

☒

Managed

☐

Connected

☐

Locked

☒

Edit

Delete

Along with user information, this panel shows whether the user is **Locally Managed**, **Connected**, and/or **Locked**:

- **Locally Managed** - This is read-only. When checked, this signifies that the user is managed by the default local RADIUS server installed together with the PSM server. Only locally managed users can be edited.
 - **Connected** - This is read-only. When checked, this indicates that the user is currently logged on to the PSM server either through the proNX Service Manager Dashboard or the PSM client.
 - **Locked** - When the locked icon is displayed, the user is locked out and will not be able to log on. Click to toggle between locking and unlocking the user.
4. To change details for that user, click **Edit**.

The **Edit User** dialog appears.

- Make changes as desired and click **Save**. All fields can be changed except the username.

All changes are stored back into the local RADIUS server database.

Deleting a User

Use this procedure to delete a PSM user from the default local RADIUS server database.



NOTE: This task requires administrator privileges.

- Click **Admin** in the left sidebar and then click **Users**.

A table of PSM users is displayed:

Username	First Name	Last Name	Role	Customer
user			Administrator	



NOTE: This table is updated automatically as users are added or deleted.

- Click the row for the user that you want to delete.

The **User Details** panel appears.

- Click **Delete**.

The **Confirm Deletion** dialog appears.

4. Click **Delete** in the confirmation dialog.

The user is deleted and removed from the table of users.

Managing Customers

The proNX Service Manager Dashboard allows administrators to manage customer information. See the *proNX Service Manager User Guide* to see how customer information can be used.



NOTE: These tasks requires administrator privileges.

- [Adding a Customer on page 87](#)
- [Viewing and Editing Customer Information on page 88](#)
- [Deleting a Customer on page 90](#)

Adding a Customer

Use this procedure to add a new customer.

1. Click on **Admin** in the left sidebar and then click on **Customers**.

A table of customers is displayed:

Show entries

[Add Customer](#)
[Copy](#)
[Print](#)
[Save](#)

Company Name	Reference	Primary Contact	Asset Set
A-Customer-NYC			
B-Customer-DAL			
C-Customer-CHI			
D-Customer-DAL			
H-Customer-MIA			
J-Customer-MIA			
K-Customer-FL			
M-Customer-TEST			
R-Customer-DAL			
T-Customer-NYC			

Showing 1 to 10 of 10 entries

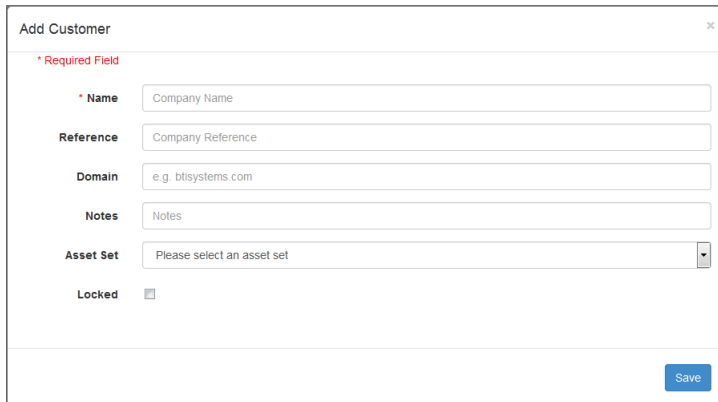
[Previous](#)
[1](#)
[Next](#)



NOTE: This table is updated automatically as customers are added or deleted.

2. Click **Add Customer** to add a new customer.

The **Add Customer** dialog appears:



Add Customer

* Required Field

* Name

Reference

Domain

Notes

Asset Set

Locked ☐

Save

3. Specify the company name and other information.

4. Click **Save**.

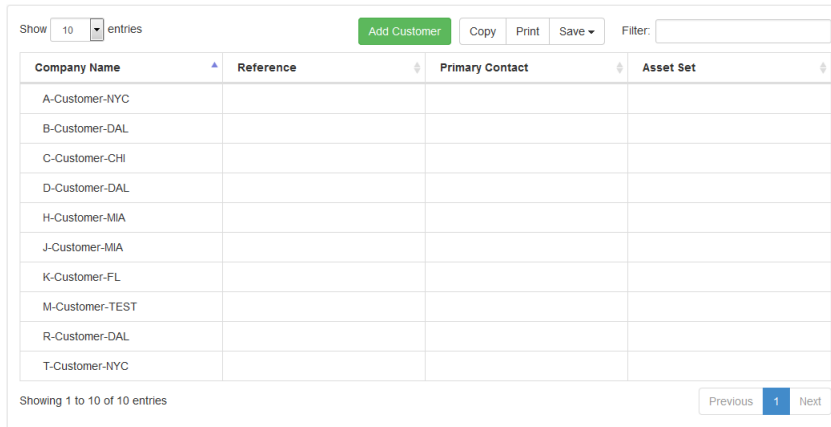
The new customer appears in the table of customers.

Viewing and Editing Customer Information

Use this procedure to view and/or edit information on a specific customer.

1. Click on **Admin** in the left sidebar and then click on **Customers**.

A table of customers is displayed:



Show entries

[Add Customer](#) [Copy](#) [Print](#) [Save](#) Filter:

Company Name	Reference	Primary Contact	Asset Set
A-Customer-NYC			
B-Customer-DAL			
C-Customer-CHI			
D-Customer-DAL			
H-Customer-MIA			
J-Customer-MIA			
K-Customer-FL			
M-Customer-TEST			
R-Customer-DAL			
T-Customer-NYC			

Showing 1 to 10 of 10 entries

Previous **1** Next



NOTE: This table is updated automatically as customers are added or deleted.

2. To sort, filter, copy, print, or save table entries, see [“Working with Tables” on page 20](#).

3. To see information on a specific customer, click on the row for that customer.

The **Customer Details** panel appears:

Customer Details

Name B-Customer-DAL

Reference

Domain

Notes

Asset Set

Locked

Employee	Email	Telephone
John		
Jane		

[Edit](#) [Delete](#) [Add Employee](#)

4. To change details for that customer, click **Edit**.

The **Edit Customer** dialog appears.

Edit Customer X

* Required Field

* Name B-Customer-DAL

Reference

Domain

Notes

Asset Set

Locked ☐

[Save](#)

5. Make changes as desired and click **Save**. All fields can be changed except the customer name.
6. To add, edit, or delete employees:
 - a. To add an employee, click **Add Employee** in the **Customer Details** panel.
Enter employee information in the **Add Employee** dialog and **Save**.
The newly-added employee appears in the Employee list in the **Customer Details** panel.
 - b. To edit employee information, select an employee from the Employee list and click **Edit Employee**.
Edit employee information in the **Edit Employee** dialog and **Save**.
 - c. To delete an employee, select an employee from the Employee list and click **Delete Employee**.
Click **Delete** in the **Delete Employee Confirmation** dialog.
The employee is deleted and removed from the Employee list in the **Customer Details** panel.

Deleting a Customer

Use this procedure to delete a PSM customer.

1. Click on **Admin** in the left sidebar and then click on **Customers**.

A table of customers is displayed:

Show	10	entries	Add Customer	Copy	Print	Save	Filter:	
Company Name	Reference	Primary Contact	Asset Set					
A-Customer-NYC								
B-Customer-DAL								
C-Customer-CHI								
D-Customer-DAL								
H-Customer-MIA								
J-Customer-MIA								
K-Customer-FL								
M-Customer-TEST								
R-Customer-DAL								
T-Customer-NYC								
Showing 1 to 10 of 10 entries								Previous 1 Next



NOTE: This table is updated automatically as customers are added or deleted.

2. Click on the row for the customer that you want to delete.

The **Customer Details** panel appears.

3. Click **Delete**.

The **Confirm Customer Deletion** dialog appears.

4. Click **Delete** in the confirmation dialog.

The user is deleted and removed from the table of users.

Managing Tasks

Some tasks, such as discovering a network element, require time to complete. After launching your task, you can follow the task's status by viewing the task table. The task table shows the status of all your tasks. If you are an administrator, the task table shows tasks for all users.

For information on how to view discovery tasks, see [“Discovering a Network Element” on page 59](#).