

**MC350 Prism Management Card**

# **User's Guide**

**6473025-04**

**Ver. 4, Rel. 0**

**Quantum.**

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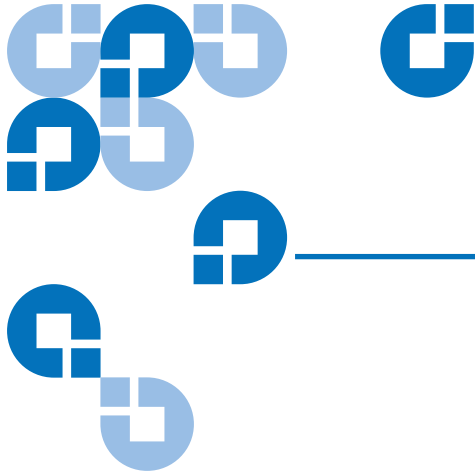
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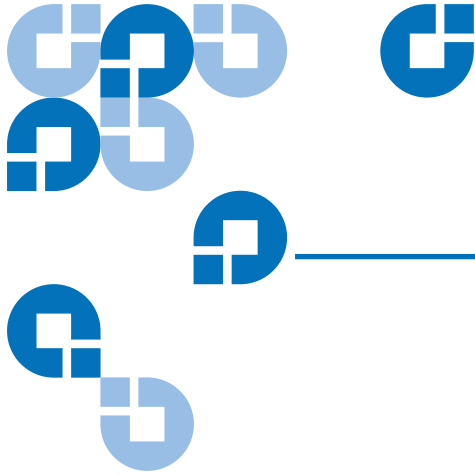
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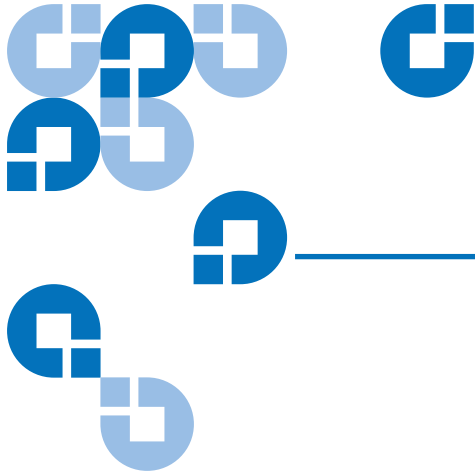


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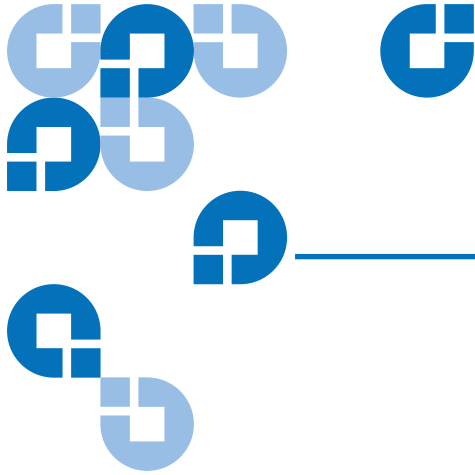


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# Preface

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This document describes the storage and management options offered by the Prism Management Console, a Web-based interface associated with the MC350 Prism Management Card (PMC).

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## **Audience**

This manual is written for library operators and field service engineers (FSEs), and is intended for P-Series libraries with the PMC option.

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## **Purpose**

This document describes the PMC and Active Library Event Reporting Tool (ALERT) options for P-Series libraries including:

- PMC Server Management
- ALERT SNMP Integration
- ALERT E-mail Notification
- ALERT Library Management
- Fibre Channel Management
- Ethernet
- Library Partitioning

**Note:** The configuration of your library will determine the available options. Not all of the options listed above will be present on your system.

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## Document Organization

The manual is organized as follows:

- [Chapter 1, Prism Management Console](#), describes how to configure and manage the Prism Management Console.
- [Chapter 2, PMC Server Management](#), describes how to configure and manage the Prism Management Console Web pages.
- [Chapter 3, ALERT SNMP](#), describes the management of ALERT SNMP through the Prism Management Console Web pages.
- [Chapter 4, ALERT E-mail](#), describes the management of ALERT E-mail through the Prism Management Console Web pages.
- [Chapter 5, ALERT Library Management](#), describes the management of ALERT library through the Prism Management Console Web pages.
- [Chapter 6, Fibre Channel Management](#), describes the management of specially equipped libraries that have the FM350 Fibre Channel Management option for remotely managing the FC230 and FC470 Fibre Channel bridges.
- [Chapter 7, Ethernet Option](#), describes the management of specially equipped libraries that have the Ethernet Option. The Ethernet option is only available with the P-Series Gigabit Ethernet libraries.
- [Chapter 8, Library Partitioning](#), describes the management of libraries that have Prism Library Partitioning activated on the PMC system. If it is not activated, it is not visible in the Prism Management Console Web pages.
- [Chapter 9, Getting Help](#), describes the Help system available in the Prism Management Console Web pages.
- [Appendix A, FC230 Fibre Channel Service Commands](#), lists the FC230 Fibre Channel Service Commands for use with the P-Series libraries.

This manual concludes with a glossary and an index.

## Notational Conventions

This manual uses the following conventions:

**Note:** Notes emphasize important information related to the main topic.

This manual uses the following:

- Right side of the library — Refers to the right side as you face the component being described.
- Left side of the library — Refers to the left side as you face the component being described.
- *b* — All binary numbers are succeeded by “b.”
- *h* — All hexadecimal numbers are succeeded by “h.”
- Error or attention conditions are represented in parenthesis that translate as follows:

(SK=S ASC=AA ASCQ=QQ)

where:

S — hexadecimal sense key value

AA — hexadecimal additional sense code

QQ — hexadecimal additional sense code qualifier

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**Related Documents**

Documents related to the PMC are shown below:

**Related Quantum Documentation**

<b>Document No.</b>	<b>Document Title</b>	<b>Document Description</b>
6434003	ATL P4000 and ATL P7000 User's Guide	This manual provides information on library operations, configuration, calibration, servicing, and basic troubleshooting of ATL P4000 and ATL P7000 libraries.
6316800	ATL P2000 User's Guide	This manual provides information on library operations, configuration, calibration, servicing, and basic troubleshooting of ATL P2000 libraries.
6311601	ATL P3000 User's Guide	This manual provides information on library operations, configuration, calibration, servicing, and basic troubleshooting of ATL P3000 libraries.
6311658	SNMP Integration Guide	This manual provides information about integrating a Prism Library with various third party network management software packages.

Refer to the appropriate product manuals for information about your specific tape drive and cartridges.



## SCSI-2 Specification

The SCSI-2 communications specification is the proposed American National Standard for information systems, dated March 9, 1990. Copies may be obtained from:

Global Engineering Documents  
15 Inverness Way, East  
Englewood, CO 80112  
(800) 854-7179 or (303) 397-2740

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## Contacts

Quantum company contacts are listed below.

### Quantum Corporate Headquarters

To order documentation for the PMC or other products contact:

Quantum Corporation  
P.O. Box 57100  
Irvine, CA 92619-7100  
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### Technical Publications

To comment on existing documentation send e-mail to:

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### Quantum Home Page

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# Prism Management Console

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The MC350 Prism Management Card (PMC) is an intelligent server card that plugs directly into the P-Series libraries and is the enabling element for a variety of Prism options. The PMC consists of a single-board server powered by high-performance, industry-standard technology.

The PMC is a powerful option for existing and future functionality. Included with the PMC is an easy-to-use, yet powerful Web-based interface known as the Prism Management Console. It allows authorized staff to configure and manage all Prism storage options from behind a firewall or remotely from anywhere on the Internet.

By default, the PMC card uses Dynamic Host Configuration Protocol (DHCP) to receive its IP address, however, you can manually assign a static IP address.

DHCP assigns the IP address based on the address range allowed by the network administrator. If a DHCP server is not available on your network, the DHCP request times out after approximately 30 seconds. The PMC then assigns itself the static IP address of **192.168.1.1**. If 192.168.x.x is already used in the network, 10.0.0.x will be used instead.

In the **Address** field of your Web browser, type **192.168.1.1**. This static IP address is the default address for accessing the PMC.

The **Subnet Mask** default is **255.255.255.0**. If your subnet mask is different, you must set up an isolated network, access the PMC, and modify it from the Prism Management Console to add it into the appropriate network.

**Note:** In some cases, you may have to temporarily configure a host computer's network configuration to the IP address 192.168.1.x, where x is a number between 2 and 254. Enter the subnet mask as **255.255.255.0**.

Using your Web browser, enter **192.168.1.1** to access the Prism Management Console **Prism Home** page. Then change the PMC network configuration to an appropriate IP address and subnet mask for your network.

If you are still having difficulty accessing the IP address, contact your local system administrator for information on how to include the PMC in your network.

---

## System Requirements

As a minimum requirement, library firmware version 3.25 or higher and library boot block version 2.11 or higher are required to support the PMC with software version 5.0.0 or higher.

In addition, a network connection and Web browser software are required to manage the library from a remote location.

---

## Web Browser Support

Web browser software is not supplied with the PMC. You must obtain and install a Web browser independently. The PMC supports the following Web browsers:

- Microsoft® Internet Explorer 5.5 or 6.0  
You can download this Web browser from the following URL:  
[www.microsoft.com](http://www.microsoft.com)

- Netscape Communicator™ 4.7x  
You can download this Web browser from the following URL:  
[www.netscape.com](http://www.netscape.com)

**Note:** FC470 requires Netscape Communicator 6.2 or later.

Other versions of these and other products may be supported in future releases of the PMC software.

**Note:** The PMC cannot be accessed with multiple Web browser sessions. When performing a function, do not open a second PMC Web browser instance.

Occasionally, updating a page using the Web browser's **Back** button returns the user to the **Prism Home** page. This behavior is a limitation within some Web browsers. To refresh the content area only, right-click within the content area frame, then select **Refresh**.

---

## Accessing the Prism Management Console

To access the Prism Management Console:

- 1 On the host computer, open the Web browser software.
- 2 The PMC uses the following defaults (see [table 1](#)):

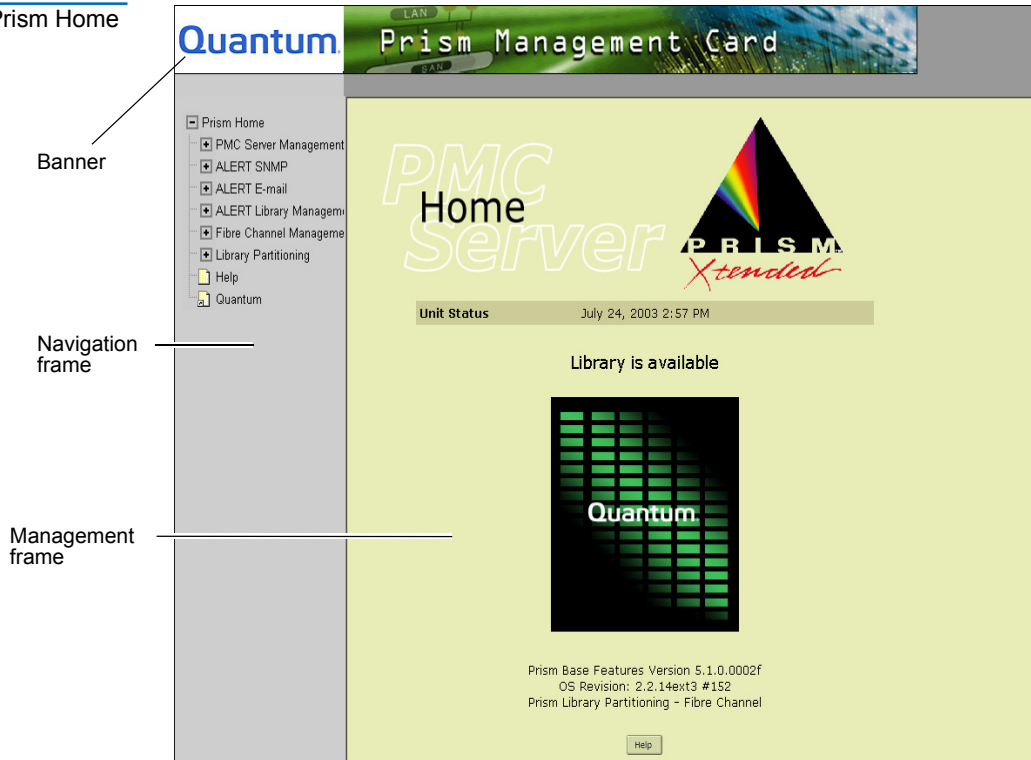
Table 1 PMC Defaults

Field	Description
Use DHCP	Enabled
Hostname	PMC350-[MAC address]
Domain	[local domain]
IP Address	192.168.1.1

Field	Description
Subnet Mask	255.255.255.0
Default Gateway	[default or blank]

3 The Web browser displays the **Prism Home** page (see [figure 1](#)).

Figure 1 Prism Home Page



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## Using the Prism Management Console Interface

The Prism Management Console interface (see [figure 1](#)) is divided into three distinct sections:

- Banner
- Navigation frame
- Management frame

**Note:** The Prism Management Console cannot be utilized with multiple Web browser sessions. When working with the console, do not open a second Web browser session.

### Banner

The banner displays the Quantum logo and software name. The Quantum logo is a link to the [www.Quantum.com](http://www.Quantum.com) Web site.

### Navigation Frame

The navigation frame displays a list of the Prism Management Console Web pages. To view a page, select its corresponding link on the navigation menu.

**Note:** The navigation menu varies depending on the options enabled for your library and may differ from the sample screens shown in this manual.

## Management Frame

The management frame displays the page selected from the navigation frame. To return to a previous Prism Management Console page, click the Web browser's **Back** button.

**Note:** Due to the limitations of some Web browsers, clicking on the **Back** button may return you to the **Prism Home** page. To refresh the content area, right-click within the content frame, then select **Refresh**. To return to another page, select the appropriate page from the navigation menu.

---

## Prism Home Page

The **Prism Home** page indicates whether the library is available for use. For browsers that support HTML 4.0, the page is set to automatically refresh every minute to reflect the library status as of the last polling cycle. The **Prism Home** page also displays the software version of the PMC.

If the PMC is unable to communicate with the library, an error message displays. Otherwise, a generic Quantum icon displays along with a status message. If the library is unavailable, as defined by a Test Unit Ready response of **Check Condition** or a SCSI protocol failure, the background of the Quantum icon is set to red.

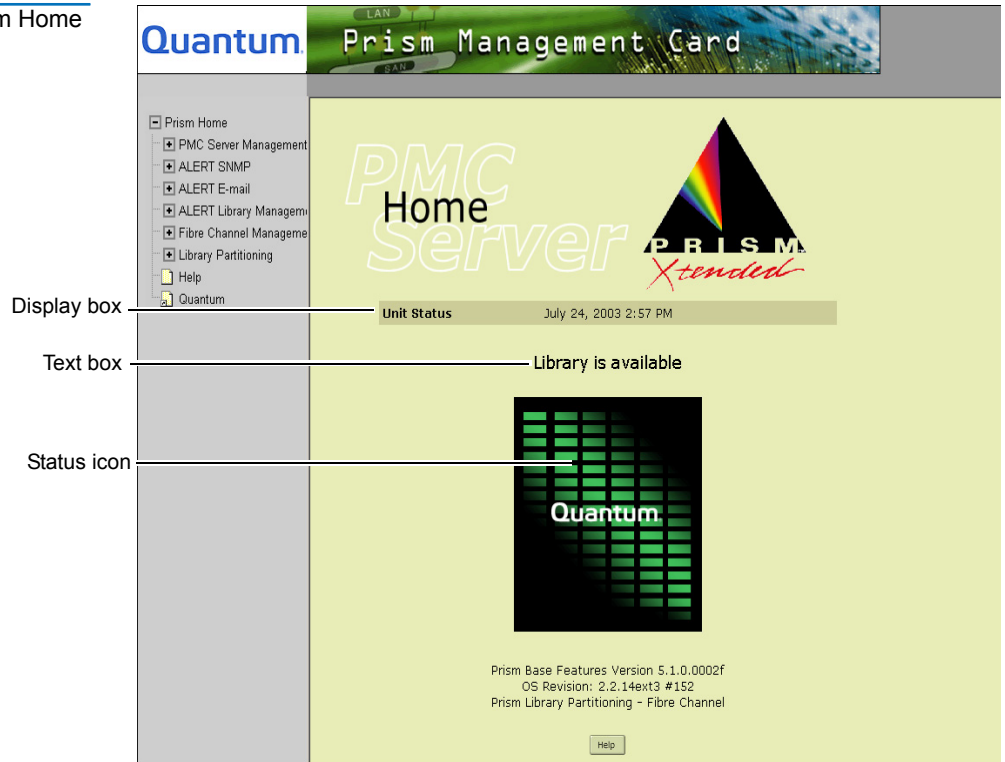
**Note:** This is the only Prism Management Console Web page accessible without a password.

The **Prism Home** page contains the following: the word **Home**, Prism™ Xtended logo, display box, text box, status icon (center of the page), and **Help** button.

The display box contains the words **Unit Status** and the date and time (see [figure 2](#)).



Figure 2 Prism Home Page, Status Indicators



Below the display box is the text box. The text box indicates the status of the library. There are five status types:

- **Library is available** - indicates the library is ready for normal operation
- **Library is unavailable** - indicates the library is in Standby mode or Stop mode, or that SCSI communications are disabled (the library is not available to the host system for backup operations)
- **Library is not configured** - indicates a new installation.
- **Library is coming online** - indicates the library may be performing inventory after power up
- **Unable to communicate with library** - indicates a communications problem between the PMC and the library

If the library performs an auto-inventory after coming online, the **Prism Home** page and the Library Management pages display the status **Unable to communicate, Library coming online**. **Library Available** is displayed after the auto-inventory is complete. The duration of time to complete the inventory depends on the library size and configuration. Pass-through mechanism (PTM) systems remain in the **Unable to communicate** phase longer than stand-alone systems because the master frame is not able to communicate with the slave frame during the initial inventory. The expected time for the power up and initial inventory is system dependent but should not be longer than 20 minutes.

**Note:** If the **Prism Home** page displays **Library unavailable** and the **ALERT Library Management** pages display the **Library Status** as Online, the operator should check the LCD panel on the front of the library for an error or event message. Opening the door of the library may cause this condition. In some circumstances, the library will be unavailable for host operations. To correct this mismatch of states, correct the event or condition creating the error message and then refresh the browser.

Below the text box is the status icon. The status icon indicates the library status by the background color of the icon (see [table 2](#)). It is also a link to the [Library Status](#) page.

Table 2 Status Icon  
Communication Status  
Colors

Status	Color
Library is available	Green
Library is unavailable	Red
Library is not configured	Red
Library is coming online	Red
Unable to communicate with library	Red

---

## First Time User Account Setup

Accessing another page for the first time from the **Prism Home** page requires you to enter a user name and password.

**Note:** A default user name (**admin**) and password (**admin**) is provided with the installation of the PMC.

**Caution:** To protect the integrity of your network and PMC access, set up a new admin account when you begin using the PMC. Afterward, delete the existing admin account. Please refer to [Adding User Accounts](#) on page 16 and [Modifying User Accounts](#) on page 17.

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## Accessing On-line Help

The Prism Management Console provides extensive online help files for every function, feature, and field within the PMC (see [Getting Help](#) on page 119).

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## Accessing the Quantum Web Site

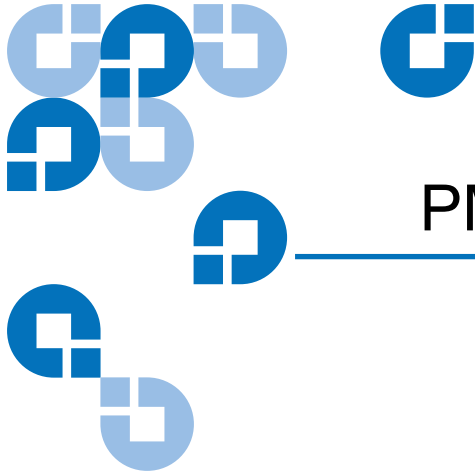
To access the Quantum Web site:

- 1 Click the Quantum link in the navigation frame of the **Prism Home** page (see [figure 1](#)).

The Web browser displays the Quantum Web site.

- 2 To return to the Prism Management Console, click **Back**.

Chapter 1 Prism Management Console  
Using the Prism Management Console Interface



# PMC Server Management

---

Management of the library and the PMC server is accomplished through the following Prism Management Console Web pages:

- [Network Configuration](#) allows you to configure the hostname, domain, IP address, subnet mask, and gateway addresses.
- [Date and Time Configuration](#) allows you to set or adjust the date and time.
- [User Management](#) allows you to add and delete users permitted to access to the PMC.
- [Utilities](#) allows you to perform software upgrades, reboot, save and restore configuration files, and shutdown the PMC.
- [Setup](#) allows you to perform setup and configuration functions on the PMC. These functions are generally performed by a field service engineer (FSE).

These Web pages are located in the navigation menu under **PMC Server Management**.

## Network Configuration

The **Network Configuration** page allows you to view and change the settings used to communicate with the PMC. The initial settings were configured by the FSE who installed the PMC in your P-Series library. Consult your system administrator before changing network configurations or settings.

### Viewing/Editing Network Configuration

To view or change the basic configuration of the PMC:

- 1 In the navigation frame, under **PMC Server Management**, click **Network Configuration**.

The **Network Configuration** page displays (see [figure 3](#)).

**Note:** If the Web browser displays a dialog box prompting you for your user name and password, type the information in the dialog box, and click **OK**.

Figure 3 Network Configuration

The screenshot shows the Quantum Prism Management Card interface. The title bar reads "Quantum Prism Management Card". The main content area is titled "PMC Network Configuration" and "View/Change PMC Network Configuration". The interface includes a navigation tree on the left with the following items: Prism Home, PMC Server Management (expanded), Network Configuration (selected), Date and Time Configuration, User Management, Utilities, Setup, ALERT SNMP, ALERT E-mail, ALERT Library Management, Fibre Channel Management, Library Partitioning, Help, and Quantum. The main configuration area contains the following fields:

Use DHCP :	<input type="checkbox"/>
Hostname :	<input type="text" value="MyComputer"/>
Domain :	<input type="text" value="mycompany.com"/>
IP Address :	<input type="text" value="123.45.6.123"/>
Subnet Mask :	<input type="text" value="255.255.0.0"/>
Default Gateway :	<input type="text" value="123.45.0.1"/>

Below the fields, a note states: "Note: If you select DHCP, the above settings will only apply in the event a DHCP server is unavailable. In order for these settings to take effect the PMC must be rebooted." At the bottom, there are "Apply" and "Help" buttons.

2 Edit the configuration information as desired (see [table 3](#)).

Table 3 Basic Configuration Fields

Field	Descriptions
Use DHCP	Select this option if your network utilizes DHCP for dynamic IP addressing. In the event a DHCP server is unavailable, the remaining fields will apply. The default value is enabled.
Hostname	View or set the hostname for the PMC, for example, the DNS name. The default value is <b>PMC350-</b> with the MAC address of the PMC appended. When entering a hostname, no spaces are allowed. Underscores are acceptable.
Domain	View or set the domain for the PMC, for example, quantum.com is the domain for Quantum. The default value is the <b>[local domain]</b> .
IP Address	View or set the IP address for the PMC. The default IP address is <b>192.168.1.1</b> .
Subnet Mask	View or set the subnet mask for the PMC. The default subnet mask is <b>255.255.255.0</b> .
Default Gateway	View or set the default gateway for the PMC. The default value is <b>[default for your gateway or blank]</b> . Change the value only as required by your network.

3 Click **Apply**.

The PMC does not use the new basic configuration until it is rebooted (see [Rebooting the PMC](#) on page 25).

## Date and Time Configuration

The **Date and Time Configuration** page allows you to modify the date and time settings on the PMC. Specify the appropriate date and time settings from the pull-down lists and text boxes, then click **Apply** to commit the changes to the PMC.

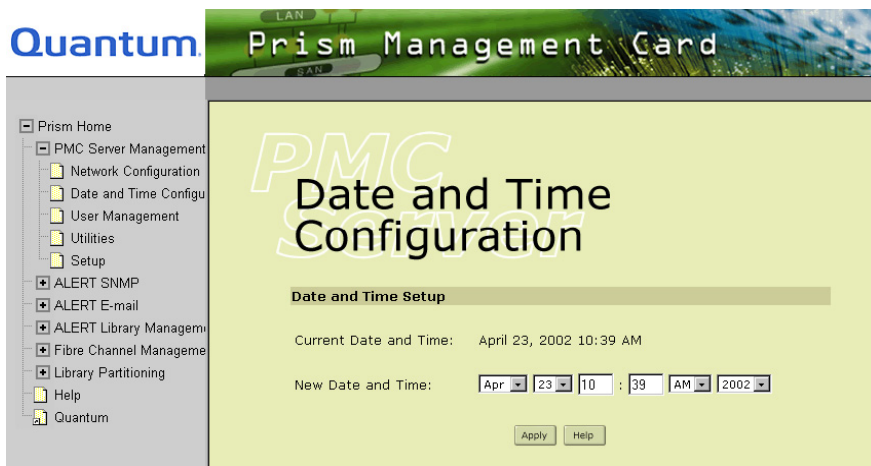
### Accessing the Date and Time Configuration

To access the **Date and Time Configuration** page:

- 1 In the navigation frame, click **Date and Time Configuration**.

The management frame displays the **Date and Time Configuration** page (see [figure 4](#)).

Figure 4 Date and Time Configuration



- 2 Use the pull-down list to change the date and time as desired, then click **Apply**.

**Note:** When entering information into the hour or minute configuration fields, do not use decimals. Decimals in these fields generate an invalid results page, which prompts you to try again.



# User Management

The **User Management** page displays a list of all the user account names for the PMC. To view any of the Prism Management Console Web pages other than the **Prism Home** page, a user must be authenticated by supplying a valid user name and password.

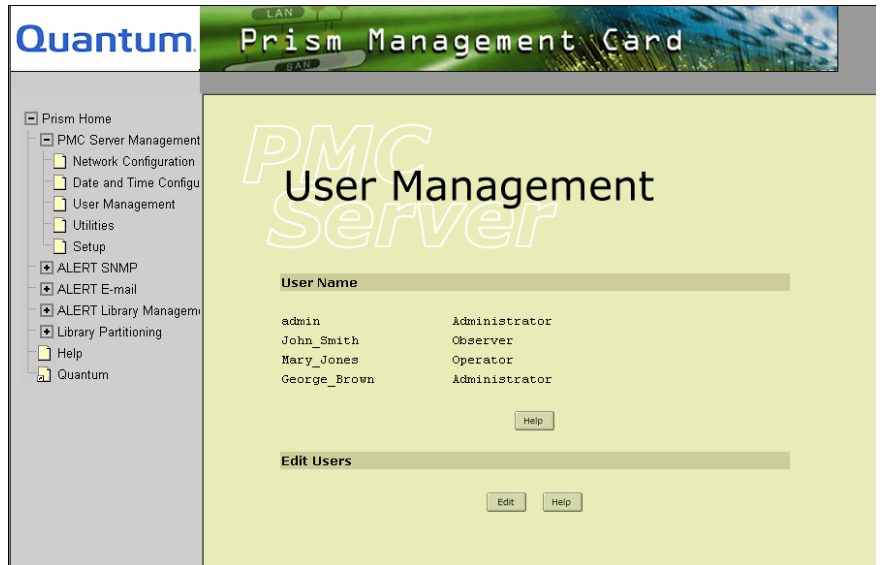
**Note:** This authentication is designed for intranet use; passwords are transmitted as plain text and use over the Internet is discouraged unless a Virtual Private Network (VPN) is being used.

## Accessing User Management

To access the **User Management** page:

- 1 In the navigation frame, click **User Management**.
- 2 The management frame displays the **User Management** page (see [figure 5](#)).

Figure 5 User Management



## Adding User Accounts

To add a user account:

- 1 In the navigation frame, click **User Management**.

The management frame displays the **User Management** page

- 2 Under **Edit Users**, click **Edit**.

The management frame displays the **Edit Users** page (see [figure 6](#)).

Figure 6 Edit Users

The screenshot shows the Quantum Prism Management Card interface. The left navigation pane is expanded to 'User Management'. The main content area is titled 'Edit Users' and contains two sections: 'Add User' and 'Modify User'. The 'Add User' section has fields for 'User Name', 'Password', 'Repeat Password', and a 'Group' dropdown menu set to 'Observer', with 'Add' and 'Help' buttons. The 'Modify User' section has a list of users: 'admin (Administrator)', 'John\_Smith (Observer)', 'Mary\_Jones (Operator)', and 'George\_Brown (Administrator)'. Below the list are fields for 'New Password', 'Repeat New Password', and 'New Group' (set to 'Observer'), with 'Edit', 'Delete', and 'Help' buttons.

- 3 Under **Add User**, add the new user account information:

- A unique user name in the **User Name** field
- The desired password used for a new user in the **Password** field and again in the **Repeat Password** field

**Note:** Passwords are case sensitive.

- 4 Select the appropriate **Group** from the pull-down list. The available groups are:
  - **Observer** allows view-only access to the configuration and status functions.
  - **Operator** allows view-only access to the configuration and status functions. Additionally, an operator can perform a limited amount of functions such as Restart Services, Rescan bridges, Test E-mail, Start/Stop, and Online/Offline.
  - **Administrator** allows full access to view and perform all functions except the service functions (**Prism Package Options** and **Prism Service Information**).
- 5 Click **Add**.

A **Results** page displays indicating the account is added.
- 6 Click **OK** to return to the **Edit Users** page.

---

## Modifying User Accounts

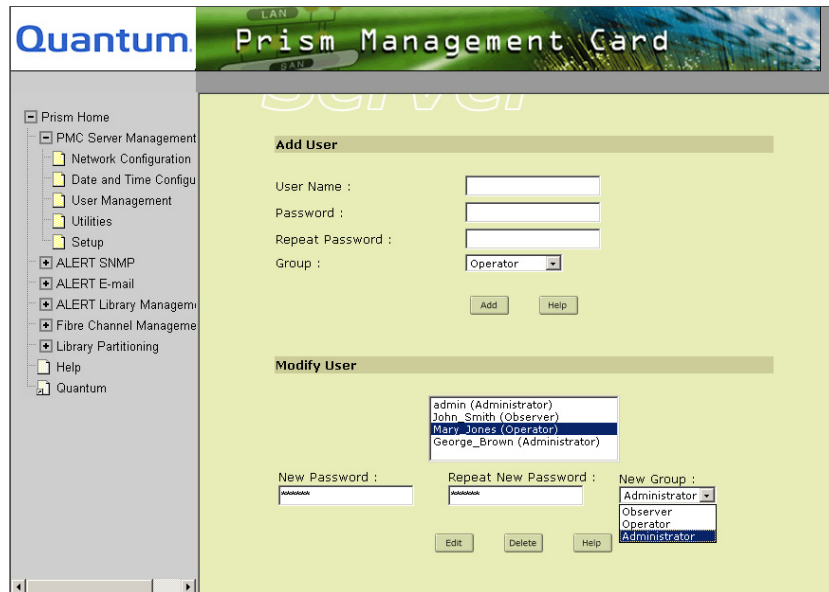
To modify a user's password and/or group assignment:

- 1 In the navigation frame, click **User Management**.

The management frame displays the **User Management** page.
- 2 Under **Edit User**, click **Edit**.

The management frame displays the **Edit Users** page.

Figure 7 Changing the Group Status



- 3 Click the name of the user in the **Modify User** list box.
- 4 Select a new group in the **New Group** pull-down list.
- 5 Enter a new password in the password fields.
- 6 Click **Edit**.

A Results page appears with the message User File Updated.

- 7 Click **OK** to return to the **Edit Users** page.

## Deleting User Accounts

To delete a user account:

- 1 In the navigation frame, click **User Management**.  
The management frame displays the **User Management** page.
- 2 Under **Edit User**, click **Edit**.  
The management frame displays the **Edit Users** page.
- 3 Under **Modify User**, select the user account from the list box.
- 4 Click **Delete**.

A Results page displays indicating the account is deleted.

- 5 Click **OK** to return to the **Edit Users** page.

**Note:** The system does not allow you to delete the last existing administrator account. To delete a specific administrator account, create a new account with the correct information *before* deleting the existing one.

---

## Utilities

The **Utilities** page allows the user to perform maintenance functions on the PMC including software upgrades, PMC configuration capture and restore, restarting PMC services, and rebooting of the PMC system.

The **Upload Software Image** control allows the user to enter the name of a Software Image file to be uploaded to the PMC. **Browse** invokes a standard file browsing dialog to assist the user in the selection of a Software Image file. Once a Software Image file is selected, the upload initiates by clicking on the **Upload** button.

The **Activate Software Image** button causes the last updated PMC Software Image file, if any, to be moved from the temporary staging area to replace the current Software Image. Once this is done, the new Software Image is used on the next reboot of the PMC.

The **Download PMC Configuration File** button causes the current PMC configuration to download to the administrator's system as a single file.

The **Upload PMC Configuration File** control allows the user to enter the name of a PMC Configuration file to be uploaded to the PMC. **Browse** invokes a standard file browsing dialog to assist the user in the selection of this file. Once the file is selected, the upload initiates by clicking **Upload**.

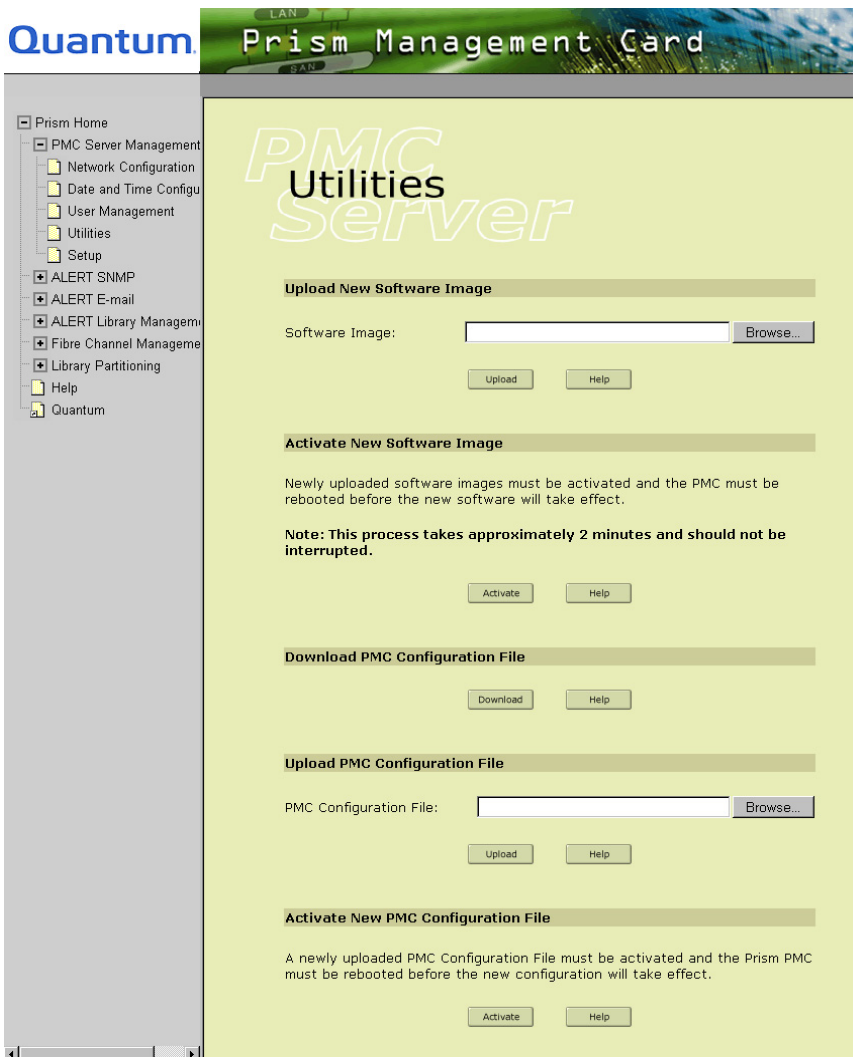
The **Activate New PMC Configuration File** control causes the last uploaded PMC Configuration file, if any, to replace the current PMC configuration. Once this has been done, the PMC immediately uses the new configuration.

The **Restart Prism Management Services** control causes a complete initialization of all Prism Management Card Services. As a result, all current processes are stopped.

## Accessing the Utilities Page

To access the **Utilities** page, in the navigation frame, under **PMC Server Management**, click **Utilities**. The management frame displays the **Utilities** page (see [figure 8](#)).

Figure 8 Utilities



## Uploading a New Software Image

The **Upload a New Software Image** option is intended for the FSE to update the PMC operating software.

**Note:** The user does not require access to **Upload New Software Image**.

To upload a new software image:

- 1 Access the [Utilities](#) page.
- 2 Under **Upload New Software Image**, type the location and filename of the new software image.

**Note:** Use the **Browse** button to browse the host and locate the new software image. The file name for the new software image begins with **PMC350** and ends with **.image**, for example: **PMC350.[version].[build].image**. Do not interrupt the upload process. For Ethernet libraries, it is also possible to upload a software image starting with **ndmp** for the MicroBridge image (file does not require activation).

- 3 Click **Upload** to place the new software image in a temporary area of the system for PMC images only. A MicroBridge image is placed directly into the final location.

A new window displays with a progress bar indicating the activity of the upload. When complete, a **Results** page displays indicating the software has been uploaded.

- 4 Click **OK** to return to the **Utilities** page.

**Note:** If the PMC does not recognize the new image file as a valid software image, the transfer aborts.

The PMC system does not use the new software image the next time the PMC system is rebooted unless the image is activated (see [Activating a New Software Image](#)).

---

## Activating a New Software Image

The **Activate a New Software Image** option is intended for the FSE updating the PMC operating software.

**Note:** The user does not require access to **Activate New Software Image**.

To move the uploaded software image from the temporary area, replace the current software image, and activate the new software image:

- 1 Access the **Utilities** page.
- 2 Under **Activate New Software Image**, click **Activate**.

A **Results** page displays indicating the firmware has been activated.

**Caution:** The activation process may take several minutes. Do not interrupt the activation process. Doing so may result in library failure and damage to the PMC.

A new window displays with a progress bar indicating the activity of the upload. When complete, a **Results** page displays indicating the software has been activated.

- 3 Click **OK** to return to the **Utilities** page.

**Note:** If the library is rebooted before the uploaded software image is activated, the image file is erased. The upload process must be performed again.

The PMC system does not use the new software image until the PMC system is rebooted (see [Rebooting the PMC](#) on page 25).

---

## Downloading the PMC Configuration File

The Download the PMC Configuration File option allows the current configuration to be downloaded to the administrator's system as a single file. The PMC configuration includes:

- User database
- IP configuration
- SNMP configuration



- All other configurable features

**Note:** For disaster recovery purposes, download the configuration file whenever there are major changes to the PMC configuration.

To download a PMC configuration file:

- 1 Access the **Utilities** page.
- 2 Under **Download PMC Configuration File**, click **Download**.

A confirmation message displays asking whether to open or save the file.

- 3 Select **Save this file to disk**, and click **OK**.

A **Results** page displays indicating the configuration file has been downloaded.

- 4 Click **OK** to return to the **Utilities** page.

### Uploading a PMC Configuration File

The **Upload a PMC Configuration File** option allows a saved configuration file to be uploaded to the current PMC system. The PMC configuration includes:

- User database
- IP configuration
- SNMP configuration
- All other configurable features

To upload a PMC configuration file:

- 1 Access the [Utilities](#) page.
- 2 Under **Upload PMC Configuration File**, type the location and filename of the new configuration file.

**Note:** Use the **Browse** button to browse the host system and locate the desired PMC configuration file.

- 3 Click **Upload** to load the configuration file.

The file is placed in a temporary area of the system.

- 4 Click **OK** to return to the **Utilities** page.

**Note:** If the PMC does not recognize the uploaded configuration file as a valid configuration file, the transfer is aborted.

The PMC system does not use the new configuration file until it has been activated (see [Activating a New Software Image](#)).

---

### Activating a New PMC Configuration File

To move the new configuration from the temporary area, replace the current configuration, and activate a new configuration:

- 1 Access the [Utilities](#) page.
- 2 Under **Activate New PMC Configuration File**, click **Activate**.  
A **Results** page displays indicating the firmware has been activated.
- 3 Click **OK** to return to the **Utilities** page.

The PMC system uses the new software configuration immediately. It is not necessary to restart or reboot the PMC.

---

### Restarting Prism Management Services

The PMC resides on the same SCSI bus as the library, and possibly some of the tape drives.

**Caution:** Avoid restarting unless absolutely necessary in order to prevent possible disruption to other SCSI transactions on the shared SCSI bus.

To restart the PMC system:

- 1 Access the [Utilities](#) page.
- 2 Under **Restart PMC**, click **Restart**.

The PMC system resets and restarts itself.

---

## Rebooting the PMC

The PMC resides on the same SCSI bus as the library, and possibly some of the tape drives.

**Caution:** Avoid rebooting unless absolutely necessary in order to prevent possible disruption to other SCSI transactions on the shared SCSI bus.

**Note:** **Reboot PMC** does not work with PTM libraries. If you have a PTM library, use [Shutting Down the PMC](#).

To reboot the PMC system, and use any updated configuration information or software image:

- 1 Access the [Utilities](#) page.
- 2 Under **Reboot PMC**, click **Reboot** and the PMC system reboots.

**Note:** Rebooting the PMC may take up to 15 minutes. During the reboot, the library is unavailable.

---

## Shutting Down the PMC

You may reboot or shutdown the PMC system. Shutting down the PMC system does not shutdown the library. After committing a shutdown, you need to wait approximately one minute, then it is safe to turn off the library. Rebooting or shutting down the system is not necessary during normal operations as both would stop all processes within the system.

**Note:** Since the PMC resides on the same SCSI bus as the Library and possibly some of the tape drives, rebooting and shutting down should be avoided unless absolutely necessary in order to prevent possible disruption to other SCSI transactions on the shared SCSI bus.

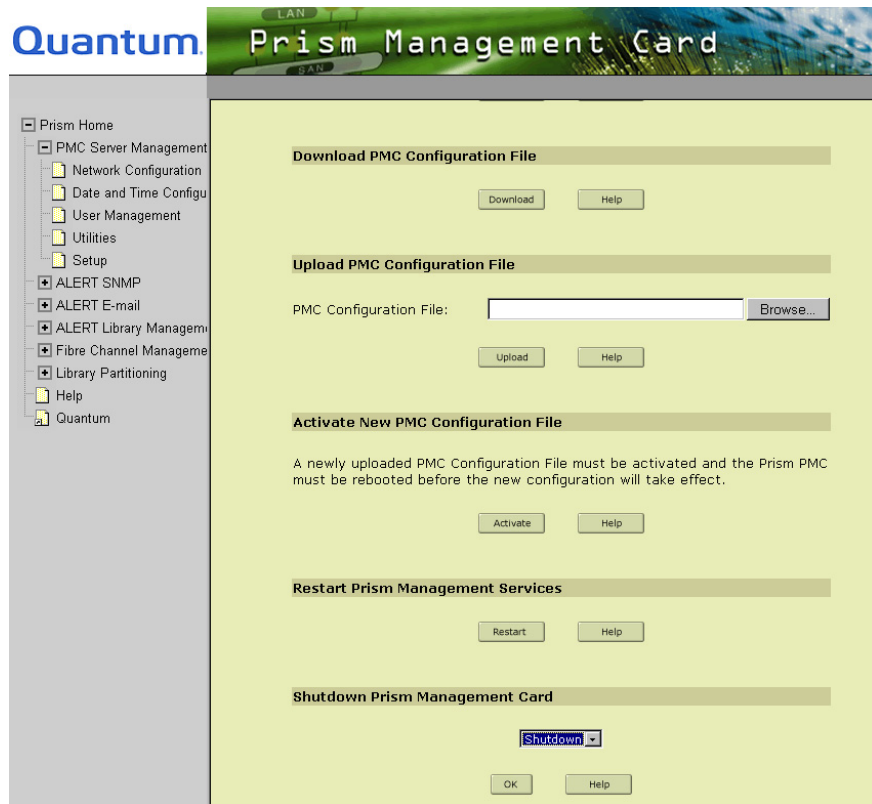
**Caution:** Shutting down a P-Series library while the PMC is in operation may cause the PMC image and/or configuration file to be corrupted.

To prevent the configuration file from becoming corrupted, use the following procedure whenever you shutdown a library that contains a PMC:

**1** Shut down the PMC first.

To do this, select **Shutdown** from the **Shutdown Prism Management Card** pull-down menu on the **Utilities** page of the PMC interface (see [figure 9](#)), then click **OK**.

Figure 9 Shutdown PMC, Bottom of the Utilities page



**2** Allow at least 3 to 4 minutes for the PMC shutdown procedure to take place.

- 3 Follow the standard procedure to shut down the library see the appropriate library user's guide.

---

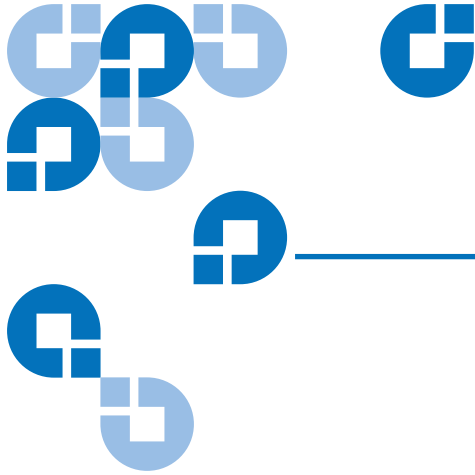
## Setup

The **Setup** page allows users to configure the PMC system. It should be used when updating or installing anything to the PMC or the Library.

The **Setup** page is intended for use by FSEs to perform setup and configuration functions on the PMC. Most of the sections on this page require service-level passwords. Users may use this page to view current hardware and option configurations, but not to make changes to the settings.

Some sections are repeated on this page for FSE use, such as **Add User**, **Network Configuration**, and **Date and Time Configuration**. These sections are identical to the sections intended for library administrator or operator use.





## Chapter 3 ALERT SNMP

Prism **ALERT SNMP** is managed through the following Prism Management Console Web pages accessible using Web browser software installed on the host computer:

- [SNMP Configuration](#) allows you to set up information about the SNMP and select defined traps.
- [Community Management](#) allows you set up the communities that have access to the **ALERT SNMP** option, and define their read-write privileges.
- [User Traps](#) allows you to view, add, or delete custom traps.

---

### SNMP Configuration

The **SNMP Configuration** page allows you to view and change the **ALERT SNMP** management settings used by the PMC. Consult your system administrator before changing any information on this page. To view or edit the SNMP configuration of the PMC:

- 1 In the navigation frame, under **ALERT SNMP**, click **SNMP Configuration**.

**Note:** If the Web browser displays a dialog box prompting you for your user name and password, type the information in the dialog box, and click **OK**.

The **SNMP Configuration** page displays (see [figure 10](#)).

Figure 10 SNMP Configuration

Quantum Prism Management Card

ALERT SNMP Configuration

View/Change ALERT SNMP Configuration

Library Name:

Location:

Informational Traps:  Enabled

Warning Traps:  Enabled

Failure Traps:  Enabled

Available Traps:  Enabled

Unavailable Traps:  Enabled

Repeat Traps:  Enabled

Trap Destination:

Trap Destination:

Trap Destination:

Trap Destination:

Trap Destination:

- 2 Edit the configuration information using the fields on the dialog box (see [table 4](#)).
- 3 Enable the trap types to be reported:
  - Informational Traps
  - Warning Traps
  - Failure Traps



- Available Traps
- Unavailable Traps
- Repeat Traps

**4** Click **Apply**.

A **Results** page displays indicating the configuration has been changed.

**5** Click **OK** to return to the **SNMP Configuration** page.

Table 4 SNMP Configuration Fields

Field	Description
Library Name	View or set the library name for the PMC, for example, MIS library. If no library name is defined, the default library name is the <b>Hostname</b> of the PMC system.
Location	Location of the PMC system, for example, San Diego office, 101 Main St., Building 15, Room 127
Informational Traps	If selected, <b>Informational Traps</b> are enabled.
Warning Traps	If selected, <b>Warning Traps</b> are enabled.
Failure Traps	If selected, <b>Failure Traps</b> are enabled.
Available Traps	If selected, a trap is generated every time the library transitions from an unavailable to an available state.
Unavailable Traps	If selected, a trap is generated every time the library transitions from an available to an unavailable state.
Repeat Traps	If selected, enabled user traps are set at the polling interval for as long as the condition causing the trap persists. If not selected, an enabled user trap is only set the first time it is detected. This field must be enabled to receive User Traps.

Field	Description
Trap Destination	View or set the IP addresses that are to receive the traps generated by the PMC, for example, 12.34.56.78. Up to five trap destination addresses may be set. If less than five trap destinations are required, leave unused <b>Trap Destination</b> fields blank.

---

## Community Management

The **Community Management** page displays a list of all the **ALERT SNMP** community settings configured for the PMC. To perform SNMP **get** and **set** operations, SNMP management software must specify a community name as part of the context of the request. To perform a **set** operation, the SNMP management software must provide a community name with “Read-write” privileges. All SNMP requests must conform to the IP access rules.

**Note:** Requests made in the context of an unknown community, or a community with insufficient access rights may result in an **Object not found** error message.

---

### Accessing Community Management

To access the **Community Management** page, under **ALERT SNMP**, click **Community Management**.

The management frame displays the **Community Management** page (see [figure 11](#)).

Figure 11 Community Management



### Viewing Existing Communities

To view existing communities, access the **Community Management** page. The management frame displays the community Management page (see [figure 11](#)).

The **Community Name** section lists the currently configured communities, and their properties, including:

- Community name
- IP address
- Subnet Mask
- Access

### Editing a Community

To edit a community:

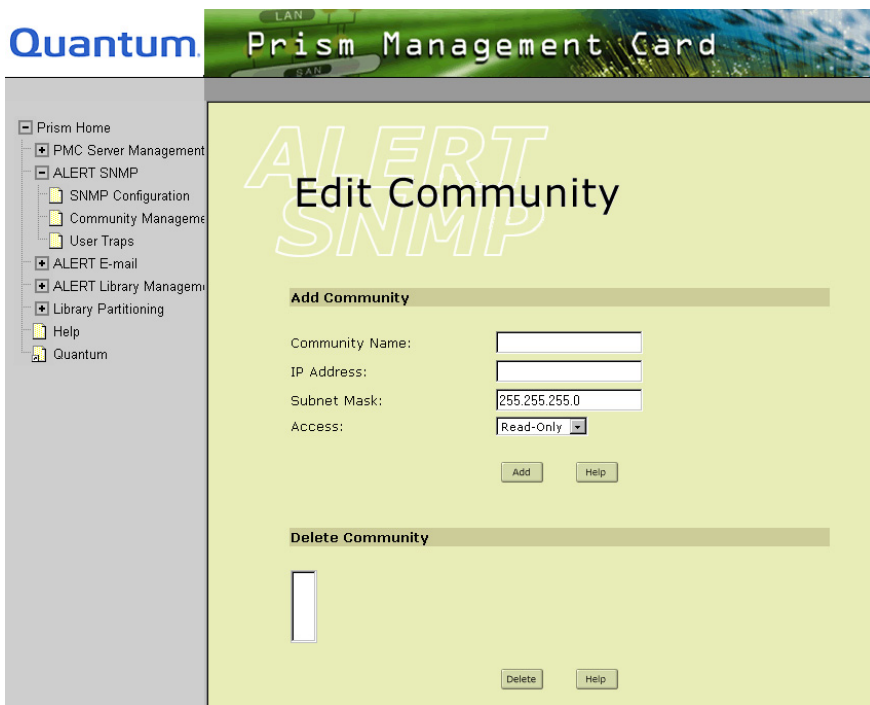
- 1 Access the **Community Management** page.

In the navigation frame, under **ALERT SNMP**, click **Community Management**.

- 2 Under **Edit Community**, click **Edit**.

The management frame displays the **Edit Community** page (see [figure 12](#)).

Figure 12 Edit  
Community



**3** Under **Add Community**, enter the new community information:

- A unique name in the **Community Name** field, the field holds up to 20 characters (a-z, A-Z), no special characters or blank spaces are allowed

**Caution:** If no communities are defined, the PMC is universally accessible through a “public” community (read-only).

- IP address in the **IP Address** field, if the value in the Subnet Mask edit box ends in a zero, the value in the IP address edit box must also end in a zero
- Subnet mask in the **Subnet Mask** field

**Note:** A single community with an IP address or subnet mask set to 0.0.0.0, or left blank, indicates that IP-address-based access control is disabled.

- Access rights for the new community:
    - **Read-only** allows SNMP **get** operations:
    - **Read-write** allows both SNMP **get** and **put** operations
- 4 Click **Add**.

A **Results** page displays indicating the community has been added.
  - 5 Click **OK** to return to the **Edit Community** page.

---

## Deleting a Community

To delete a community:

- 1 Access the **Community Management** page.

In the navigation frame, under **ALERT SNMP**, click **Community Management**.
- 2 Under **Edit Community**, click **Edit**.

The management frame displays the **Edit Community** page (see [figure 12](#)).
- 3 Under **Delete Community**, select the community names you wish to delete from the list box.
- 4 Click **Delete**.

A **Results** page displays indicating the community has been deleted.
- 5 Click **OK** to return to the **Edit Community** page.

---

## User Traps

The **User Traps** page displays a list of the ALERT User Traps configured for the PMC. User Traps are associated with a unique triplet comprised of:

- Sense key
- Additional Sense Code (ASC) - SCSI related value
- Additional Sense Code Qualifier (ASCQ) - SCSI related value

When the PMC polls the library and encounters a SCSI Check Condition, the SCSI Request Sense information is gathered and checked against all defined and enabled User Traps. If an enabled match is found, the User Trap is sent to all of the configured Trap destinations.

**Note:** **Repeat Traps** on the **SNMP Configuration** page must be enabled to receive User Traps.

---

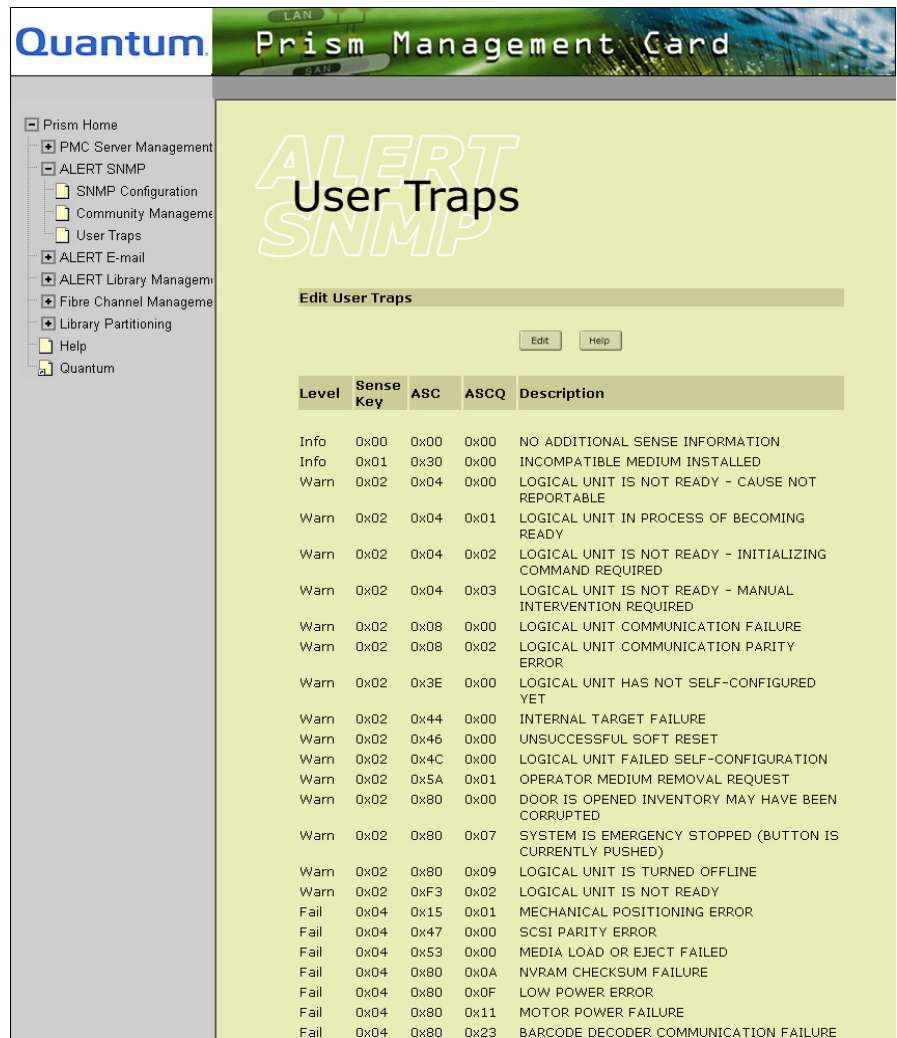
## Viewing User Traps

To view the **User Traps** page:

- 1 In the navigation frame, under **ALERT SNMP**, click **User Traps**.

The management frame displays the **User Traps** page (see [figure 13](#)).

Figure 13 User Traps



### Editing User Traps

The **Edit User Traps** page allows the user to define new User Traps as well as delete existing User Traps for the PMC. The user traps (Sense Key, ASC, ASCQ) must be unique.

Click **Edit** if you wish to add or delete User Traps. If you receive an error message about exceeding the maximum number of user traps when adding a trap, you should delete unnecessary User Traps.

## Adding User Traps

To create a new user trap:

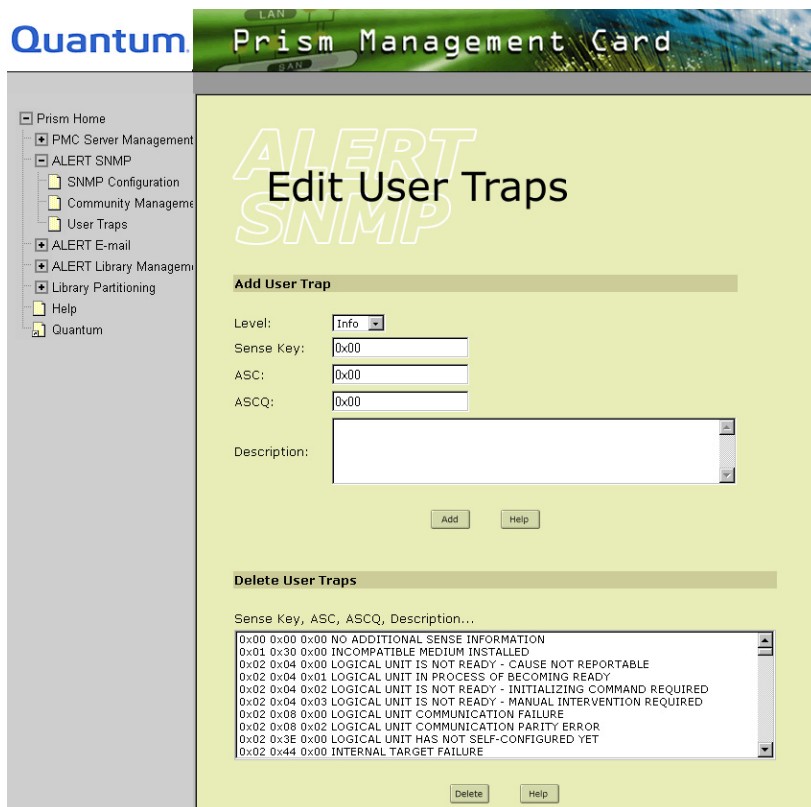
- 1 In the navigation frame, under **ALERT SNMP**, click **User Traps**.

The management frame displays the **User Traps** page

- 2 Under **Edit User Traps**, click **Edit**.

The management frame displays the **Edit User Traps** page (see [figure 14](#)).

Figure 14 Edit User Traps



- 3 Under **Add User Trap**, enter the new user trap information:

- Type of user trap desired:
  - **Info** for informational traps
  - **Warn** for warning traps
  - **Fail** for failure traps



- Sense key in the **Sense Key** field
- Additional sense code in the **ASC** field
- Additional Sense Code Qualifier in the **ASCQ** field
- A description of the user trap in the **Description** field, for example: Library door is open, call operator at extension 5378

**Note:** Sense key, ASC and ASCQ values may be entered as decimal, octal or hexadecimal numbers such as 17, 016, or 0x7F (hex value).

**4** Click **Add**.

A **Results** page displays indicating the user trap is added.

**5** Click **OK** to return to the **Edit User Trap** page.

---

## Deleting User Traps

To delete existing user traps:

**1** In the navigation frame, under **ALERT SNMP**, click **User Traps**.

The management frame displays the **User Traps** page

**2** Under **Edit User Traps**, click **Edit**.

The management frame displays the **Edit User Traps** page (see [figure 14](#)).

**3** Under **Delete User Trap**, select the user traps you wish to delete.

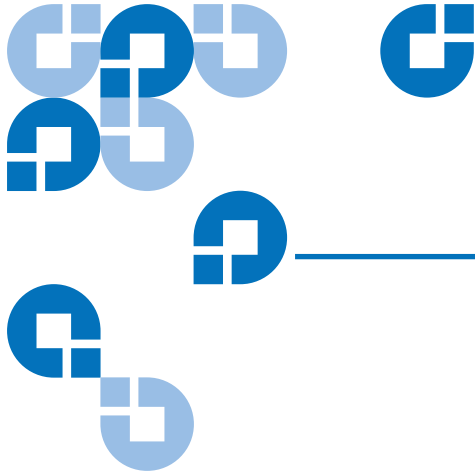
**Note:** When deleting multiple user traps from the **ALERT SNMP, Edit User Traps** page, the maximum number of traps that can be deleted at any one time is 160.

**4** Click **Delete**.

A **Results** page displays indicating the user trap is deleted.

**5** Click **OK** to return to the **Edit User Traps** page.





## Chapter 4 ALERT E-mail

---

Prism **ALERT E-mail** is managed through the following PMC Web pages accessible using Web browser software installed on the host computer:

- [Contact Configuration](#) allows you to set up information about the company that owns the library, and the primary and secondary contacts
- [Message Configuration](#) allows you set up the mailing lists for e-mail notification of errors, failures, and activities
- [E-mail Configuration](#) allows you to set up e-mail service information

---

### Contact Configuration

The **Contacts Configuration** page presents two forms for contact information. The first form contains information about the company that has purchased the library and about the library itself. The second form contains information about the primary and secondary people who are to be contacted in case of library failure or other actions such as notification of firmware updates.

To view or edit the contact configuration of ALERT E-mail:

- 1 In the navigation frame, under **ALERT E-mail**, click **Contact Configuration**.

The management frame displays the **Contact Configuration** page (see [figure 15](#)).

**Note:** The **Secondary** contact information is below the primary contact information. Scroll down to enter the appropriate information in these fields, if applicable.

Figure 15 Contact  
Configuration

The screenshot displays the Quantum Prism Management Card web interface. The top banner features the Quantum logo and the text 'Prism Management Card' over a green background with fiber optic imagery. A left-hand navigation menu is visible, listing various management options such as 'PMC Server Management', 'ALERT SNMP', 'ALERT E-mail', and 'ALERT Library Management'. The 'ALERT E-mail' section is expanded, showing 'Contact Configuration' as the selected option. The main content area has a light green background and is titled 'ALERT E-mail Contact Configuration'. Below the title is a section header 'View/Change Contact Information'. The form contains several input fields for contact details, organized into three sections: 'View/Change Contact Information', 'Primary', and 'Secondary'. Each section includes fields for Company Name, Street, City, State, Postal Code, Country, Library Location, Library Serial Number, and Support Contract. The 'Primary' and 'Secondary' sections also include fields for Administrator, E-mail Address, Phone, Fax, and Pager. At the bottom right of the form, there are 'Apply' and 'Help' buttons.

**Quantum** Prism Management Card

ALERT E-mail  
**Contact Configuration**

**View/Change Contact Information**

Company Name :

Street :

City :

State :

Postal Code :

Country :

Library Location :

Library Serial Number :

Support Contract :

**Primary**

Administrator :

E-mail Address :

Phone :

Fax :

Pager :

Street :

City :

State :

Postal Code :

Country :

**Secondary**

Administrator :

E-mail Address :

Phone :

Fax :

Pager :

Street :

City :

State :

Postal Code :

Country :

- 2 If desired, insert or change the company information, or the primary or secondary library administrators (see [table 5](#)).

**Note:** The **Serial Number** and **Support Contract** fields are initially set up by the FSE during installation of the PMC. These fields are read-only and may not be changed by the customer. All other fields can be entered by the customer.

**Note:** No quotation marks (“”) are allowed when entering telephone numbers or e-mail addresses. If spaces are entered, a message indicating **Illegal Phone Number** appears. Alphabetical characters, parentheses, and dashes are acceptable.

Table 5 Contacts and  
Company Information

Field	Description
Company Name	Name of the company where the library is installed
Street	Street address for the installed library
City	City for the above street address
State	State (or territory) for the above street address
Postal Code	Postal code (or zip code) for the above street address
Country	Country for the above street address
Library Location	Location within the facility for the installed library
Serial Number†	Serial number for the library
Support Contract†	Support contract number for the library

† A read-only field can only be changed by a FSE.

Table 6 Library  
Administrator  
Information

Field	Description
Administrator	Person responsible for library administration
E-mail Address	The e-mail address for the library administrators
Phone	The daytime phone number for the library administrators (including area code)
Fax	The business fax phone number for the library administrators (including area code)
Pager	The pager phone number for the library administrators (including area code)
Street	Business address for the library administrators
City	City for the administrator
State	State (or territory) for the administrator
Postal Code	Zip code (or postal code) for the administrator
Country	Country for the administrator

**3** Click **Apply**.

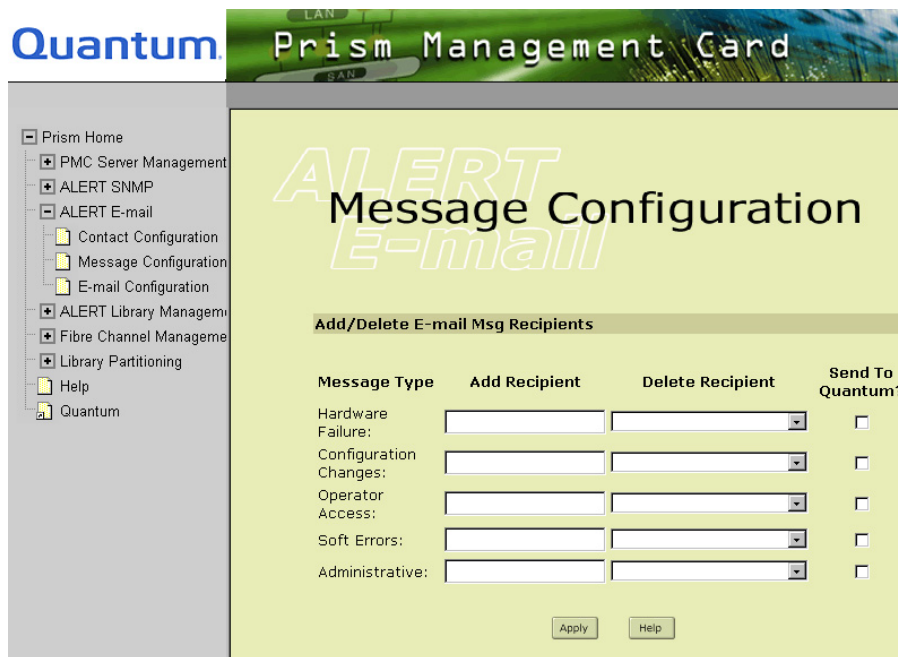
A **Results** page displays and indicates the contact information was saved.

**4** Click **OK** to return to the **Contact Configuration** page.

## Message Configuration

The **Message Configuration** page allows the user to add or delete recipients or designate that e-mail be sent to Quantum StorageCare Customer Services for any or all of the predefined e-mail lists. Changes are made by editing the form provided (see [figure 16](#)).

Figure 16 Message Configuration



See [table 7](#) for a description of the message types.

Table 7 Message Configuration Fields

Field	Description
Hardware Failure†	<p>Errors or failures that require on-site assistance or follow-up, such as:</p> <ul style="list-style-type: none"> <li>• Tape drive failure detection</li> <li>• Reduced power detected</li> <li>• Robotic controller failure</li> </ul>
Configuration Changes	<p>Changes to the library, the PMC, or the Fibre Channel bridges, such as:</p> <ul style="list-style-type: none"> <li>• Addition of new tape drive</li> <li>• Addition or deletion of a partition</li> <li>• Changing the SCSI ID of a tape drive</li> </ul>

† A list of errors and descriptions is in **E-Mail Help**.



Field	Description
Operator Access†	Operator access of the library, such as: <ul style="list-style-type: none"> <li>• Accessing the load port</li> <li>• Opening a library door</li> <li>• Pressing the online/offline button on the front panel</li> </ul>
Soft Errors†	Errors or failures that do not require on-site assistance, but may lead to future problems, such as: <ul style="list-style-type: none"> <li>• High temperature warnings</li> <li>• Excessive positioning retries</li> <li>• Ethernet drive status changes</li> </ul>
Administrative	Regularly scheduled status reports, such as: <ul style="list-style-type: none"> <li>• General status reports</li> <li>• Test messages</li> </ul>

† A list of errors and descriptions is in **E-Mail Help**.

### Accessing Message Configuration

To access the **Message Configuration** page, in the navigation frame, under **ALERT E-mail**, click **Message Configuration**.

The management frame displays the **Message Configuration** page (see [figure 16](#)).

### Viewing E-mail Recipients

To view e-mail recipients for a specific message type:

- 1 Access the **Message Configuration** page.  
In the navigation frame, under **ALERT E-mail**, click **Message Configuration**.
- 2 Click the down-arrow if **SelectRecipient** is visible in the **Delete Recipient** field for the desired message type.

A list of existing e-mail recipients for that message type is displayed.

**Note:** If **SelectRecipient** is not visible in the **Delete Recipient** field, there are no e-mail recipients configured for that message type.

---

## Adding E-mail Recipients

To add e-mail recipients:

- 1 Access the **Message Configuration** page.

In the navigation frame, under *ALERT E-mail*, click **Message Configuration**.

- 2 In the **Add Recipient** column, enter the e-mail address next to the message type.

To add more than one e-mail recipient at a time, separate each e-mail address with a comma.

- 3 Mark the **Send to Quantum?** check box if Quantum Customer Support Help Desk is to be notified of all instances of the desired message type.

**Note:** The Quantum StorageCare Customer Services department only responds to hardware failure messages.

- 4 Click **Apply**.

A **Results** page displays indicating the e-mail recipient has been added.

- 5 Click **OK** to return to the **Message Configuration** page.

---

## Deleting E-mail Recipients

To delete e-mail recipients:

- 1 Access the **Message Configuration** page.

In the navigation frame, under **ALERT E-mail**, click **Message Configuration**.

- 2 Select the appropriate recipient to delete from the pull-down list of available recipients.

**Note:** Only one e-mail recipient may be deleted at a time.

- 3 Click **Apply**.

A **Results** page displays indicating the e-mail recipient has been deleted.

- 4 Click **OK** to return to the **Message Configuration** page.

---

## E-mail Configuration

The **E-mail Configuration** page provides a form which allows the user to set up the From E-mail account, Outgoing E-mail Server name and Domain Name Server (DNS) address for use by the Prism E-mail Home service.

---

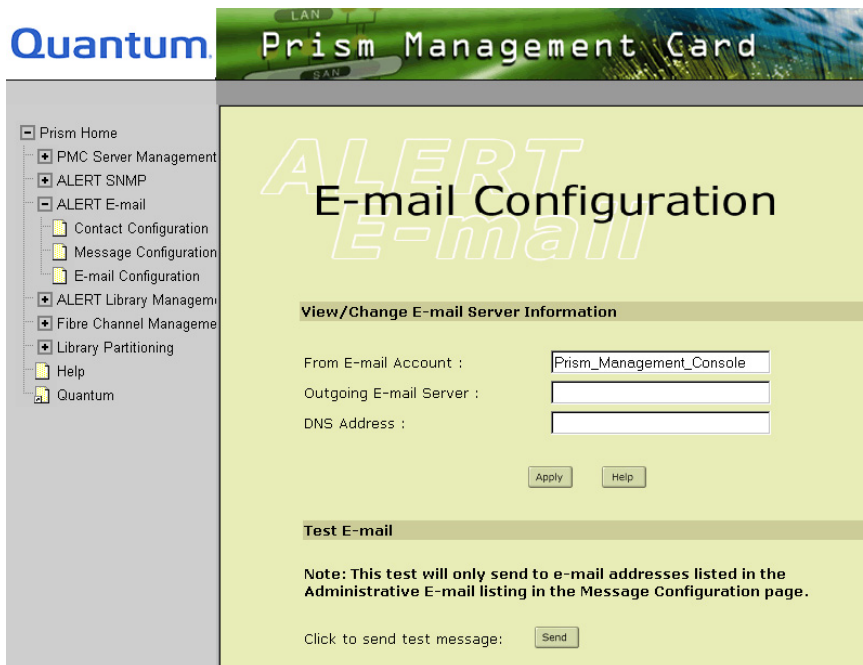
### Viewing/Editing the E-mail Configuration

To view or edit the E-mail configuration of the ALERT E-mail feature:

- 1 In the navigation frame, under **ALERT E-mail**, click **E-mail Configuration**.

The management frame displays the **E-mail Configuration** page (see [figure 17](#)).

Figure 17 E-mail  
Configuration



- 2 Edit the configuration information for the e-mail servers as desired (see [table 8](#)).

Table 8 E-mail  
Configuration Fields

Field	Description
From E-mail Account	Prism_Management_Console is the default account. The name entered here must be a valid address on the e-mail server specified in the Outgoing E-mail Server field. Do <b>not</b> add the domain name (@xxx) in this field.
Outgoing E-mail Server	Name of the server designated for outgoing e-mail, for example <b>mail1.com</b> .
DNS Address	Domain name server address, for example, 123.123.22.12, This is the IP address of your server that provides DNS name resolution services.

**3** Click **Apply**.

A **Results** page displays indicating the mailer configuration has been saved.

**4** Click **OK** to return to the **Message Configuration** page.

---

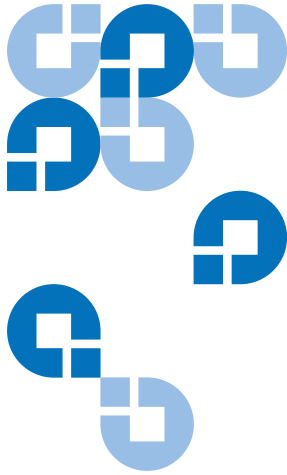
### Test E-mail

The Test E-mail option is intended as a verification that the e-mail configuration has been successfully completed.

To verify the information, click **Send** to send a test message.

**Note:** This test e-mail is sent only to the e-mail addresses in the Administrative e-mail listing on the Message Configuration page.





# ALERT Library Management

---

The Prism **ALERT Library Management** option utilizes the Prism Management Console to manage the library remotely, check status and functions, perform system and subsystem tests, and view the results.

The **ALERT Library Management** option is managed through the following Prism Management Console Web pages:

- [Library Status](#) allows you to view the general status of the library.
- [Library Configuration](#) allows you to view and edit the library configuration.
- [Cartridge Movement](#) allows you to load and unload tape drives as well as move cartridges to various locations in the library.
- [Library Statistics](#) allows you to view specific information about the library and the number of times specific functions have been performed.
- [Service Operations](#) allows you to perform various service and status tests on the library and view the results.
- [Monitoring Configuration](#) allows you to set the monitoring and status report interval.

# Library Status

The **Library Status** page displays the Online/Offline and Stop/Start state of the library. It also displays the physical layout of the library or libraries, if it is a PTM configuration (see [figure 18](#)).

Figure 18 Library Status

**Quantum Prism Management Card**

## ALERT Library Management

**Library Status** April 23, 2002 11:39 AM **ONLINE**

**Hardware Status**

**Frame 0 Frame 1**  
**Frame 0**  
**Model: P2\_192 (6318050) PTM: RIGHT**  
Fans/Temperatures (Rear view)

3199 RPM	3139 RPM	3214 RPM	3214 RPM
78 F (25 C)		80 F (26 C)	

Main Robot

Door				Rear Bins		
100	132	152	172	0	32	64
101	133	153	173	CLM009	33	65
102	134	154	174	BVR109	34	66
103	135	155	175	CSQ338	35	67
104				4	36	68
105				5	37	69
106				6	38	70
107				7	39	71
108				8	40	72
109				9	41	73
110				10	42	74
111				11	43	75
112				12	Chn361	76
113				13	Chn226	77
114				14	46	78
115				15	47	79
116	136	156	176	16	48	80
117	137	157	177	17	49	81
118	138	158	178	18	50	82

**Drives**

- 0
- 1
- 2
- 3
- 4
- 5

Drive element status



## Accessing Library Status

To view the current library status, in the navigation frame of the Prism Management Console **ALERT Library Management** page, click **Library Status**.

**Note:** In normal operation, the **Library Status** page may take up to five minutes to display depending on the size and configuration of your library.

**Note:** For PTM configurations, the **On/Offline** and **Stop/Start** library states apply only to the master frame.

The management frame displays the read-only **Library Status** page, which includes the current status of the library. The library must be online to retrieve the information.

**Note:** This page remains blank while the PMC is querying the library for status. The page periodically goes blank as the Prism Management Console page refreshes.

In the **Library Status** area, messages regarding error conditions may be displayed. These error conditions include all failure types and other specific warning types (see [table 9](#)).

Table 9 Library  
Status Fields

<b>Field</b>	<b>Description</b>
Frame	Provides individual links to the frames in a PTM. Beneath the links is a display indicating the frame currently being viewed and the model of the library.
Fans/Temperatures	Current revolutions per minute (RPM) for each of the fans (up to 6 available). If a fan speed cannot be measured or is 0, its background color becomes red to indicate a potential malfunction. The temperature displays in degrees Fahrenheit and Celsius for each fan module (which can contain one or two fans, depending on your system configuration).
Main Robot	Cartridge status of the gripper
Door	Cartridge status of the bins located in the door
Rear Bins	Cartridge status of the bins located at the rear of the library
Drives	Each drive may be accessed for more detailed information. If a drive appears as black, there is no drive present in that slot. If the drive appears with a red background, there is a problem with that drive or it may require cleaning.
AC Power Distribution	Status of the AC power distribution sources
DC Power Distribution	Status of the DC power distribution sources
System Voltages	Voltage status of the library

## Viewing Drive Element Information

To view the element status for a particular tape drive, from the **Library Status** page, click on the desired tape drive in the **Drives** section. The management frame displays the read-only **Element Information** page (see [figure 19](#)) with information on a specific drive (see [table 10](#)).

**Note:** If you add or remove drives from the library, the number of drives or bins on the **Library Status** page may differ from the number of drives shown on the **Library Configuration** page. To correct this, you must revert the library to a default configuration. The default configuration contains the factory defaults and settings. This includes, but is not limited to, partition settings and Fibre Channel port mapping. If further information is required, contact the Quantum Customer Support department.

Figure 19 Element  
Information

The screenshot displays the Quantum Prism Management Card web interface. The top banner features the Quantum logo and the text 'Prism Management Card'. The main content area is titled 'Library Management' and 'Element Information'. A left-hand navigation menu includes options like 'Prism Home', 'PMC Server Management', 'ALERT SNMP', 'ALERT E-mail', 'ALERT Library Management', 'Library Status', 'Library Configuration', 'Cartridge Movement', 'Library Statistics', 'Service Operations', 'Monitoring Configuration', 'Fibre Channel Management', 'Library Partitioning', 'Help', and 'Quantum'. The 'Drive Information' section shows the following details:

```
Tape Drive 0, (Element 0x80)
Tape Model : DLT7
Tape Drive Revision : 2560 (37, 96)
Tape Drive Serial Number : CXA0833621
Drive SCSI Id : 1
Media Type : No Tape
Tape Drive Raw Status : 4 25 60 1 1 0 c0 10
Tape Drive Status Byte 3 : OK to Operate Handle
Tape Drive Status Byte 7 : Reserved
OK to load : Yes
Tape Alert Capable : Yes
Tape Algorithm : L
Tape Motion : idle
Cleaning Requested : No
```

Below the information, it states 'Partition: Default' and provides 'OK' and 'Help' buttons.

Table 10 Element  
Information Fields

Field	Description
Tape Drive	Displays the tape drive number selected
Tape Model	Displays the tape drive type (i.e., DLT8000)
Tape Drive Revision	Displays the firmware revision of the selected tape drive
Tape Drive Serial Number	Displays the serial number for the selected tape drive
Drive SCSI ID	Displays the SCSI ID for the selected tape drive
Media Type	Displays the type of cartridge in the selected tape drive (for example, DLT8000)
Tape Drive Raw Status	Displays information on the tape drive source code
Tape Drive Status Byte 3†	Displays detailed information for the FSE to help diagnose possible problems
Tape Drive Status Byte 7†	Displays detailed information for the FSE to help diagnose possible problems
OK to Load	Displays readiness status of the tape drive to receive a cartridge, Yes or No
Tape Alert Capable	Displays detailed information for the FSE to help diagnose possible problems
Tape Motion	Displays tape drive status: <ul style="list-style-type: none"> <li>• Idle</li> <li>• Cleaning</li> <li>• Receiving firmware upload</li> <li>• Unloading</li> <li>• Loading</li> </ul>

† Each of the 12 bytes of the tape drive status code is assigned a specific function. Certain bytes are necessary for FSEs to diagnose problems.

Field	Description
Cleaning Requested	Displays whether cleaning has been enabled
Partition	Displays the partition in which the selected tape drive belongs
<p>† Each of the 12 bytes of the tape drive status code is assigned a specific function. Certain bytes are necessary for FSEs to diagnose problems.</p>	

## Library Configuration

The **Library Configuration** page allows you to view and configure the library settings. The settings to configure are:

- **SCSI ID** – sets the SCSI ID of the library (represents the robotic controller)
- **Number of Drives** – specifies the number of drives
- **Number of BarCode Retries** – determined how many retries the library will attempt to read the barcode of a tape cartridge during inventory. Valid values range from 1 to 8
- **Online on Power Up** – determines whether the library should be brought online after powering up
- **No Barcodes** – enables or disables the barcode read feature. If the barcode read feature is enabled, the firmware returns are displayed. Note that an inventory is required in order to display the firmware returns. If the barcode is disabled, data retrieved via SCSI has the barcode blanked out even if the firmware returns valid barcodes. However, barcodes continue to appear in the **Library Status** page of a slave library in a multiple frame environment.

- **Auto Load** – determines whether the library will automatically put the tape cartridge into a free bin whenever a tape cartridge is detected in the load port

**Note:** Do not use the **Auto Load** feature with partitioning. If partitioning is configured, the tape cartridge could be placed into a bin that belongs to a different partition. You would be required to move the tape cartridge into the correct partition after **Auto Load** finishes.

- **Auto Drive Unload** – determines whether a tape cartridge can be automatically unloaded from a drive
- **Auto Inventory** – determines whether the library should automatically inventory whenever an event such as power up or door close takes place
- **Temperature Detection** – enables or disables display of temperature sensor readings on the Library's LCD panel
- **Auto Clean** – determines whether the library should automatically clean the tape drives as necessary
- **Drive Configuration** – configures a drive's SCSI ID

---

## Accessing Library Configuration

To view or edit the library configuration:

- 1 In the navigation frame of the **ALERT Library Management** page, click **Library Configuration**. The management frame displays the **Library Configuration** page (see [figure 20](#)).

Figure 20 Library Configuration

**Quantum Prism Management Card**

**ALERT Library Management Library Configuration**

**Library Status** December 4, 2002 9:20 AM **ONLINE**

**Configuration**

Inquiry: P4000 6437051  
 Model: 6437051  
 Library Serial Number: CA10013  
 Firmware Version: 3.35  
 IEEE ID: 005084ABCDEF0123  
 Number Bins: 100

	Current Value	New Value
Library SCSI ID:	0	<input type="text"/>
Number Drives:	4	<input type="text"/>
Barcode Retries:	2	<input type="text"/>

Online on Power Up:   
 No Barcodes:   
 Auto Load:   
 Auto Drive Unload:   
 Auto Inventory:   
 Temperature Detection:   
 SCSI Version:

**Auto Clean**

**Library is not offline. It must be offline to retrieve the Auto Clean setting.**

Auto Clean Report:

**Drive Configuration**

Drive Number:   
 SCSI ID:

**Note: Tape drives must be power-cycled for a new SCSI ID to take effect. If you entered a duplicate SCSI ID, the original drive that is assigned this SCSI ID will be assigned a random SCSI ID.**

The static settings in the **Configuration** section are:

- **Inquiry** – model number of the library
- **Model** – part number for the library
- **Library Serial Number** – serial number for the library
- **Firmware Version** – current firmware version for the library
- **IEEE ID** – unique serial number (contained in the status code)
- **Number Bins** – number of bins (all frames) in the library

<p><b>Note:</b> The actual number of bins may vary depending on the PTM configuration.</p>
--

- **Library SCSI ID** – current library SCSI ID used by the external bus for a connection
- **Number Drives** – current number of drives (all frames) in the library
- **Barcode Retries** – current number of attempts for the library to read a cartridge bar code
- **Online Power-Up** – if selected, online power-up is activated
- **No Barcodes** – if selected, the barcode reader is deactivated
- **Auto Load** – if selected, cartridges are automatically loaded
- **Auto Drive Unload** – if selected,
- **Auto Inventory** – if selected, inventory is checked automatically
- **Temperature Detection** – if selected, temperature detection is switched on
- **SCSI Version** – this drop down box determines the SCSI version number the library will use in an **Inquiry** response over the SCSI interface. This option applies to the default library only, when partitioning is not enabled. If partitioning is enabled, this option will not be displayed. SCSI version can be configured for each individual partition in the partition configuration page.



---

## Editing the Library Configuration

To edit the library configuration:

- 1 Select the item to configure.
- 2 Enter the desired setting, or enable/disable the check boxes.
- 3 Click **Apply**.

---

## Auto Clean

**Auto Clean** automatically inserts a cleaning cartridge when requested by the tape drive.

**Note:** The library must be offline to process an Auto Clean Report and to retrieve or set the Auto Clean status.

The **Auto Clean Report** allows you to issue a status report of the last auto-clean of the library.

---

## Configuring a Tape Drive

To edit the configuration for a specific tape drive:

- 1 In the **Drive Configuration** section, enter the desired tape drive number.
- 2 Enter the SCSI ID for the tape drive.

**Note:** The new SCSI ID does not take effect until the tape drive is power-cycled.

- 3 Click **OK**.

---

## Cartridge Movement

The **Cartridge Movement** page allows you to unload a tape drive and move cartridges to various locations in the library.

---

### Accessing Cartridge Movement

To view or use cartridge movement, in the navigation frame of the **ALERT Library Management** page, click **Cartridge Movement**. The management frame displays the **Cartridge Movement** page (see [figure 21](#)).

**Note:** For PTM configurations, the Unload Drive commands apply to the master frame only.

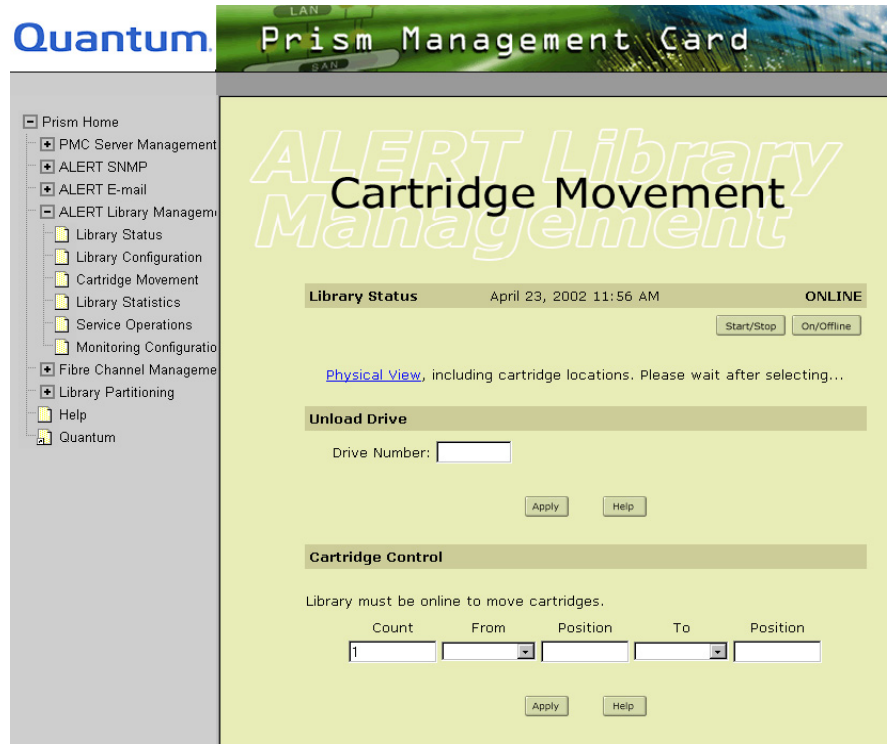
---

### Library Physical View

Click **Physical View** under the Library Status section of the Cartridge Movement page to display a physical view, or map, of the library that opens beneath the **Cartridge Control** section. This assists in selecting the appropriate cartridge and position.

**Note:** The map may take several seconds to appear. Scroll down to the appropriate section.

Figure 21 Cartridge Movement



### Unloading a Tape Drive

To unload a specific tape drive:

- 1 In the **Unload Drive** section, enter the specific tape drive number.

**Note:** A cartridge must be unloaded from the drive before attempting to move it to a bin unless Auto Unload is enabled.

- 2 Click **Apply**.

### Cartridge Control

To move any cartridge from one position in the library to another position:

- 1 In the **Cartridge Control** section, enter the desired number of cartridges to move.

The default setting is **1**.

**Note:** Multiple moves require that both the **From** and **To** positions be in consecutive order, for example, **From Bins 100, 101 To Bins 200, 201**.

**2** Enter the current location of the cartridge:

- **Drive** (tape drive)
- **Bin**
- **Loadport**

**3** Enter the current position of the cartridge.

**4** Enter the desired location of the cartridge:

- **Drive** (tape drive)
- **Bin**
- **Loadport**

**5** Enter the desired position of the cartridge.

**6** Click **Apply**.

A warning box indicates that moving the cartridge requires putting the library offline and that the operation may affect the operation of any host applications.

To continue, click **OK**. A **Results** page displays when the cartridge movement is complete.

**7** Click **OK** to return to the **Cartridge Movement** page.

---

## Library Statistics

The read-only **Library Statistics** page allows you to view specific information about the library and the number of times specific functions have been performed.

To reset the values in the fields, go to the Service Operations page and select Initialize Statistics.

## Accessing Library Statistics

To view library statistics:

- 1 In the navigation frame of the **ALERT Library Management** page, click **Library Statistics**.

The management frame displays the **Library Statistics** page (see [figure 22](#)).

Figure 22 Library Statistics

The screenshot shows the Quantum Prism Management Card interface. The top banner reads "Quantum Prism Management Card". The main content area is titled "ALERT Library Management Library Statistics". Below the title, there is a "Library Status" section showing the date and time as "April 23, 2002 11:57 AM" and the status as "ONLINE". There are two buttons: "Start/Stop" and "On/Offline". Below this is a "Statistics" section with a list of performance metrics:

Metric	Value
Power On Time (secs):	13796160
Command Execution Time (secs):	704583
Number Of Attempted Picks From Bin:	4829
Number Of Attempted Places To Bin:	4820
Number Of Attempted Picks From Drive:	297
Number Of Attempted Places To Drive:	17
Number Of Attempted Horizontal Moves:	50448
Number Of Attempted Vertical Moves:	91371
Number Of Attempted Extension (non-force) Moves:	142972
Number Of Attempted Gripper Moves:	62672
Number Of Attempted Extension Force Moves:	2189
Number Of Successful Drive Place Retries:	0
Number Of Successful Partial Grip Recoveries:	115
Number Of Successful Attempted Picks From Load Port:	256
Number Of Successful Attempted Places To Load Port:	258
Number Of Successful Drive Pick Retries:	0
Number Of Successful Horizontal Retries:	0
Number Of Successful Vertical Retries:	0
Number Of Successful Extension Retries:	0
Number Of Successful Gripper Retries:	11
Number Of Successful Drive Load Retries:	0
Number Of Barcode Scan Retries:	894
Number Of Steps Of Horizontal Correction:	0
Number Of Steps Of Vertical Correction:	0
Number Of Drive Handle Retries:	585
Number Of Attempted Rotary Moves:	42462
Number Of Successful Rotary Moves:	0
Number Of Extension Corrective Moves:	102436
Number Of Attempted DLT Handle Moves:	4408
Number Of Attempted Loadport Pick Retries:	0

A "Help" button is located at the bottom right of the statistics section.

The **Library Statistics** page includes information on the library and its operations (see [table 11](#)).

Table 11 Library  
Statistics Page

<b>Field</b>	<b>Description</b>
Power On Time (secs)	This field is cumulative and does not reset when initialized
Command Execution Time (secs)	The total number of seconds the library spent executing commands, such as non-idle time
Number of Attempted Picks From Bin	The total number of times the gripper attempted to pick a cartridge from a bin
Number Of Attempted Places To Bin	The total number of times the gripper attempted to place a cartridge in a bin
Number Of Attempted Picks From Drive	The total number of times the gripper attempted to pick a cartridge from a drive
Number Of Attempted Places To Drive	The total number of times the gripper attempted to place a cartridge in a drive
Number Of Attempted Horizontal Moves	The total number of times the horizontal axis was commanded to move
Number Of Attempted Vertical Moves	The total number of times the vertical axis was commanded to move
Number Of Attempted Extension (non-force) Moves	The total number of times the extension axis was commanded to move
Number Of Attempted Gripper Moves	The total number of times the gripper axis was commanded to move
Number of Attempted Extension Force Moves	The total number of times the extension was commanded to perform a force related move
Number Of Successful Drive Place Retries	The total number of times the gripper successfully placed a cartridge in a drive

<b>Field</b>	<b>Description</b>
Number Of Successful Partial Grip Recoveries	The total number of times the library recovered successfully from a partial grip of a tape cartridge
Number Of Successful Attempted Picks From Load Port	The total number of times the gripper successfully picked a cartridge from a loadport
Number Of Successful Attempted Places To Load Port	The total number of times the gripper successfully placed a cartridge into a loadport
Number Of Successful Drive Pick Retries	The total number of times the gripper successfully picked a cartridge from a drive
Number Of Successful Horizontal Retries	The total number of times the horizontal axis successfully completed a retried move
Number Of Successful Vertical Retries	The total number of times the vertical axis successfully completed a retried move
Number Of Successful Extension Retries	The total number of times the extension axis successfully completed a retried move
Number Of Successful Gripper Retries	The total number of times the gripper successfully completed a retried move
Number Of Successful Drive Load Retries	The total number of times the gripper successfully retried a load to a drive
Number Of Barcode Scan Retries	The total number of times the library had to retry a barcode read
Number Of Steps Of Horizontal Correction	The total number of positional units to compensate physical mis-positioning errors in the stepper motor system

<b>Field</b>	<b>Description</b>
Number Of Steps Of Vertical Correction	The total number of positional units to compensate physical mis-positioning errors in the stepper motor system
Number Of Drive Handle Retries	The total number of times a drive handle failed move was retried
Number Of Attempted Rotary Moves	The total number of times the rotary axis retried a failed move
Number Of Successful Rotary Moves	The total number of times the rotary axis successfully retried a failed move
Number Of Extension Corrective Moves	The total number of times the extension axis made corrective moves
Number Of Attempted DLT Handle Moves	The total number of times the drive handle was commanded and attempted to move
Number Of Attempted Loadport Pick Retries	The total number of times the gripper attempted to pick a cartridge from the loadport



---

# Service Operations

The **Service Operations** page allows you to perform tests and view the results.

---

## Accessing Service Operations

To view the **Service Operations** page:

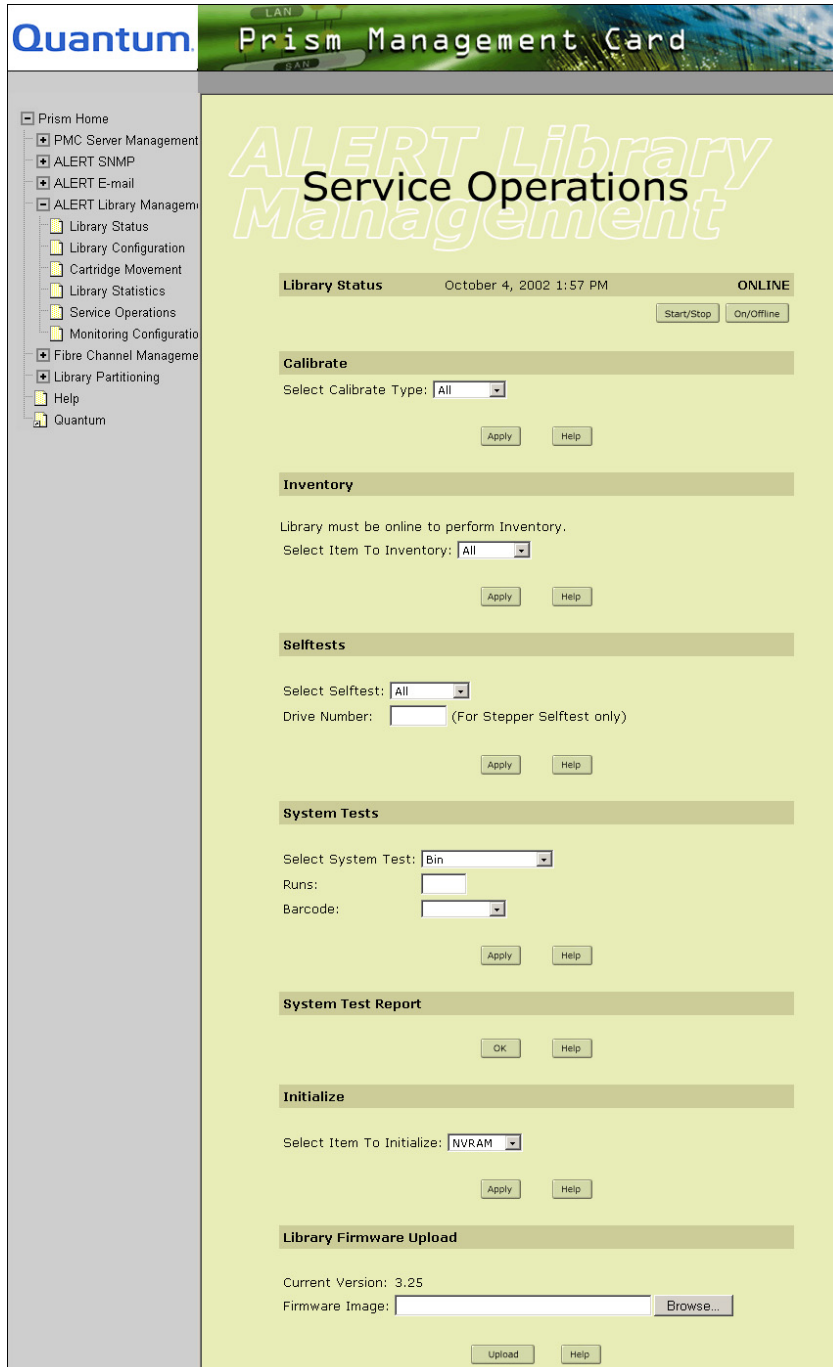
- 1 In the navigation frame, under **ALERT Library Management**, click **Service Operations**.

The management frame displays the **Service Operations** page (see [figure 23](#)).

**Note:** The library goes Offline to perform Calibration, Selftests, or System Test. The library must be online to perform an inventory.

For PTM configurations, the Calibrate, Selftest, and System Test commands apply to the master frame only.

Figure 23 Service  
Operations



---

## Calibrate

The **Calibrate** command enables you to calibrate the storage bins, tape drives, load port, or the entire library. Calibrate the library during initial installation and after any maintenance procedure.

To calibrate the library:

**1** In the **Calibrate** section, select the area of the library to calibrate:

- All
- Bin
- Drive
- Loadport

**2** Click **Apply**.

A **Results** page displays indicating the calibration is complete.

<p><b>Note:</b> This process may take up to 15 minutes and must not be interrupted.</p>
---

**3** Click **OK** to return to the **Service Operations** page.

---

## Inventory

To perform an inventory of the library:

**1** In the **Inventory** section, select the area of the library to inventory:

- All
- Bin
- Drive
- Loadport

**2** Click **Apply**.

A **Results** page displays indicating the inventory is complete.

**3** Click **OK** to return to the **Service Operations** page.

---

## Selftests

To perform a self-test on the library:

- 1 In the **Selftest** section, select an area of the library:
  - **All** – includes all of the self-tests
  - **Extension** – extension axis assembly
  - **Gripper** – gripper motor assembly
  - **Horizontal** – horizontal axis assembly
  - **Rotary** – rotary motor assembly
  - **Stepper** – stepper motor assembly (valid for DLT drives)
  - **Drive Number** – for Stepper Selftest only

<p><b>Note:</b> The Stepper Selftest is only valid for DLT drives. An error may result if this test is performed on SDLT or LTO drives.</p>
---

- **Vertical** – vertical axis assembly
- 2 Click **Apply**.  
A **Results** page displays indicating the self-test is complete.
  - 3 Click **OK** to return to the **Service Operations** page.

---

## System Tests

When selecting a System Test, the system must have more cartridges present in the library than the number of drives.

To perform specific system tests on the library:

- 1 In the **System Tests** section, select the type of system test to run:
  - Bin
  - Bin to drive
  - Random
  - Random bin
  - Random bin to drive
- 2 Specify the number of times to run the system test.
- 3 Specify a bar code or **NoBarcode**.

**4** Click **Apply**.

A **Results** page displays indicating the system test is complete.

**5** Click **OK** to return to the **Service Operations** page.

---

## System Test Report

To view the tests that have been run on the library, in the **System Test Report** section, click **OK**. A **Reports** page indicates the tests run and their results.

---

## Initialize

To initialize the NVRAM or statistics functions of the library:

**1** In the Selftest section, select **NVRAM** or **Statistics**.

**Caution:** Initializing the NVRAM resets the library and resets all options and settings to their default. You will lose all stored passwords, user accounts, and customized settings.

**2** Click **Apply**.

A **Results** page displays indicating the initialization is complete.

**3** Click **OK** to return to the **Service Operations** page.

---

## Uploading a Library Firmware Image

Upload a library firmware image file by using the Library Firmware Upload option.

**Note:** Before performing an upload, make sure there are no processes or applications accessing the library. If there are, shut down the process or application, or pause the operation, until the upload completes.

**1** Click **Browse** to select the image file from the local host.

**Caution:** Verify the image file is valid, otherwise you may render the library unusable after the upload.

- 2 Click **Upload** to send the image file to the library.

**Note:** The entire process may take up to 10 minutes depending on the network connection speed and the image file size. **Do not interrupt the process.** Wait for the upload to finish completely.

**Note:** When performing a firmware upload, the library and PMC automatically reboot when the upload is complete. The browser will lose its connection to the library, however, the **Prism Home** page will continue to display **Firmware Upload is in progress** along with a green flashing progress bar. If the library and PMC have completed rebooting, the **Prism Home** page appears indicating the library is online.

- 3 When the upload completes, the library automatically performs a reset.

Wait for the library reset to complete before starting or resuming normal library operations.

---

## Monitoring Configuration

The **Monitoring Configuration** page allows you to set the monitoring and report interval.

---

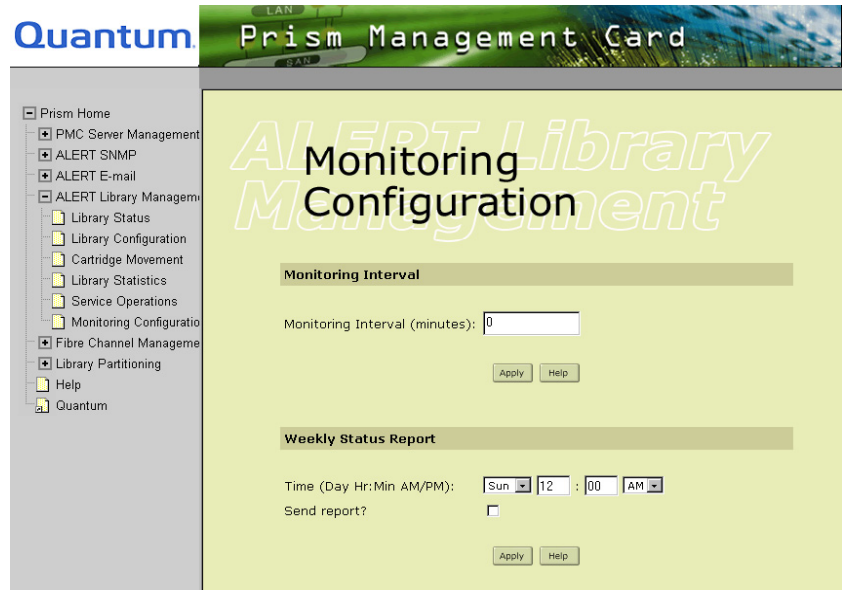
### Viewing the Monitoring Configuration Page

To view the **Monitoring Configuration** page:

- 1 In the navigation frame, under **ALERT Library Management**, click **Monitoring Configuration**.

The management frame displays the **Monitoring Configuration** page (see [figure 24](#)).

Figure 24 Monitoring Configuration



## Setting the Monitoring Interval

To set the monitoring interval time in minutes:

- 1 In the **Monitoring Interval** section, type the desired number of minutes between monitors.

The monitoring interval determines the polling frequency for library health and status. The interval entered must be between 0 and 60 minutes. The default monitoring value is 0. When the value is set to 0, no monitoring of library health and status is performed except user traps, and no ALERT E-mails are sent.

**Note:** Quantum recommends setting the interval to a non-zero value to allow the library to monitor and detect system events and send ALERT E-mail notifications automatically as the events occur.

- 2 Click **Apply**.

A **Results** page displays indicating the monitoring interval information has been saved.

- 3 Click **OK** to return to the **Monitoring Configuration** page.

---

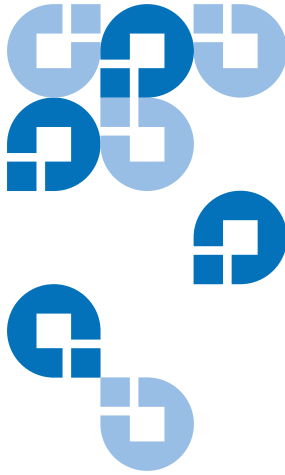
## Weekly Status Report

The Weekly Status Report creates a snapshot of data from the library using the Library Statistics function. This report can be sent via E-mail to the administrator. You can select whether or not to generate this report, when to generate the report, and whether or not to send the report via e-mail.

To specify when to generate a weekly status report of the library:

- 1** In the **Weekly Status Report** section, select the desired day, hour, minutes and AM or PM.
- 2** If the status report is to be automatically sent, click the **Send report?** box to activate the mailing option.
- 3** Click **Apply**.  
A **Results** page indicates the information has been saved.
- 4** Click **OK** to return to the **Monitoring Configuration** page.





# Fibre Channel Management

---

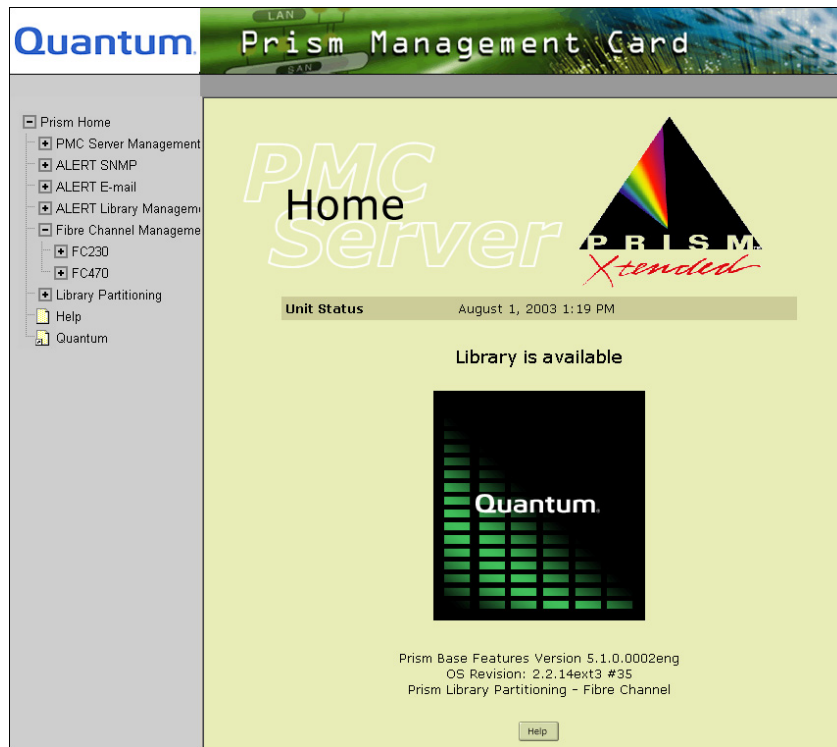
Fibre Channel Management is an option that allows you to remotely manage Fibre Channel bridges. The FC230 and the FC470 are the current Fibre Channel bridges used by the P-Series libraries. If this option is not activated on your PMC system, it is not visible in the Prism Management Console. All web pages are accessible using the Web browser software installed on the host computer.

The FC230 option includes the following Web pages:

- [Route Status](#) allows you to view the current FC230 Fibre Channel route map and status.
- [Bridge Status](#) allows you to view the current hardware and software status of all configured FC230 Fibre Channel bridges.
- [Bridge Administration](#) allows you to set up the Fibre Channel loop IDs, notify the bridge of an addition or removal, rebuild the bridge route map, and reboot the bridge.

The FC470 option displays a list of FC470 bridges. Each bridge displays a graphical representation and its configuration settings.

Figure 25 Fibre Channel Management, FC230 and FC470



## Route Status

The **Route Status** page allows you to view the current Fibre Channel route map. This page appears only when one or more FC230 Fibre Channel bridges are installed.

If no FC230 Fibre Channel bridges are installed, a message to that effect is shown. If FC230 bridges are installed, the number of bridges is displayed followed by a set of tables detailing the routes that have been created for each of the Fibre Channel ports on the configured bridges.

A **Refresh** button at the bottom of the **Route Status** page allows you to update the route maps. When clicked, a pop-up message appears with the following message: Refreshing routes may affect current operations on the bridges. Do you want to continue?

Click **Cancel** to cancel the refresh request or **OK** to proceed with refreshing the route status.

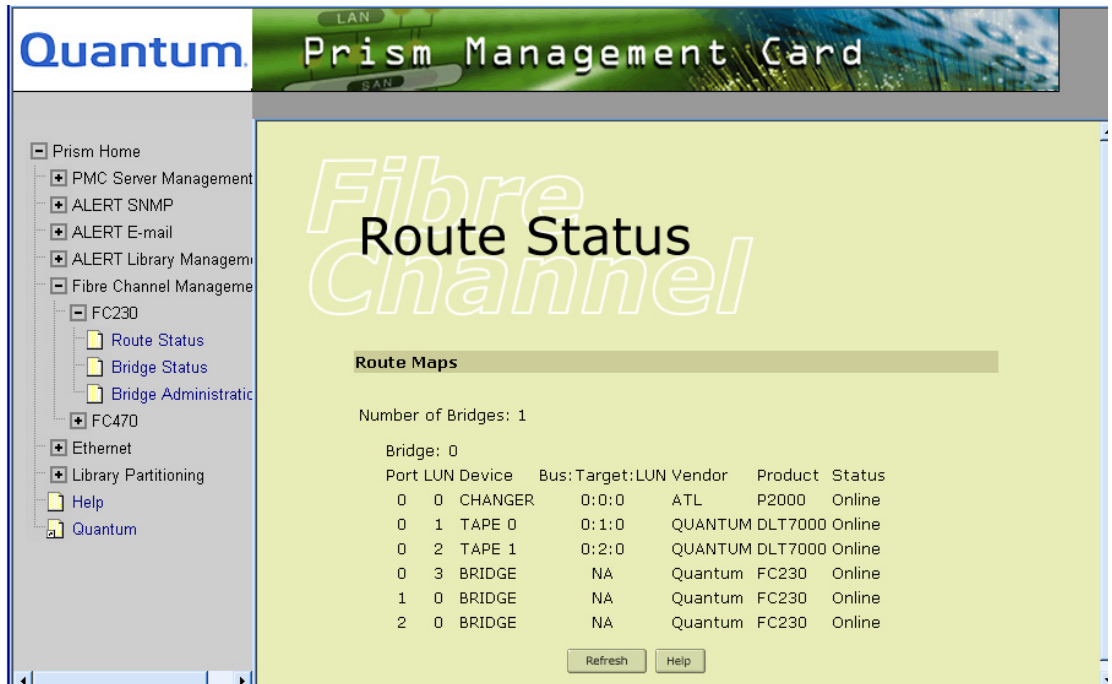
**Caution:** Do not use the **Refresh** button when backup jobs are running. Wait until the library is idle.

View the Fibre Channel route map and status using the navigation frame. Under **Fibre Channel Management** and **FC230**, click **Route Status**.

The management frame displays the **Route Status** page (see [figure 26](#)).

**Note:** If a dialog box appears requesting your user name and password, enter the information and click **OK**.

Figure 26 Route Status



Each FC230 bridge is displayed with a table describing the routes that have been created for each port (see [table 12](#)).

Table 12 Route  
Status Descriptions

Field	Description
Port	The Fibre Channel port on the FC230 bridge that is displayed
LUN	The Logical Unit Number (LUN) assigned to the port
Device†	The SCSI device that is using the LUN (the available types are <b>CHANGER</b> , <b>TAPE</b> , and <b>BRIDGE</b> )
Bus:Target:LUN	The SCSI bus, SCSI ID, and SCSI LUN on the FC230 bridge the SCSI device is using
Vendor	The vendor ID for the device
Product	The product ID for the device
Status	Indicates whether the device is <b>Online</b> or <b>Offline</b>

† If Prism Library Partitioning is installed, the changer can be the library or partition.

## Bridge Status

The **Bridge Status** page allows you to view the current hardware and software status of the configured FC230 bridges. If no bridges are configured, a message to that effect displays. If bridges are defined, tables are displayed that detail the Fibre Channel port IDs and various status information.

The port tables contain a Loop ID entry for each Fibre Channel port in the bridge and the status of the port. The status information is bridge dependent and contains information such as firmware revision, bridge temperature, and bridge configuration.

To view the current hardware and software status of all configured FC230 bridges of the Fibre Channel, click **Bridge Status** in the navigation frame under **Fibre Channel Management** and **FC230**. The management frame displays the **Bridge Status** page (see [figure 27](#)).

Figure 27 Bridge Status

**Quantum Prism Management Card**

**Bridge Status**

Number of Bridges: 3

Bridge: 0

Port	Loop ID	Status
0	255	OK
1	255	OK
2	255	OK

PRISM FC230 (230H100244)  
 IP 10.0.0.4  
 Firmware Version 2.42, Build Date Feb 29 2003 17:51:57, Build 011  
 NVRAM is 6, CLI Rev is 0.31, Firmware Rev is 2.1.14  
 WWName 0 = 20:00:00:10:86:10:03:a4  
 WWName 1 = 20:00:00:10:86:10:03:a5  
 WWName 2 = 20:00:00:10:86:10:03:a6  
 SCSI Busses 0, 1, 2, 3 = HVD, HVD, HVD, HVD  
 Temperature is 40 C (104 F).  
 Fibre Connection Mode is Loop  
 Fibre Port 0 transferring 0 MB/sec, 0 Ios/sec  
 Fibre Port 1 transferring 0 MB/sec, 0 Ios/sec  
 Fibre Port 2 transferring 0 MB/sec, 0 Ios/sec  
 ExtendedCopy is enabled.  
 PortFailover is disabled.

Bridge: 1

Port	Loop ID	Status
0	8	OK
1	9	OK
2	10	Reserved

PRISM FC230 (230H100108) world  
 IP 10.0.0.2  
 Firmware Version A11G, Build Date Jan 20 2003 15:16:37, Build A11G  
 NVRAM is 6, CLI Rev is 0.31, Firmware Rev is 2.1.14  
 WWName 0 = 20:00:00:10:86:10:01:a0  
 WWName 1 = 20:00:00:10:86:10:01:a1  
 WWName 2 = 20:00:00:10:86:10:01:a2  
 SCSI Busses 0, 1, 2, 3 = HVD, HVD, HVD, HVD  
 Temperature is 41 C (105 F).  
 Fibre Connection Mode is Loop  
 Fibre Port 0 transferring 0 MB/sec, 0 Ios/sec  
 Fibre Port 1 transferring 0 MB/sec, 0 Ios/sec  
 Fibre Port 2 transferring 0 MB/sec, 0 Ios/sec  
 ExtendedCopy is enabled.  
 PortFailover is enabled.

Bridge: 2

Port	Loop ID	Status
0	3	OK
1	4	OK
2	5	Reserved

PRISM FC230 (230H100654) hello  
 IP 10.0.0.1  
 Firmware Version A08Y, Build Date Feb 15 2002 15:44:30, Build A08Y  
 NVRAM is 0, CLI Rev is 0.29, Firmware Rev is 2.1.14  
 WWName 0 = 20:00:00:10:86:10:01:50  
 WWName 1 = 20:00:00:10:86:10:01:51  
 WWName 2 = 20:00:00:10:86:10:01:52  
 SCSI Busses 0, 1, 2, 3 = HVD, HVD, HVD, HVD  
 Temperature is 41 C (105 F).  
 Fibre Connection Mode is Loop  
 Fibre Port 0 transferring 0 MB/sec, 0 Ios/sec  
 Fibre Port 1 transferring 0 MB/sec, 0 Ios/sec  
 Fibre Port 2 transferring 0 MB/sec, 0 Ios/sec  
 ExtendedCopy is disabled.  
 PortFailover is enabled.

Help

The information following the bridge number contains the Loop ID for each Fibre Channel port and the status of the bridge. Additional information is displayed per bridge (see [table 13](#)).

Table 13 Bridge Status Descriptions

Field	Description
PRISM FCxxx (xxx)	Displays the type of Prism FC card, the xxx indicating the model number varies depending on the card present in the library
IP xxx	Displays the IP address for the card
NVRAM is xxx, CLI Rev is xxx, Firmware Rev is xxx	Displays the current revision levels for the NVRAM, Command Line Interface, and the Fibre Channel card firmware
WWName n = xxx	Displays the unique identifier (xxx), or World Wide Name (WWN) and number (n) for each Fibre Channel port
SCSI Busses n = xxx	Displays the type of drive for each SCSI bus (LVD or HVD)
Temperature is xx C (xxx F)	Indicates the temperature of the card in degrees Celsius (Fahrenheit)
Fibre Connection Mode	Displays whether the mode is Loop or Point to Point
Fibre Port n transferring xxx MB/sec, xxx IOs/sec	Displays the transfer rate for the specific Fibre Channel port (n) in MB/sec, IOs/sec
ExtendedCopy	Displays whether ExtendedCopy (XCOPY) is enabled or disabled
PortFailover	Displays whether PortFailover is enabled or disabled

Each bridge reports the information and displays the information specific for that specific bridge.

# Bridge Administration

The **Bridge Administration** page allows you to set the Fibre Channel bridge connection mode, set Fibre Channel Loop IDs, change a bridge's map, set bridge options, test bridge Port Failover, and reboot a bridge.

## Accessing Bridge Administration

To access the **Bridge Administration** page, in the navigation frame, under **Fibre Channel Management** and **FC230**, click **Bridge Administration**.

The management frame displays the **Bridge Administration** page (see [figure 28](#) and [figure 29](#)).

Figure 28 Bridge Administration, Part 1

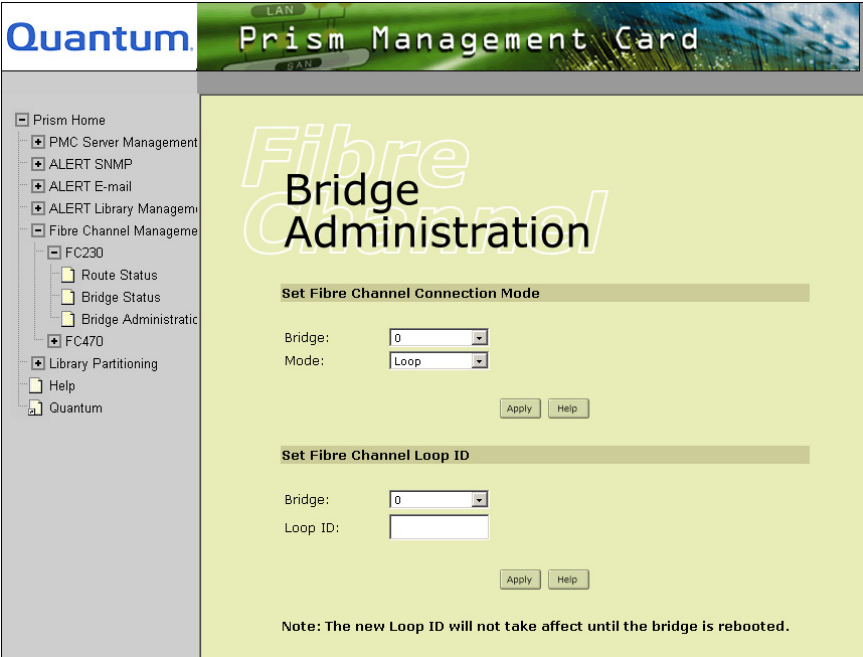


Figure 29 Bridge Administration, Part 2

**Route Map**

Bridge: 0  
FC Port: 0  
FC LUN: 0  
SCSI Bus: 0  
SCSI Target: 0  
SCSI LUN: 0

OK Help

**Note: It will take the bridge approximately 10 seconds to reroute a map.**

**Route Bridge LUN**

Bridge: 0  
FC Port: 0  
FC LUN: 0

OK Help

**Note: It will take the bridge approximately 10 seconds to reroute a bridge LUN.**

**Refresh Map**

Bridge: 0

OK Help

**Note: It will take the bridge approximately 60 seconds to refresh the map.**

**Options**

Bridge: 0  
Option: ExtendedCopy  
Action: Enable

OK Help

**PortFailover Test**

Bridge: 0  
Test: Simulate Port Down  
FC Port: 0

OK Help

**Note: Port Failover test will only work if Port Failover is enabled. Please use bridge status to check port status.**

**Reboot Bridge**

Bridge: 0

OK Help

**Note: It will take the bridge approximately 30 seconds to reboot.**



---

## Setting the Fibre Channel Connection Mode

The **Set Fibre Channel Connection Mode** allows you to set the connect mode type for your Fibre Channel:

- 1 Access the **Bridge Administration** page.

In the navigation frame, under **Fibre Channel Management** and **FC230**, click **Bridge Administration**.

- 2 Under **Set Fibre Channel Connection Mode**, select a bridge from the pull-down list of available bridges.
- 3 Select the desired **Mode** type from the pull-down list for the selected bridge, depending on your Fibre Channel setup. The mode types include:
  - **Loop**
  - **Point-to-Point**

- 4 Click **Apply**.

A **Results** page displays indicating the mode was assigned.

**Note:** Reboot to utilize the new connection mode.

---

## Setting the Fibre Channel Loop ID

The **Set Fibre Channel Loop ID** option allows you to assign a Loop ID. To assign a Fibre Channel loop ID:

- 1 Access the **Bridge Administration** page.

In the navigation frame, under **Fibre Channel Management** and **FC230**, click **Bridge Administration**.

- 2 Under **Set Fibre Channel Loop ID**, select a bridge from the pull-down list of bridges.
- 3 For bridges with multiple ports, select the desired **Port ID**.
- 4 Enter the desired **Loop ID** for the selected bridge.

**Note:** If you enter 255 as the Loop ID for a bridge, the bridge disables hard addressing for all of its Fibre Ports. It uses soft addressing (the Loop ID for each port is assigned during loop initialization). To use hard addressing, assign a valid Loop ID between 0 and 125 to one of the Fibre Ports.

**5** Click **Apply**.

A **Results** page appears indicating the loop ID has been assigned.

**Note:** The port selection is not shown unless the bridge supports more than one Fibre Channel port. The bridge must be rebooted for the change to take effect.

**6** Click **OK** to return to the **Bridge Administration** page.

---

## Route Maps

The **Route Map** option allows you to map a SCSI device to a Fibre Port. The SCSI device must be present in the Fibre Channel and the destination Fibre Port you wish to map to must be offline. You can only map a device to a Fibre port/LUN location that is offline.

You can use the **Route Status** page to determine the SCSI devices that are available in the bridge. If you cannot locate the SCSI device, use **Refresh Map**. To add a SCSI device to a Fibre Port:

**1** Access the **Bridge Administration** page.

In the navigation frame, under **Fibre Channel Management** and **FC230**, click **Bridge Administration**.

**2** Select the **Bridge** from the pull-down list of available bridges.

**3** Select the **FC Port** from the pull-down list of available ports.

**4** Select the **FC LUN** from the pull-down list.

**5** Select the **SCSI Bus** of the device from the pull-down list.

**6** Select the **SCSI Target ID** of the device from the pull-down list.

**7** Select the **SCSI LUN** of the device from the pull-down list.

**8** Click **OK** to accept the selected device.

A **Results** page displays indicating the SCSI device was added.

---

## Route Bridge LUN

The **Route Bridge LUN** option allows you to set a new bridge LUN for a particular port. The current LUN of a bridge device on any Fibre Channel port can be viewed on the Route Status page.

To select a bridge, a Fibre port on the bridge, and a destination LUN:

- 1 Select the **Bridge** from the pull-down list.
- 2 Select the Fibre Channel port from the pull-down list.
- 3 Select the destination Fibre Channel LUN for the bridge device.

**Note:** The destination LUN must be free.

- 4 Click **OK** to apply the changes.

**Note:** It takes the bridge approximately 10 seconds to reroute a bridge LUN.

---

## Refresh Map

The **Refresh Map** option allows you to detect and add any new devices. The new devices are mapped to a Fibre port and placed in an online state. Unavailable devices are removed from the map.

- 1 Select the appropriate **Bridge** from the pull-down list to refresh.
- 2 Click **OK** to begin the map refresh.

**Note:** The bridge takes approximately 60 seconds to refresh the map.

**Caution:** Refreshing the map resets all SCSI devices on the bus. Therefore, do not use this feature when active backup and restore jobs are running.

---

## Options

This option allows you to enable or disable features. It includes:

- **ExtendedCopy (XCopy)**
- **PortFailover**

**Note:** Reboot the bridge after modifying the **Options** option.

Enabling **ExtendedCopy** allows data being transferred directly from hard disk drive to tape cartridges without involving application servers except to initiate transfers and to receive reports of data transfer results (also known as Serverless Backup).

**PortFailover** is a failsafe measure designed to provide continuous library operation in the event of a Fibre Channel port failure without the loss of any of the library's SCSI devices or the need for operator/field service technician intervention.

If enabled, Fibre port 2 out of 0, 1, and 2 is used as a reserved port. In case of port failure between 0 and 1, port 2 is switched on and replaces the failed port.

**Note:** To receive an ALERT E-mail notification when a PortFailover event occurs, set the monitoring interval to a non-zero value (see [Setting the Monitoring Interval](#) on page 77).

---

## PortFailover Test

**PortFailover Test** allows you to test the PortFailover feature by simulating a Fibre port failure condition on either port 0 or port 1. The tests include simulating a Port Down, Loop Down, or ISP Error condition.

After simulating the condition, use the Bridge Status page to check the Fibre port status. These tests only work if PortFailover is enabled. You may recover the failed port by issuing the Recover test to the selected Fibre port.

---

## Reboot Bridge

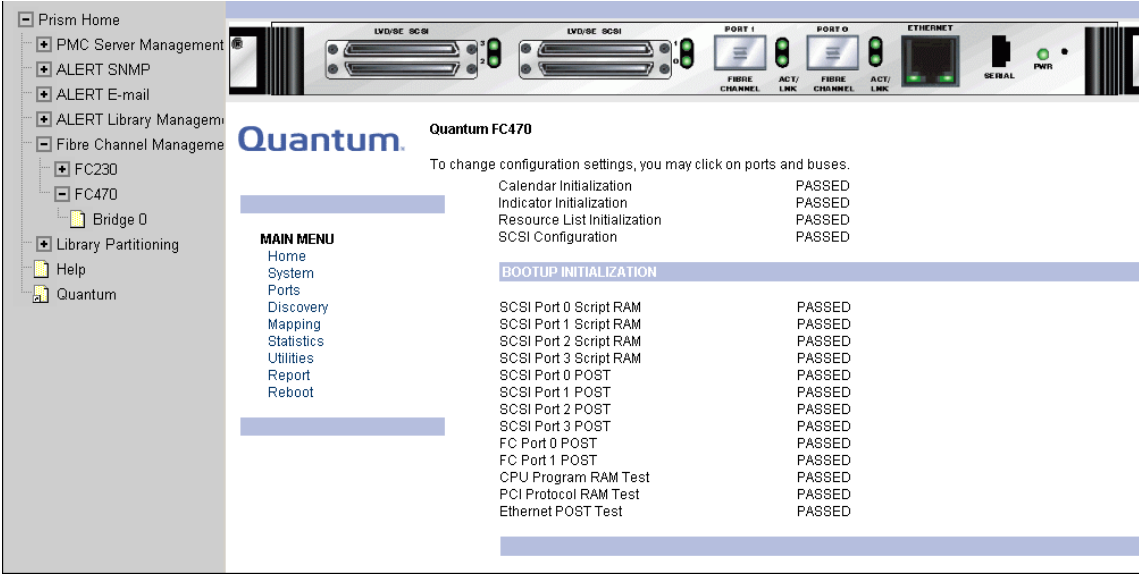
This option allows you to reboot individual bridges in your Fibre Channel configuration. Select the appropriate bridge and click **OK** to reboot the bridge selected from the pull-down list.

**Note:** The bridge takes approximately 30 seconds to reboot.

# FC470 Bridge Option

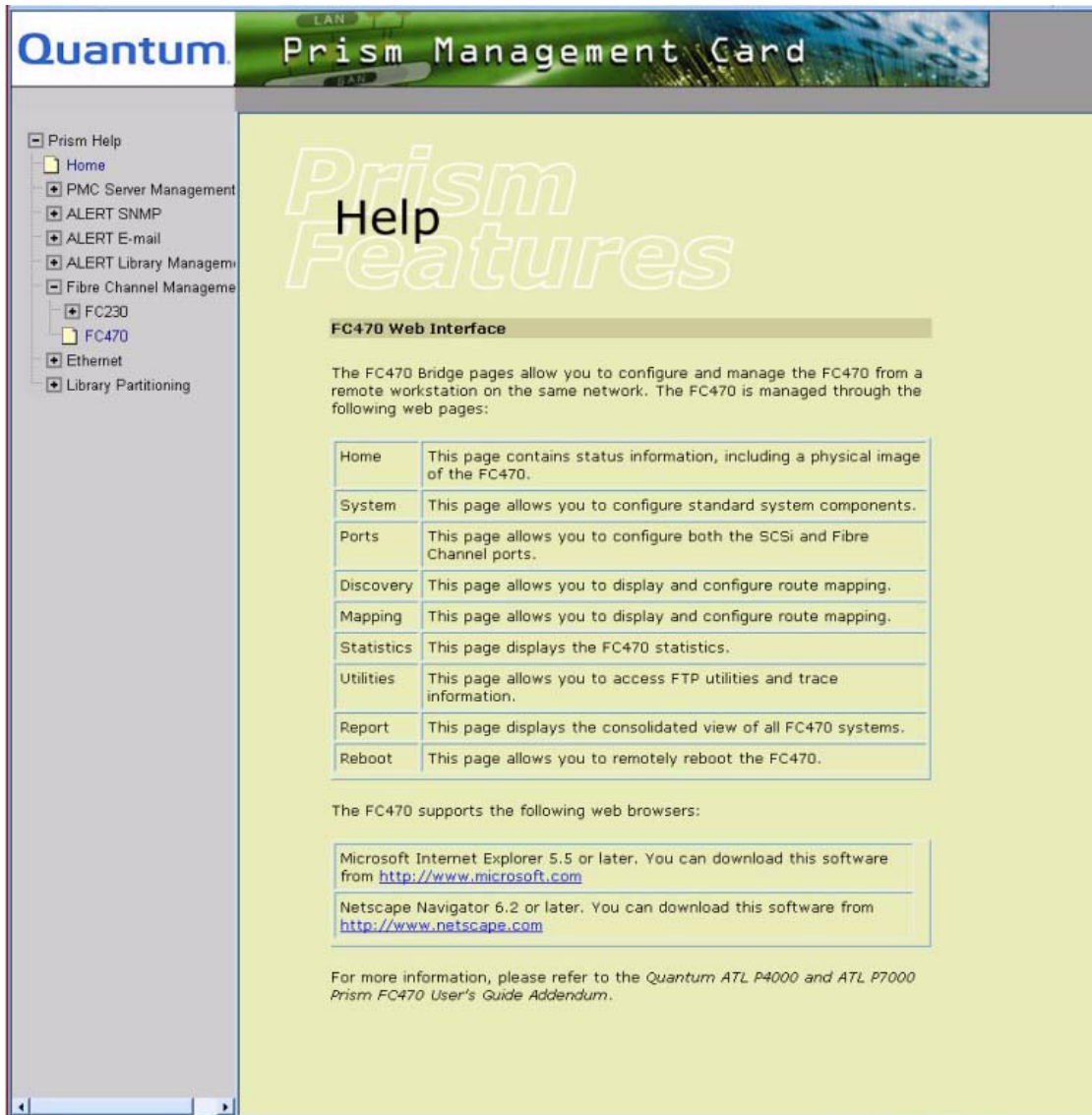
The bridge options for the FC470, **Bridge 0, 1, 2**, and so forth allows you to view a graphical representation of each FC470 bridge and its configuration settings (see [figure 30](#)). For more information on FC470 bridges, refer to the *Quantum ATL P4000 and ATL P7000 Prism FC470 User's Guide Addendum* (PN 6331190).

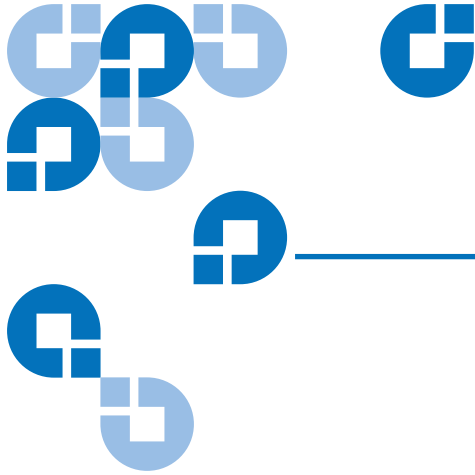
Figure 30 FC470 Bridge



The FC470 utilizes a web-based interface which allows you to configure and manage the bridge from a remote workstation on the same network. For a brief description of the FC470 web pages see [figure 31](#).

Figure 31 FC470 Help





## Chapter 7 Ethernet Option

---

The Ethernet Option allows specially equipped libraries to be used as a Network Attached Storage (NAS) device connected via an Ethernet network. This option provides support for industry-standard protocols such as Network Data Management Protocol (NDMP).

The Ethernet option is only available with the P-Series Gigabit Ethernet libraries. It is not available in the Prism Management Console Web pages for all other P-Series library configurations.

The Ethernet option is managed through the following Prism Management Console pages:

- [Drive Configuration](#) allows you to set up information about the drives, including IP address, gateway address, subnet mask, and Ethernet frame size.
- [Drive Status](#) allows you to view information about the drives, software versions and component temperatures.
- [Administration](#) allows you to view or change the robot configuration for use with NDMP-compliant backup applications, and to restart one Ethernet drive or all Ethernet drives in your library.

---

## Drive Configuration

The **Drive Configuration** page allows you to setup the default configuration for all of your Ethernet drives or choose a specific Ethernet drive to configure.

---

### Accessing Ethernet Drive Configuration

To view or edit the default drive configuration of the PMC:

- 1 In the navigation frame, under **Ethernet**, select **Drive Configuration**.

The management frame displays the **Drive Configuration** page (see [figure 32](#)).

The **Drive Configuration** page allows you to define a series of sequential IP addresses for all drives by specifying the IP address for the first drive, and then automatically generating IP addresses for all subsequent drives.

For example, if the first assigned IP address is 192.168.1.200, the next one is 192.168.1.201, the next one would be 192.168.1.202, and so on.

These parameters are then used by each respective Ethernet drive when it is powered-on or rebooted.

**Note:** The IP address must be defined before the Ethernet drives can be used.



Figure 32 Drive Configuration

The screenshot shows the Quantum Prism Management Card web interface. The left sidebar contains a navigation menu with the following items: Prism Home, PMC Server Management, ALERT SNMP, ALERT E-mail, ALERT Library Management, Ethernet, Drive Configuration, Drive Status, Administration, Help, and Quantum. The main content area is titled "Ethernet Drive Configuration" and features a table with the following data:

Number	IP Address	Mask	Gateway	Jumbo Frames
0	172.30.50.246	255.255.0.0	172.30.0.1	Disabled
1	172.30.50.247	255.255.0.0	172.30.0.1	Disabled
2	172.30.50.248	255.255.0.0	172.30.0.1	Disabled
3	172.30.50.249	255.255.0.0	172.30.0.1	Disabled
4	172.30.50.250	255.255.0.0	172.30.0.1	Disabled

Below the table, there are two sections for editing configurations:

**View/Edit Ethernet Default Drive Configuration**

Number of Drives :   
 NDMP Password :   
 Starting IP Address :   
 Subnet Mask :   
 Default Gateway :   
 Enable Jumbo Frames :

Buttons: Apply, Help

**View/Edit Ethernet Drive Configuration**

Drive :

Buttons: Edit, Help

**Note:** The number of drives shown on the Drive Configuration screen depends on your library's configuration, which is defined on the **Configure Library** screen of the library's front panel.

## Drive Configuration

This section generates a list displaying the current Ethernet drive configuration. No modifications can be made to this section. This information includes the following column heads:

- Number (drive number)
- IP Address

- Mask
- Gateway
- Jumbo Frames (enabled or disabled)

### Viewing/Editing the Ethernet Default Drive Configuration

This section allows you to modify the Ethernet drive configuration.

Table 14 Drive  
Configuration Fields

Field	Description
<b>Number of Ethernet Drives</b> <sup>†</sup>	The total number of Ethernet drives installed in the library
<b>NDMP Password</b> <sup>‡</sup>	The password used by the Ethernet drive to validate itself to the other NDMP services on the backup network
Starting IP Address	This is the IP address assigned to the first Ethernet drive. If more than one Ethernet drive is being configured, all subsequent Ethernet drives are sequentially assigned IP addresses based upon this number.
<b>Subnet Mask</b> <sup>‡</sup>	The subnet mask used on the backup network
<b>Default Gateway</b> <sup>‡</sup>	The IP Address of the default gateway used on the backup network
Jumbo Frames Enabled/Disabled*	“Jumbo” Ethernet packet size (9014 bytes), instead of the standard packet size (1514 bytes), enabled or disabled

<sup>†</sup> This a read-only field based on the configuration of the library.

<sup>‡</sup> All Ethernet drives use this setting.

\* The Jumbo Frame setting must correspond exactly with the setting used by your network switch and data source.

- 1 If your IP addresses are in sequential order, enter the following drive information in the **View/Edit NDMP Default Drive Configuration** page and click **Apply**:
  - Drive number
  - NDMP Password
  - Starting IP Address
  - Subnet Mask
  - Default Gateway
  - Enable Jumbo Frames
- 2 If your IP addresses are not in sequential order, enter the first tape drive number, such as 0, in the **View/Edit Drive Configuration** section, and click **Edit**.

The **View/Edit Ethernet Drive Configuration** page appears.

- 3 Under **View/Edit Default Drive Configuration**, edit the default drive configuration information as required (see [table 14](#)) and click **Apply**.  
A **Results** page displays indicating the changes were applied.
- 4 Click **OK** to return to the **Drive Configuration** page.

The PMC system recognizes and uses the new drive configuration immediately.

---

## Viewing/Editing the Ethernet Drive Configuration

To view or edit the drive configuration of a specific Ethernet drive:

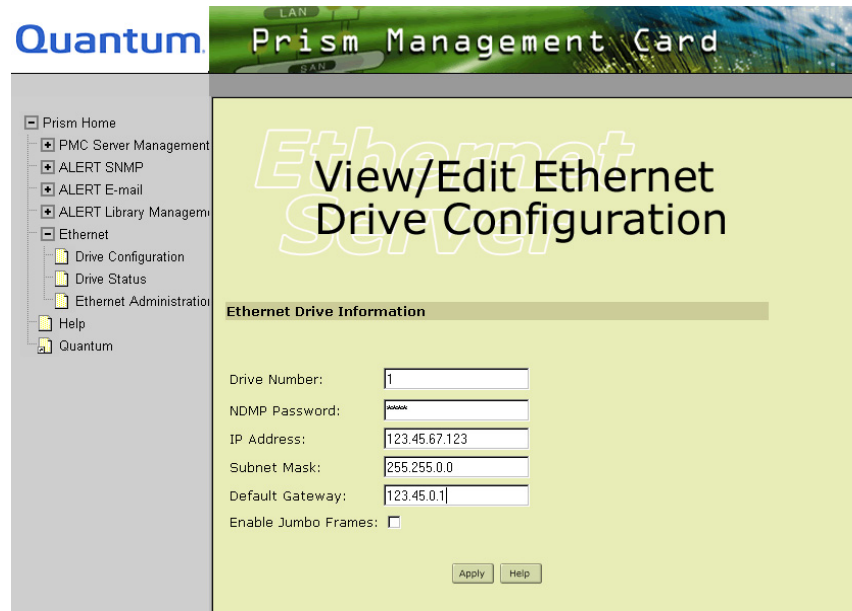
- 1 In the navigation frame, under **Ethernet**, select **Drive Configuration**.  
The management frame displays the **Drive Configuration** page.
- 2 Enter the desired drive number in the **View/Edit Ethernet Drive Configuration** section.

**Note:** The drive number must be between 0 and the number of drives (minus 1).

- 3 Click **Edit**.

The management frame displays the **View/Edit Ethernet Drive Configuration** page (see [figure 33](#)).

Figure 33 View/Edit  
Ethernet Drive  
Configuration



- If desired, edit the drive configuration information by typing:
  - The desired password in the **NDMP Password** field

**Note:** Passwords are case sensitive.

- The **IP Address** of the desired drive
  - The **Subnet Mask** of the desired drive
  - The **Default Gateway** of the desired drive
  - The setting **Enable Jumbo Frames** of the desired drive
- Click **Apply**.

A **Results** page displays indicating the drive configuration has been applied.
  - Click **OK** to return to the **Ethernet Drive Configuration** page.

## Drive Status

The **Ethernet Drive Status** page allows you to view the current hardware and software status of all the configured Ethernet drives.

The number of drives in the system is first noted, then the status information for each Ethernet drive is given. The information lists values such as software version, drive state, and various component temperatures.

### Viewing the Ethernet Drive Status

To view the current status of all Ethernet drives (see [figure 34](#)):

- 1 In the navigation menu, under **Ethernet**, click **Drive Status**.

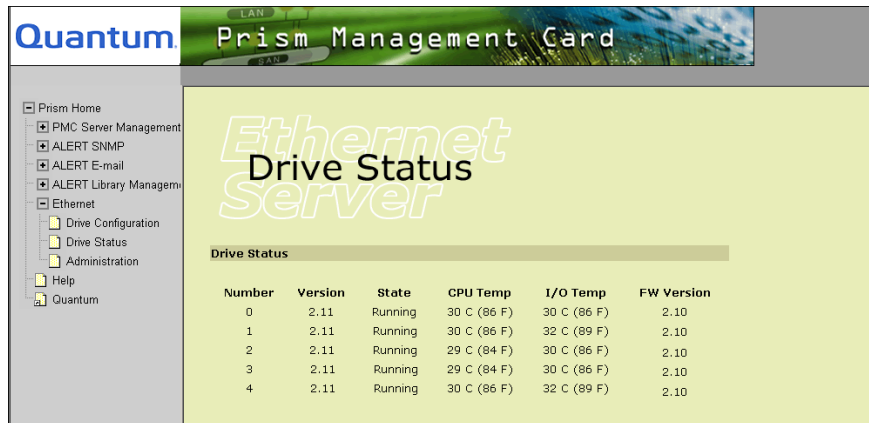
This page contains the following information on each drive:

- Software version installed on that drive
- Drive state (see [table 15](#))
- Temperature of the CPU in degrees Celsius and Fahrenheit
- Temperature at the Input/Output interface, in degrees Celsius and Fahrenheit
- Firmware version of the CPU

Table 15 Drive States

State	Description
Unknown	Drive not present or powered-off, or an invalid DNS Address on the E-mail Configuration page
Running	Normal operating mode
Timed out	Connection to the network switch has been lost
Rebooting	One or all of the Ethernet drives are in the process of restarting using the <b>Reboot Drive</b> function

Figure 34 Ethernet  
Drive Status



## Administration

The **Administration** page provides the administration functions for the Ethernet mechanism including the ability to view the current version number and set the NDMP robot password.

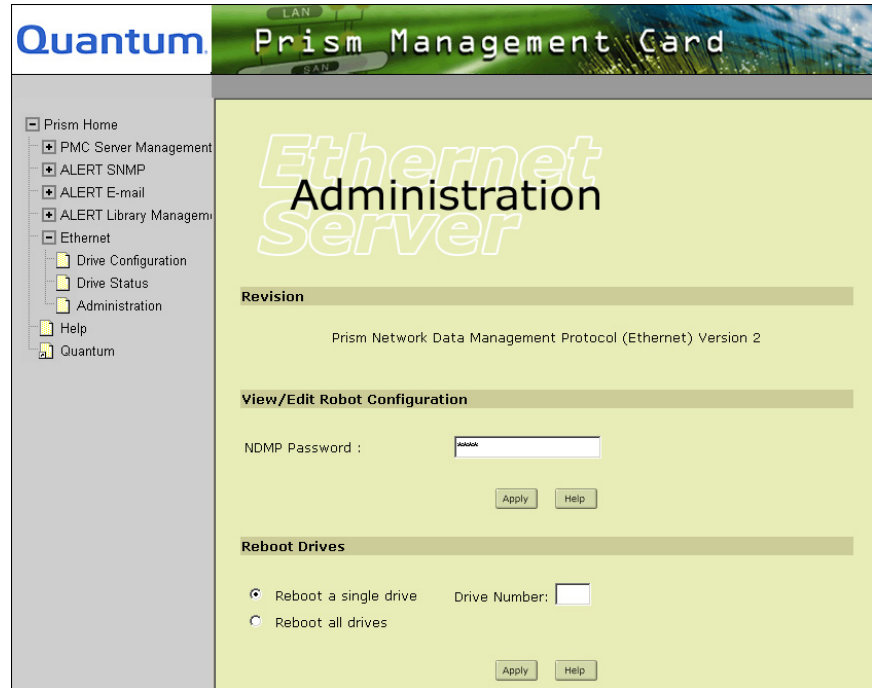
### Accessing Administration

To access the **Administration** page:

- 1 In the navigation frame, under **Ethernet**, click **Administration**.

The management frame displays the **Administration** page (see [figure 35](#)).

Figure 35 Ethernet  
Administration



### Viewing Revision

This read-only section displays the current version number of the PMC Ethernet software.

### Viewing/Editing Robot Configuration

This password is used by the NDMP robot software to validate itself to the other NDMP services on the backup network and is only applicable when using NDMP mode.

To edit the NDMP password:

- 1 In the navigation frame, under **Ethernet**, click **Administration**.

The management frame displays the **Administration** page. The current password, if any, is displayed as asterisks.

- 2 Enter the desired password in the **NDMP Password** field of the **View/Change Robot Configuration** section.

- 3 Click **Apply**.

The PMC system uses the new password immediately.

4 Click **OK** to return to the **Ethernet Administration** page.

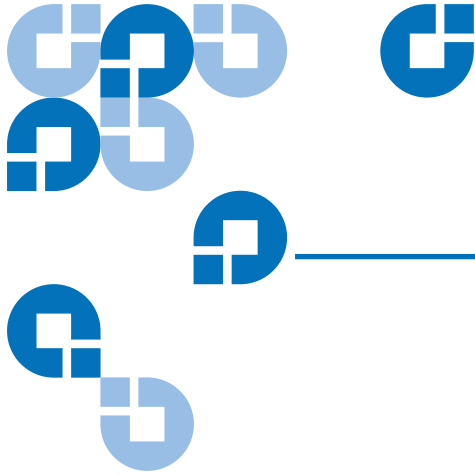
### **Rebooting a Single or All Ethernet Drives**

To reboot a specific drive, select **Reboot Single Drive**, enter the drive number (0 to #drives-1), and click **Apply**.

To reboot all Ethernet drives, select **Reboot All Drives** and click **Apply**.

**Note:** Rebooting drives aborts any current backup or restore jobs.  
Exercise care when using this feature.





## Chapter 8

# Library Partitioning

---

Prism Library Partitioning is a PMC feature that provides the capability to divide the library's storage into separate partitions, usable by separate host computers on the same network. Library partitioning requires the optional LP330 Field Upgrade Kit to be installed in your library, and the partitioning feature to be enabled on your PMC system. If this feature is not activated, it is not visible in the Prism Management Console Web pages.

**Note:** SCSI and Fibre Channel configurations are limited to a total of three partitions.

Prism Library Partitioning is managed through the following web pages accessible using Web browser software installed on the host computer:

- [Partition Configuration](#) allows you to view, add, delete, and configure library partitions.
- [Physical View](#) allows you to view a graphical representation of the library that shows the tape drives, storage bins, and load ports together with their partition owners.
- [Logical View](#) allows you to view the current library physical configuration from the logical point of view. This view allows the user to see the SCSI buses or Fibre Channel routers, tape drives, storage bins, and load ports used by each partition.

- [Partition Administration](#) allows you to view the current version number of the PMC, as well as control the load port mode of operation.

## Partition Configuration

The **Partition Configuration** page allows you to view the current partition status and provides a link to the **Modify Partitions** page where you can add, view the details, edit, or delete partitions. If no partitions are defined, a message to that effect is shown. If partitions are defined, a table detailing those partitions is shown.

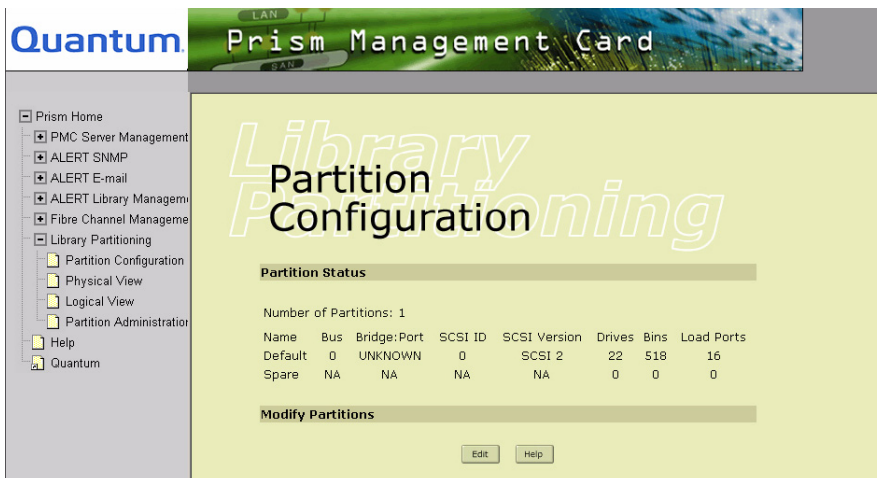
### Accessing Partition Configuration

To access the **Partition Configuration** page:

- 1 In the navigation frame, under **Library Partitioning**, click **Partition Configuration**.

The management frame displays the **Partition Configuration** page that corresponds to your configuration (see [figure 36](#) - Fibre Channel and [figure 37](#) - SCSI).

Figure 36 Partition Configuration, Fibre Channel

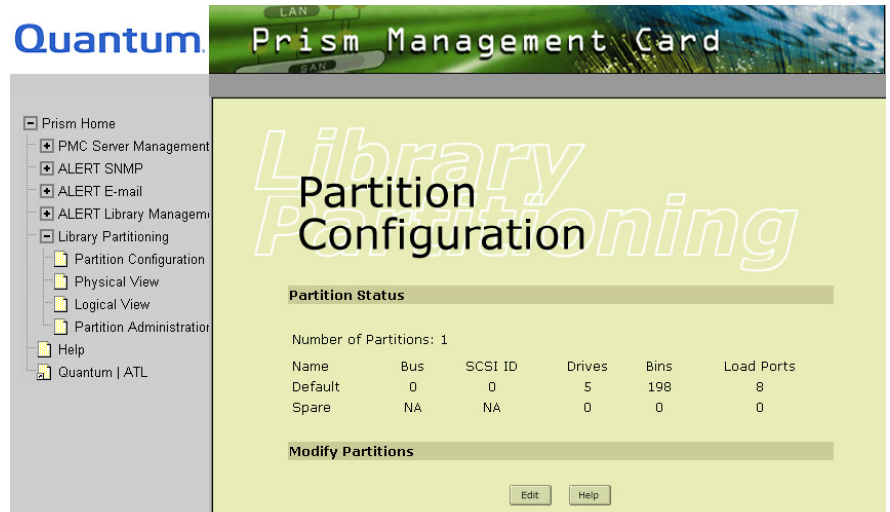


The screenshot shows the Quantum Prism Management Card web interface. The main content area is titled "Library Partitioning" and "Partition Configuration". Below this, there is a "Partition Status" section with the text "Number of Partitions: 1". A table lists the partitions:

Name	Bus	Bridge:Port	SCSI ID	SCSI Version	Drives	Bins	Load Ports
Default	0	UNKNOWN	0	SCSI 2	22	518	16
Spare	NA	NA	NA	NA	0	0	0

Below the table is a "Modify Partitions" section with "Edit" and "Help" buttons.

Figure 37 Partition Configuration, SCSI



## Configuring Multiple Partitions

To configure multiple partitions:

**Note:** The library partitioning procedures described in the following pages correlates to the physical cabling configuration of the LP330 Field Upgrade kit in your library. Before you begin configuring or cabling your library, discuss the configuration with your local Quantum Service Representative.

- 1 Delete the default partition (see [Deleting Partitions](#) on page 110).
- 2 Set the load port mode (see [Controlling Load Ports](#) on page 117).
- 3 Create new partitions (see [Adding Partitions](#) on page 105).

## Adding Partitions

To add a library partition:

- 1 Check the status of the library and hosts (if you are using Fibre Channel bridges, see [Route Status](#) on page 80 or [FC470 Bridge Option](#) on page 91).

**Caution:** Partitions should not be added if hosts are actively using the library.

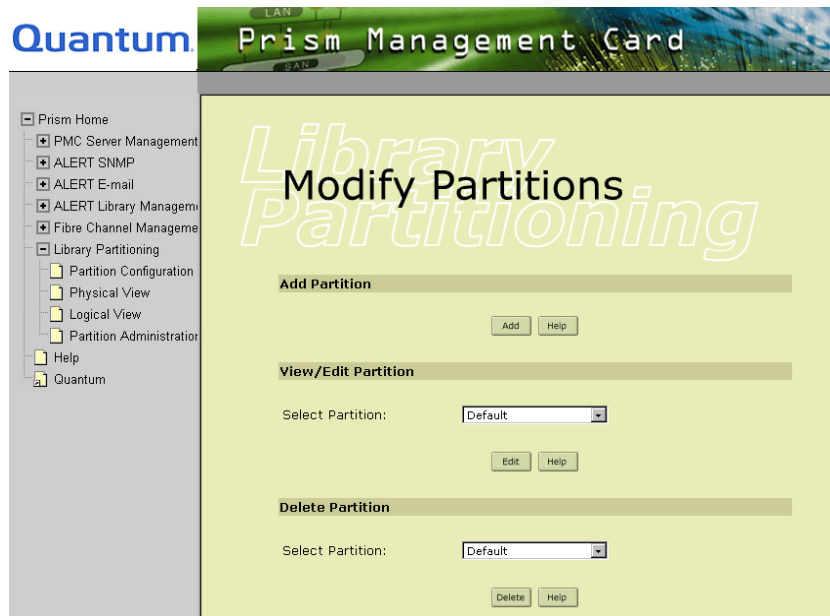
2 Access the **Partition Configuration** page.

In the navigation frame, under **Library Partitioning**, click **Partition Configuration**.

3 Under **Modify Partitions**, click **Edit**.

The **Modify Partitions** page is displayed (see [figure 38](#)).

Figure 38 Modify Partitions



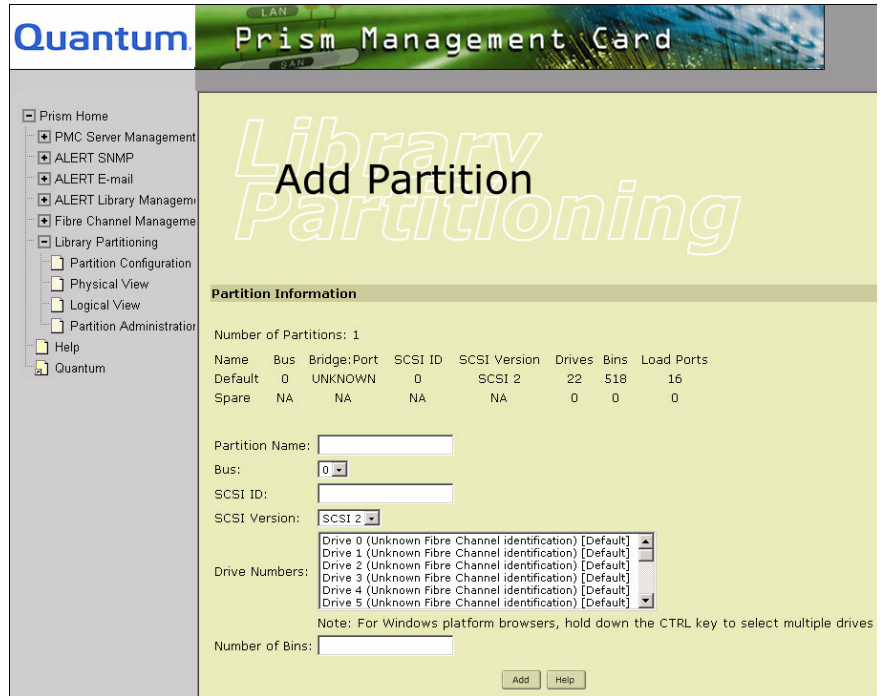
4 Under **Add Partition**, click **Add**.

The management frame displays the **Add Partition** page (see [figure 39](#)), including information on the existing partitions:

- **Number of partitions**
- **Partition Name**
- **Bus or Bridge/Port**
- **SCSI ID**
- **SCSI version**
- **Drives**
- **Bins**
- **Load Ports**

**Note:** The information displayed depends on whether SCSI or Fibre Channel partitioning is used.

Figure 39 Add Partition



5 Under **Partition Information**, add the new partition information (see [table 16](#)).

Table 16 Partition Information Fields

Field	Description
<b>Partition Name</b>	Enter a partition name using any combination of letters (lowercase or uppercase) and numbers (may not contains blank spaces or special characters). You can also use an underscore (must begin with a letter). The default partition name is <code>Default</code> .
<b>Bus†</b>	Assigns a SCSI bus for the partition.
<b>Bridge/Port‡</b>	Assigns a Fibre Channel router for the partition.
<b>SCSI ID</b>	Assign the SCSI bus or Fibre Channel router ID. The SCSI target IDs range from 0 to 15. The SCSI target ID <i>must</i> be unique. The SCSI target ID cannot be in use on the bus. The SCSI channels and target IDs are: <ul style="list-style-type: none"> <li>• Dual-channel, port A – 0</li> <li>• Dual-channel, port B – 1</li> <li>• Single-channel, port – 2</li> </ul>
<b>SCSI Version</b>	Select either the SCSI-2 or SCSI-3 protocol.
<b>Drive Numbers</b>	List the drives that are to be added to this partition. The numbering corresponds to the library drive slot numbers. For SCSI drives, separate the drives with hyphens and commas such as: 0-3,6. For Fibre drives, the drives are identified [SCSI bus]:[SCSI target] (see <a href="#">Route Status</a> on page 80 or <a href="#">FC470 Bridge Option</a> on page 91).
<b>Number of Bins</b>	Specify the number of storage bins that are to be added to this partition.
<b>Number of Load Ports††</b>	Specify the number of load port bins that are to be added to this partition.

† This field is displayed only when SCSI busses are in use.

‡ This field is displayed only when Fibre Channel is in use.

†† This field is displayed only when Exclusive Load Ports are in use.

**6** Click **Add**.

A **Results** page displays indicating the partition has been added.

**Note:** These changes do not take effect until you restart the PMC (see [Restarting Prism Management Services](#) on page 24).

**7** Click **OK** to return to the **Modify Partitions** page.

---

## Modifying Partitions

To modify an existing partition:

**1** Access the **Partition Configuration** page.

In the navigation frame, under **Library Partitioning**, click **Partition Configuration**.

**2** Click **Edit**.

The **Modify Partitions** page appears.

**3** Under **View/Edit Partition**, highlight the desired partition from the list and click **Edit**.

The management frame displays the **View/Edit Partition** page (see [figure 40](#)), which includes information about existing partitions.

**4** Edit the configuration information as desired (see [table 16](#)).

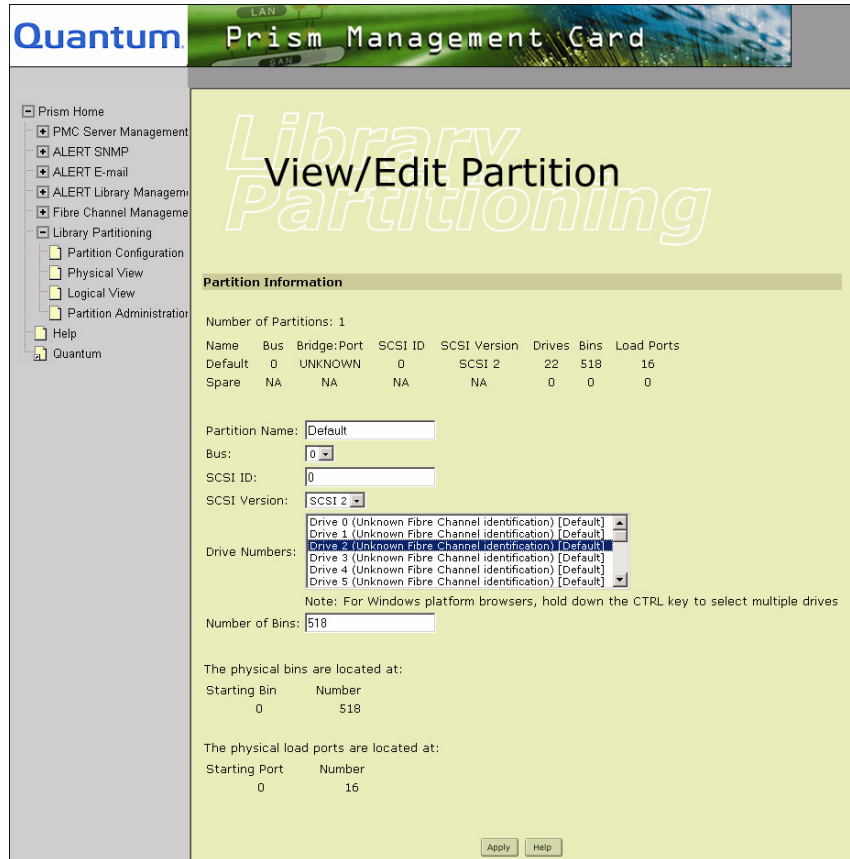
**5** Click **Apply**.

A **Results** page displays indicating the selected partition has been deleted.

**Note:** These changes do not take effect until you restart the PMC (see [Restarting Prism Management Services](#) on page 24).

**6** Click **OK** to return to the **Modify Partitions** page.

Figure 40 View/Edit Partition



## Deleting Partitions

To delete an existing partition:

- 1 Access the **Partition Configuration** page.

In the navigation frame, under *Library Partitioning*, click **Partition Configuration**.

- 2 Click **Edit**.

The **Modify Partitions** page appears.

- 3 Under **Delete Partition**, highlight the desired partition.



**4** Click **Delete**.

A **Confirmation** page asks for confirmation of the deletion.

**5** Click **OK**.

A **Results** page displays indicating the selected partition is deleted.

**Note:** These changes do not take effect until you restart the PMC (see [Restarting Prism Management Services](#) on page 24).

**6** Click **OK** to return to the **Modify Partitions** page.

---

## Physical View

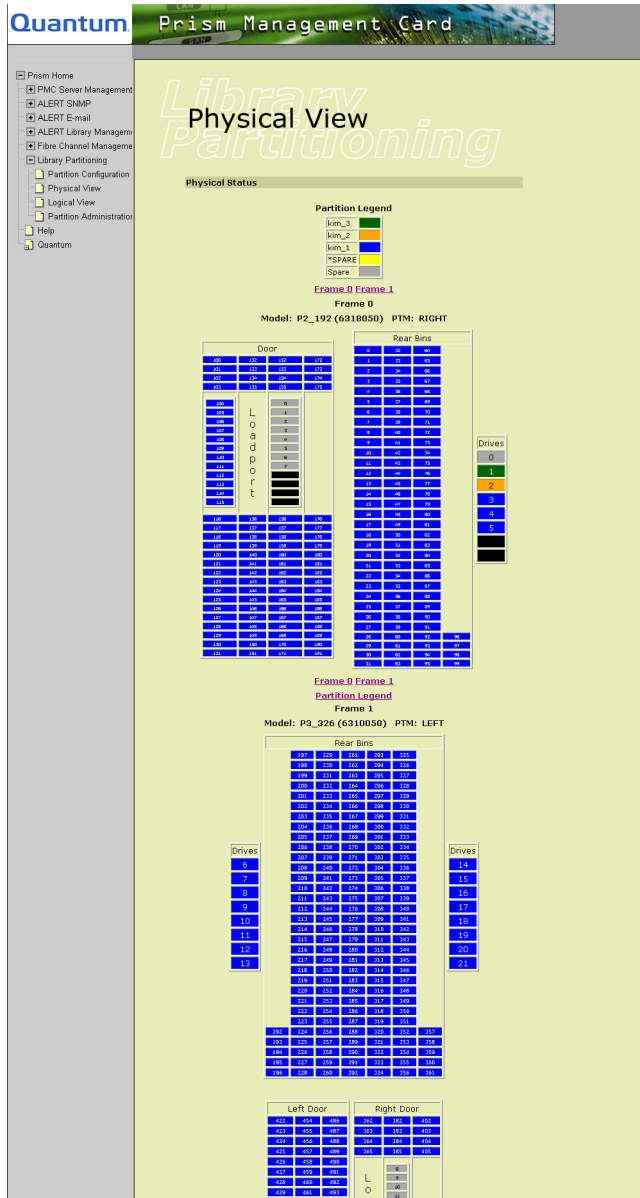
The **Physical View** page allows you to view the current library physical configuration from the physical point of view. This view draws a graphical representation of the library that shows the tape drives, storage bins, and load ports with their partition owners.

---

### Accessing Physical View

To view current partitions from a physical viewpoint, in the navigation frame, under **Library Partitioning**, click **Physical View**. The management frame displays the **Physical View** page (see [figure 41](#)).

Figure 41 Physical View



---

## Physical Status

The **Physical Status** section illustrates the library partitions, and the tape drives, storage bins and load ports.

---

## Logical View

The **Logical View** page allows you to view the current library physical configuration from the logical point of view. This view allows the user to see which SCSI buses or Fibre Channel bridges, tape drives, storage bins, and load ports are associated with each partition.

---

## Accessing Logical View

To view current partitions from a logical viewpoint:

- 1 In the navigation frame, under **Library Partitioning**, click **Logical View**.

The management frame displays the **Logical View** page (see [figure 42](#)).

**Note:** When partitioning is enabled, it is possible to move cartridges from one partition to another. The Physical View on the **Cartridge Movement** page displays partition ownership and may be used to make sure a cartridge is not accidentally moved across partition boundaries. Use this feature at your discretion.

Figure 42 Logical View

**Quantum Prism Management Card**

*Library Partitioning*

**Logical View**

**Connection Status**

Total Number Of Buses: 1

Bus	Bridge:Port	SCSI ID	Partition Name
0	UNKNOWN	0	Default

**Drive Status**

Total Drives 22

Drive Number	Partition
0	Default
1	Default
2	Default
3	Default
4	Default
5	Default
6	Default
7	Default
8	Default
9	Default
10	Default
11	Default
12	Default
13	Default
14	Default
15	Default
16	Default
17	Default
18	Default
19	Default
20	Default
21	Default

**Bin Status**

Total Bins 518

Starting Bin	Number Bins	Partition
0	518	Default

**Load Port Status**

Total Load Ports 16

Starting Port	Number Ports	Partition
0	16	Free

Help

## Connection Status

The **Connection Status** section shows the library routers and their status (see [table 17](#)).

Table 17 Connection Status Fields

Field	Description
<b>Total Number of Buses<sup>†</sup></b>	Total number of target host adapters currently installed in the library
<b>Bus<sup>†</sup></b>	External bus number for the installed adapter
<b>Bridge:Port<sup>‡</sup></b>	Fibre Channel bridge and port number
<b>SCSI ID</b>	SCSI target ID used by the external bus for a connection
<b>Partition Name</b>	User-defined name for this combination of target host adapter and SCSI ID

<sup>†</sup> These fields are displayed only when SCSI buses are in use.

<sup>‡</sup> These fields are displayed only when Fibre Channel is in use.

## Drive Status

This page illustrates the tape drives and their assigned partitions.

## Bin Status

This page illustrates the storage bins and their assigned partitions. The **Starting Bin** is the starting bin number for the bins assigned to that partition. Unused storage bins remain in the **Spare** partition.

## Load Port Status

This page illustrates the load ports and their assigned partitions. The **Starting Load Port** is the starting load port number for the load ports assigned to that partition.

---

## Partition Administration

The **Partition Administration** page provides the administration functions for the Library Administration mechanism including the ability to view the current version number and control the Load Port mode of operation.

---

### Accessing Partition Administration

To view the current version information:

- 1 In the navigation frame, under **Library Partitioning**, click **Partition Administration**.

The management frame displays the **Partition Administration** page (see [figure 43](#)).

---

Figure 43 Partition Administration



---

### Viewing Current Version

To view the current version of the PMC, access the **Partition Administration** page.

The **Revision** section displays information about the current version of the PMC.

## Controlling Load Ports

The **Load Port Mode** section allows you to toggle between the load port modes used by the library:

- **Shared** allows all partitions to use all of the load port bins on a first come first served basis (default setting)
- **Exclusive** allows you to select the load port bins that are assigned to each partition

**Note:** You can change the load port mode only when no partitions are configured.

To view or change the load port mode:

- 1 Access the **Partition Administration** page.

In the navigation frame, under **Library Partitioning**, click **Partition Configuration**.

- 2 Select the desired load port mode from the pull-down list in the **Load Port Mode** section, either **Shared** or **Exclusive**.
- 3 Click **Apply**.

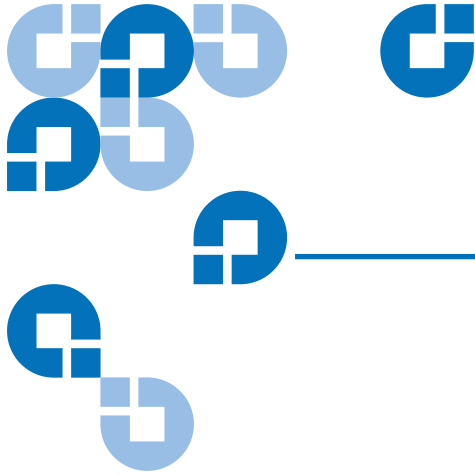
A **Results** page displays indicating the selected partition has been modified.

**Note:** These changes do not take effect until you restart the PMC (see [Restarting Prism Management Services](#) on page 24).

- 4 Click **OK** to return to the **Partition Administration** page.







## Chapter 9 Getting Help

---

This chapter provides an overview of the Help section of the Prism Management Console Web pages accessible using Web browser software installed on the host computer:

- [Basic Help Functions](#) allows you to access help files for most of the pages and functions of the PMC.
- [Error Messages](#) allows you to view error messages returned by the PMC.

---

### Basic Help Functions

The Prism Management Console Web pages provide extensive online help files that define actions and terms for all functions, features, and fields.

---

#### Accessing Online Help

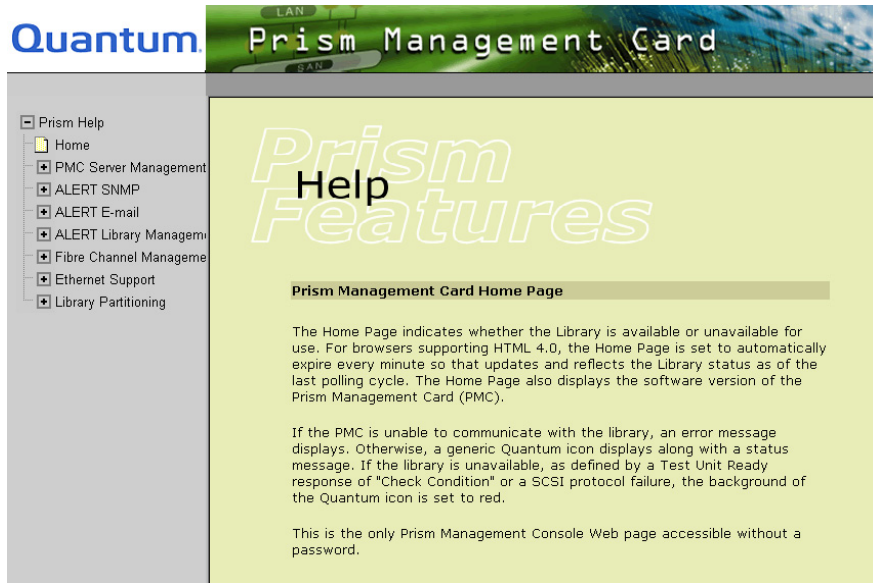
To access the **Help** page, click one of the following:

- The **Help** link at the bottom of the navigation frame to open a new window and display the first page of the online help files

- The **Help** button at the bottom of the current Prism Management Console Web page to open a new window and display online help for that Web page

The Web browser opens a new window and displays the **Help** page (see [figure 44](#)).

Figure 44 Help



## Error Messages

The **E-mail Message Configuration Help** page provides a listing of the error and status messages that can be returned by the PMC system, with descriptions and recommended actions. The Error Messages section indicates the following:

- Sense key
- Additional sense code
- Additional sense code qualifier
- Action

- Description
- **E-mail** – recipient of the Prism ALERT E-mail

The **Action** field contains a bitmapped description of the recommended action (see [table 18](#)).

## Viewing Error Messages

To view the error messages:

- 1 In the navigation frame, under **ALERT E-mail**, click **Message Configuration**.

A new Web browser window opens and displays the **E-mail Message Configuration Help** page.

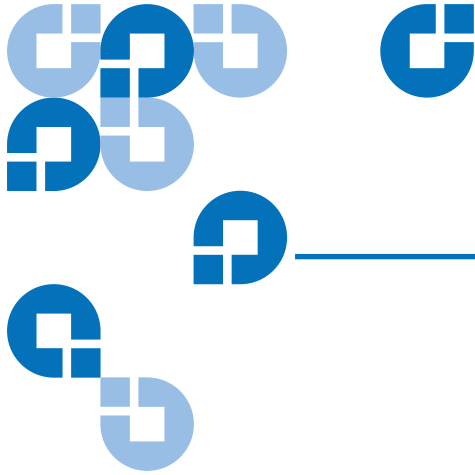
- 2 In the management frame of the **Help** page, click **events** (in the middle of the page).

The Web browser displays the **E-mail Events**.

Table 18 Action Field Descriptions

Field	Description
0x00	Fatal error
0x01	Retry during initialization phase
0x02	Retry during test phase
0x04	Ignore during drive load
0x08	Ignore during drive cleaning
0x10	Tape Drive Error
0x20	Library Error Conditions
0x40	unused
0x80	Immediate abort (useful for catching events on SCSI analyzers); overrides all others





## Appendix A

# FC230 Fibre Channel Service Commands

---

Prism FC230 Fibre Channel Services Software configures the FC230 bridge for use in the P-Series libraries. The software is accessed using an ASCII-based command line interface (CLI) from any PC with a terminal emulation program, such as HyperTerminal.

---

## CLI Command Types

Fibre Channel CLI commands have four types of operation:

- **Immediate**—causes an immediate action; not preceded by a **get** or **set** operation
- **Get**—returns the value of a parameter (abbreviated “g”)
- **Set**—changes the value of a parameter (abbreviated “s”)
- **Usage**—if an operation type cannot be determined, the “Usage” form is assumed and a brief help message appears.

Many Set commands require a **SaveConfiguration** command to take effect. When this is required, an asterisk appears next to the command line prompt.

---

## CLI Command Syntax

The information below can help you make proper CLI entries.

---

### Number and String Entry

Decimal numbers may be entered raw (ex: 123), octal numbers must be preceded by a Ø (ex: Ø713), and hexadecimal numbers must be preceded by the C-style of “Øx” prefix (ex: Øx1FA4).

Quoted strings are treated as a single parameter for any command that expects character input, regardless of space within the string.

---

### Command Entry

The following is a list of symbols used commonly used with commands:

- [ ] indicates required entry
- < > indicates optional entry
- | indicates choose one entry

CLI commands are not case sensitive. Upper and lowercase characters have been used in this document to aid readability.

---

### List of Abbreviations

The following list of abbreviations are used in command lines:

- fp: Fibre Channel port number (0 – 2)
- fl: Fibre Channel LUN (0 – 31)
- sb: SCSI bus number (0 – 3)
- st: SCSI target ID (1 – 15)
- sl: SCSI LUN (0 – 7)

## FC230 Fibre Channel Services Command List

This section provides a list of available Fibre Channel Services software commands.

Command	Description	Default	Syntax
AddressMap	Sets the current operating mode of the FC ports	A	set addressmap [A   B [1   2]] get addressmap
AutoMap (Immediate)	Automatically maps all currently operational SCSI devices attached to the Fibre Channel bridge across 1, 2, and all 3 Fibre ports, as defined by the user.		automap < [fp]   [fp [fp]]   [fp [fp [fp]]] >  (Typing automap by itself distributes maps across all 3 ports.)
BootFibreDelay	Sets the time in seconds for the Fibre Channel bridge to wait before announcing its presence to the Fibre switch.	30	set bootfibredelay [0   15   30] get bootfibredelay
BootScanPorts	Used to specify the FC port to use for assigning devices within a boot scan.  Addressmap B (port failover) overrides this command.	Auto	set bootscanports [fp [fp [fp]]]   [all]   [auto] get bootscanports  [all] indicates that all ports will be used. [auto] indicates that the FC bridge should detect the ports that are in use.
ClearEvent (Immediate)	Clears the contents of the event log.		clearevent
DisplayEvent (Immediate)	Displays the contents of the event log. The log is filtered by the current switch settings as described in the DispEvent section.		displayevent < all >  < all > causes the display filtering to be temporarily suspended and all logged events to be displayed.

Appendix A FC230 Fibre Channel Service Commands  
 FC230 Fibre Channel Services Command List

Command	Description	Default	Syntax
DispEvent Set the switches that control the filtering performed when displaying events. Switches have the following meanings and settings: (subsystem) switch: mask that controls which subsystem events are displayed. The mask is a byte value with the following bit patterns corresponding to the currently supported subsystems: 0x01 FCP Processor /i960 Interaction 0x02 SCSI Processor/i960 Interaction 0x04 Ethernet (Future) 0x20 NVRAM & Flash To display the events from several different subsystems, use a mask value equal to the logical OR of the corresponding subsystem values. To display events from all subsystems enter the value 3Fh for the mask. (event_level) switch: mask that controls what reporting level events are displayed. The mask is a byte value with the following bit patterns corresponding to the currently supported reporting levels: 0x01 Info; general information 0x02 Warning; unexpected situation/condition 0x04 Critical; operation limited/curtailed 0x08 Failure; hard failure 0x10 Other; otherwise not categorized 0x20 Debug; tracking events To display events from several different reporting levels, use a mask value equal to the logical OR of the corresponding reporting levels. To display events for all reporting levels enter the value 3Fh for the mask. (status) switch: has the following two values that correspond to the status of the events to be displayed: all All events, regardless of their status values are displayed. ngood Only events with a status other than good are displayed.	<p>3Fh</p> <p>3Fh</p> <p>all</p>	<p>set dispevent [subsystem] [event_level] [status]            get dispevent</p> <p>Example: 0x01 0x01 all</p>	
DispFcPortDB (Immediate)	Displays the contents of the specified FC port's internal port database.		dispfcportdb <fp>



Command	Description	Default	Syntax
EccLog	Displays/clears ECC log statistics for the FC bridge.		set ecclog clear get ecclog  The get command displays the statistics. The set commands clears the statistics.
EthernetSpeed	Sets/displays the Ethernet speed of the card	auto	set EthernetSpeed [10   100   auto] get EthernetSpeed
FcConnMode	Set the connection mode for the FC230 to arbitrated loop or point-to-point. Applies to all three Fibre Channel ports on each board.	ptp	set fcconnmode [loop   ptp] get fcconnmode
FcFairArb	Turn on or off the FC-AL arbitration fairness. Applies to all three Fibre Channel ports on each board.	enabled	set fcfairarb [enabled   disabled] get fcfairarb
FcFrameLength	Specify the maximum number of payload bytes in a Fibre Channel frame. If the frame length is not specified, the current frame length is displayed.	2048 bytes	set fcframeLength [512   1024   2048] get fcframeLength
FcFullDuplex	Enables/disables full duplex communication between the FC bridge and other Fibre devices.	enabled	set fcfullduplex [enabled   disabled] get fcfullduplex
FcHard	Enable or disable Fibre Channel hard address assignment. Under soft addressing the FC230 loop address is assigned during loop initialization.	hard	set fchard [enabled   disabled] get fchard

Appendix A FC230 Fibre Channel Service Commands  
 FC230 Fibre Channel Services Command List

Command	Description	Default	Syntax
FcHardAddress	Set the value used as the FC-AL hard address. There is an individual hard address value for each of the three Fibre Channel ports on each board.	port 0 = 0x03 port 1 = 0x04 port 2 = 0x05	set fchardaddress [fp [address]] get fchardaddress [fp]
FcInitiator	Enables/disables the FC bridge as an initiator on the Fibre network. This functionality is required for features such as Extended Copy to locate and send commands to Fibre devices.	disabled	set fcinitiator [enabled   disabled] get fcinitiator
FcPortFailure (Immediate)	Controls the behavior of FC ports while the bridge is in AddressB (failover) mode.		fcportfailover fp [recover   force [loopdown   portdown   ispperr]]  The recover option should be selected for actual failover operation.  The force option forces a failure for testing and demonstration purposes by simulating loss of FC synchronization (loopdown), ISP chip failure detected by fabric (portdown), or internal ISP chip error (ispperr).
FcPortList (Immediate)	List the available Fibre Channel ports and their current status.		fcportlist
FcSCSIBusyStatus	Specify the SCSI status value returned when the FC230 is unable to accept a SCSI command due to a temporary lack of internal resources.	QFULL	set fcscsibusystatus [busy   qfull] get fcscsibusystatus
FcTargets (Immediate)	Displays information about every FC device visible to a bridge operating in initiator mode.		fctargets <fp>

Command	Description	Default	Syntax
FcWWName	Reports the World Wide Name (WWN) of the referenced Fibre Channel interface.		get fcwwname [portnumber]
FibreBridgeModel	Report the specific FC230 model information.		get fibrebridgemodel
FibreBridgeName	Specify the 8-character name assigned to the FC bridge.	"....."	set fibrebridgename [name] get fibrebridgename
FibreBridgeTargetLUN	Specify the soft target LUN used by the FC bridge when addressed by the host. This LUN is taken from NVRAM.	14 (all FC ports)	set fibrebridgetargetlun [0 - 31]
FirmwareRestart (Immediate)	Reboot the FC bridge firmware.		firmwarerestart
Help (Immediate)	Displays a list of available commands. When the optional command name is present, detailed command-specific information is displayed.		help [command name]
IdentifyFibreBridge	Causes the "Fault" LED on the FC230 board to blink continuously until disabled.	disabled	set identifyfibrebridge [enabled   disabled] get identifyfibrebridge
Info (Immediate)	Displays version numbers and other product information for key FC bridge components.		info
IPAddress	Sets/displays the current IP address of the FC		set IPAddress xxx.xxx.xxx.xxx get IPAddress
IPDHCP	Enables/disables the FC to request an IP address from the network. Requires the bridge be attached to a network with at least one DHCP server.	enabled	set IPDHCP [enabled   disabled] get IPDHCP

Appendix A FC230 Fibre Channel Service Commands  
 FC230 Fibre Channel Services Command List

Command	Description	Default	Syntax
IPGateway	Sets/displays the current default gateway. If IPDHCP is enabled, the get command reports the current IP gateway assigned by the nameserver.		set IPGateway xxx.xxx.xxx.xxx get IPGateway
IPSubnetMask	Sets/displays the current subnet mask. IF IPDHCP is enabled, the get command reports the current IP subnet mask assigned by the nameserver.		set IPSubnetMask xxx.xxx.xxx.xxx get IPSubnetMask
LicensedOption	Enables/disables a user-defined licensed option.	none	set licensedoption [option_name [enabled   disabled]] get licensedoption  The get option reports whether a particular option is enabled.
LogEvent	Sets the switches that control the filtering performed when logging events. The switches have the following meanings and settings: (enabled   disabled) switch: controls whether or not events logging is enabled or disabled. (subsystem) switch: same as switch for DispEvent in previous section (event_level) switch: same as switch for DispEvent in previous section (status) switch: same as switch for DispEvent in previous section	disabled	set logevent [enabled   disabled]   [[subsystem] [event_level] [status]] get logevent
MaxEnclTempAlrm	Sets/displays the maximum enclosure temperature alarm of the unit in degrees C (5-40 degrees C).	70degrees Centigrade	set maxencltempalrm [5 - 40] get maxencltempalrm
MinEnclTempAlrm	Sets/displays the minimum enclosure temperature alarm of the unit in degrees C (5-40 degrees C).	0degrees Centigrade	set minencltempalrm [5 - 40] get minencltempalrm

Command	Description	Default	Syntax
OEMConfigFile	Reports the name (i.e., the contents of the first record) of the OEM configuration file stored in persistent memory.	ATTO	get oemconfigfile
ParityLog	Displays/clears the parity error statistical log for the FC bridge.		set parity clear get paritylog  The get command displays the statistics. The set commands clears the statistics.
Reserve (Immediate)	Reservation of the FC230 is implicit; once the configuration image is changed by any user of services (Serial/Ethernet/Etc.) the FC230 becomes RESERVED. Performing a SaveConfiguration, RestoreConfiguration or FcRestart RELEASES the FC230 so that other devices may access it. When the FC230 services interface is reserved, set commands are unavailable, but get commands are available. Note that at least one service interface always has access to the FC230 at all times. This interface always reports a RELEASED status, since it may issue set commands.		reserve
RestoreConfiguration (Immediate)	Restore to factory default configuration or the last saved configuration. The new configuration must be saved to take effect.		restoreconfiguration [default   saved]
RouteChange (Immediate)	Map a Fibre Channel port and LUN to a SCSI bus, target, and LUN. Valid route change entries are:  fp (0-2) fl (0-31) sb (0-3) st (0-15) sl (0-7).		routechange [fp] [fl] [sb] [st] [sl]

Appendix A FC230 Fibre Channel Service Commands  
 FC230 Fibre Channel Services Command List

Command	Description	Default	Syntax
RouteDisplay (Immediate)	List the currently mapped Fibre Channel-to-SCSI routes.		routedisplay routedisplay [fp] routedisplay [online   offline] routedisplay [fp [fl]] routedisplay [fp [online   offline]]
RouteOffline	Set the status of a route to offline.		set routeoffline [fp] [fl] get routeoffline [fp] [fl]
RouteOnline	Set the status of a route to online.		set routeonline [fp] [fl] get routeonline [fp] [fl]
SaveConfiguration (Immediate)	Save the new configuration. If a firmware restart is required to make the change, the user is prompted to confirm the restart. The user can override the confirmation request by indicating the override value on the command line.		saveconfiguration < restart   norestart >
ScsiInitID	Specify the SCSI initiator ID to be used on the specified SCSI port.	0x07 (all SCSI buses)	set scsiinitid [sb [0-15]] get scsiinitid [sb]
ScsiPortList (Immediate)	List the available SCSI ports and their status.		scsiportlist
ScsiPortReset (Immediate)	Reset the specified SCSI bus.		scsiportreset [sb]
ScsiPortResetOnStartup	Specify whether the SCSI port should be reset on power-up.	Reset each SCSI bus on startup	set scsiportresetonstartup [sb [enabled   disabled]] get scsiportresetonstartup [sb]
ScsiPortSelTimeout	Show the time (msec) that the router waits for a response from a SCSI device on the selected port after a selection request.	256 msec	set scsiportseltimeout [sb [256   128   64   32   16   8   4   2   1]] get scsiportseltimeout [sb]

Command	Description	Default	Syntax
ScsiPortSyncTransfer	Specify whether synchronous SCSI transfers should be negotiated with devices on the specified SCSI port.	enabled	set scsiportsynctransfer [[sb] [enabled   disabled]] get scsiportsynctransfer [sb]
ScsiPortTaggedQueuing	Specify whether tagged command queuing is allowed on the SCSI port.	disabled	set scsiporttaggedqueuing [sb [enabled   disabled]] get scsiporttaggedqueuing [sb]
ScsiPortResetOnStartup	Specify whether the SCSI port should be reset on power-up.	Reset each SCSI bus on startup	set scsiportresetonstartup [sb [enabled   disabled]] get scsiportresetonstartup [sb]
ScsiPortUltra2	Specify whether the selected port supports Ultra2 (LVD) transfers.		set scsiportultra2 [sb [enabled   disabled]] get scsiportultra2 [sb]
ScsiPortWideTransfer	Specify whether wide SCSI transfers should be negotiated.	enabled	set scsiportwidetransfer [sb [enabled   disabled]]
ScsiTargets	List the SCSI devices that are on the referenced SCSI bus.		get scsitargets [sb]
ScsiTermination	Set the internal termination of the referenced SCSI port.	enabled	set scsitermination [sb [enabled   disabled]] get scsitermination [sb]
SerialNumber	Report the FC230 board serial number.	230x...	get serialnumber
SerialPortBaudRate	Set the baud rate for the FC230 serial port (2400, 9600, 19200, 38400, 57600, or 115200).	9600	set serialportbaudrate [rate] get serialportbaudrate
SerialPortEcho	Enables/ disables echoing of keyboard input.	disabled	set serialportecho [enabled   disabled]

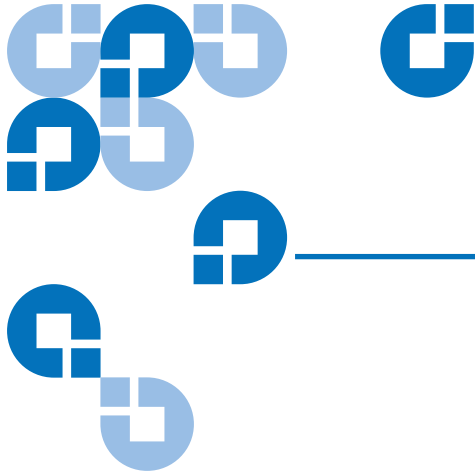
Appendix A FC230 Fibre Channel Service Commands  
 FC230 Fibre Channel Services Command List

Command	Description	Default	Syntax
SerialPortHandshake	Set the data handshaking method used for controlling the flow between the transmitter and receiver (hardware, software, or none).	none	set serialporthandshake [hard   xon   none] get serialporthandshake
SerialPortStopBits	Set the number of stop bits for the FC230 serial port (1 or 2).	1	set serialportstopbits [1   2] get serialportstopbits
Temperature	Report the unit temperature in degrees C.		get temperature
VerboseMode	Sets the Command Line Interface to display extended information about a parameter when the help command is given. When verbose mode is enabled, parameter values are generally preceded by labels in responses to the get commands. Only the parameter value is output when verbose mode is disabled.	enabled	set verbose [enabled   disabled] get verbose
XCDevices	Allows the user to obtain information about the devices used in a particular Extended Copy command. The Extended Copy command to query is specified by the CmdNumber for the command as presented in the SCStatus CLI command. The 'DeviceType' field displays the SCSI device type for each device. The 'VendorId', 'ProductId', and 'Serial Number' fields display the SCSI Inquiry data identifying the device. Note that the SerialNumber field displays up to 16 of the least significant digits of the device serial number. the 'DataDirection' field specifies whether a device is a data source, a data destination, or both as specified in the segment descriptors of an Extended Copy command; the field can take on the values [Source   Destination   Both].		get XCDevices [CmdNumber]



Command	Description	Default	Syntax
<p>XSError</p> <p>Retrieves any SCSI sense data returned by an Extended Copy command as the result of an error. The Extended Copy command to query is specified by the CmdNumber for the command as presented in the XCStatus CLI command. The 'SCSIStatus', 'SenseKey', 'ASC', and 'ASCQ' fields display the sense data returned by the Extended Copy command. If a device involved in the command's data transfer also returned sense data, that device's serial number is displayed in the 'DeviceId' field and that device's sense data is displayed in the 'DStat', 'DSK', 'DASC', and 'DASCQ' fields. Any field that does not contain valid data is filled in with 00.</p>			<p>get SSError [CmdNumber]</p>
	<p>XCStatus</p> <p>Allows the user to poll for the status of Extended Copy commands issued to the FC. The 'CmdNumber' field presents a unique identifier for a particular Extended Copy command. The 'ListId' field displays the List ID specified in the CDB of the Extended Copy command. The 'HostId' field displays the 8-byte Node Name of the Fibre Channel host that issued the Extended Copy command. The 'Status' field displays the current state of the Extended Copy command, which can be [Initializing   Active   Done   Error]. The 'Transferred' field displays the amount of data transferred by the Extended Copy command in MB.</p>		<p>get XCStatus</p>
<p>Zmodem (Immediate)</p>	<p>Transfer a firmware image or NVRAM parameter file to or from the router using ZMODEM file transfer protocol.</p>		<p>zmodem [send [filename]   receive]</p>

Appendix A FC230 Fibre Channel Service Commands  
FC230 Fibre Channel Services Command List



# Glossary

---

## A

**Apply button** Makes changes to the properties and attributes of a page or dialog box without closing it.

**ASC** Additional sense code (SCSI)

**ASCQ** Additional sense code qualifier (SCSI)

---

## B

**banner frame** The Web browser frame that extends across the top of the screen which displays the corporate logo and software name.

**Bit** The basic unit of information in a binary numbering system (*binary digit*) representing either 1 or 0. Eight bits equal one byte.

**bridge** A device that governs the flow of traffic between networks or network segments and forwards packets between them, and converting between interfaces, such as SCSI and Fibre Channel, if necessary.

**Bus** A communication channel carrying signals from any device used by the computer or library to another device. For example, data transferred from the computer to the library travels on a bus.

---

## C

**Cancel button** Discards changes to the properties and attributes of a page or dialog box and closes it.

**community name** An SNMP community name is the administratively assigned name of a logical management domain on a network. The community name is used as a selector by the agent to specify the access to local or remote management information and the context of the management information. The names “public” and “private” are common default community names.

---

**D**

**default gateway** The default gateway is the IP address of the system through which IP packets will be routed if the system at the source address cannot communicate directly with the system at the destination address.

**domain** In the Internet, a part of the naming hierarchy identifying a network or subnet. Syntactically, a domain name consists of a sequence of names (labels) separated by periods (dots).

---

**E**

**Ethernet** A local-area network protocol using high-speed communications at 100 or 1000 megabits per second.

---

**F**

**Fibre Channel** A connection system designed to replace SCSI, designed for mass storage and other peripheral devices that require very high bandwidth. Fibre Channel uses optical fiber to connect devices, and supports full-duplex data transfer rates of 100MBps.

**frame** A distinct and separate section of a Web page, commonly divided into a banner frame, a navigation frame, and a management frame. The banner frame commonly displays title information. The navigation frame commonly displays headings which are linked to informational pages that display in the management frame.

**FSE** Field Service Engineer. A representative of Quantum trained and authorized to repair Quantum products.

---

**G**

**gateway address** In networking, a combination of hardware and software linking two different types of networks. For example, gateways between e-mail systems allows users on different e-mail systems to exchange messages.

**gigabyte (GB)** A unit of measure for computer memory consisting of approximately one billion bytes (1,073,741,824) or 1,000 megabytes.

---

**H**

**hostname** The name of the server computer to which the library is attached.

**HyperTerminal** A 32-bit communications application, standard with Microsoft *Windows 95* and *NT 4.0*, which provides asynchronous serial connectivity to host computers, such as online services, or other PCs.

---

**I**

**IP address** The IP (Internet Protocol) address for the system. This is a 32-bit binary numeric address written as four decimal numbers separated by periods. For example, the binary address 11001111.11010011.11100000.00111011 is written as 207.211.224.59.

---

**J**

**Jumbo frame** Ethernet frame size of 9014 bytes instead of the standard frame size of 1514 bytes.

---

**K**

**key** A field used to sort data in database management systems.

---

**L**

**LAN** Local Area Network. A network that connects computers that are close to each other, usually in the same building, linked by a cable.

**logical view** A logical, or hierarchical, representation of the library that shows the tape drives, storage bins, and load ports together with their partition owners.

**LUN** Logical Unit Number.

---

**M**

**management frame** The Web browser frame on the right of the screen which displays the active page.

**MAC** Media Access Control, used to define the hardware address for a network device.

**MIB** Management Information Base. A hierarchical collection of objects that can be accessed via an SNMP management protocol.

**MIS** Management Information System

- 
- N**
- NDMP** Network Data Management Protocol allows direct backup from files servers to network attached storage (NAS) devices.
- NAS** Network Attached Storage
- navigation frame** The Web browser frame on the left of the screen which displays a list of the Prism Management Console Web pages.
- 
- O**
- offline** Ready for communication with a diagnostic computer.
- OK button** Commits changes made to a dialog box and closes it.
- online** Ready for communications with a host.
- 
- P**
- page properties** The display and configuration attributes of a page.
- partition** A division of a disk or storage area. A library partition is a “virtual library” consisting of a designated portion of a larger physical library.
- PDU** Protocol Data Units. Messages that are sent to different parts of a network through SNMP.
- physical view** A graphical representation of the library that shows the tape drives, storage bins, and load ports together with their partition owners.
- PMC** Prism Management Card
- Prism Management Console** Web-based interface that allows authorized staff to configure and manage all Prism storage options from behind a firewall or remotely from anywhere on the Internet.
- 
- R**
- reboot** The process of restarting a computer so the operating system is reloaded.
- Reset button** Returns the values in a dialog box to the default, or previously saved, values.
- restart** The process of restarting a computer without reloading the operating system.
- router** A device that governs the flow of traffic between networks or network segments and forwards packets between them, and converting between interfaces, such as SCSI and Fibre Channel, if necessary.

---

**S**

**SCSI** Small Computer System Interface. A parallel interface standard used by many systems for attaching peripheral devices to computers.

**SCSI ID** A unique device identifier in the range of 0 to the maximum bus width that specifies a particular device on a given SCSI bus. If the bus width is 8, the range of SCSI IDs would be 0 to 7. Host computers typically reside at SCSI ID 7, so this is not a recommended setting for the PMC.

**SMTP** Simple Mail Transfer Protocol. A protocol used to transfer e-mail messages between computers.

**SNMP** Simple Network Management Protocol. The Internet standard protocol that provides network management service. SNMP works by sending messages, called protocol data units (PDUs), to different parts of a network. SNMP-compliant devices, called agents, store data about themselves in Management Information Bases (MIBs) and return this data to the SNMP requesters.

**Status Icon** The status icon is located on the **Prism Home** Page. It indicates the library status by the background color of the icon. It is also a link to the [Library Status](#) page.

**subnet mask** The subnet mask determines the subnet to which the IP address belongs. Like the IP address, this is a 32-bit binary numeric address written as four decimal numbers separated by periods.

---

**T**

**trap** A program interrupt, usually caused by some exceptional situation in the user program. In most cases, the user performs some action, then returns control to the program.

---

**U**

**URL** Uniform Resource Locator. A server address used by clients, such as Web browsers, to access information over the network using HTTP and other protocols.

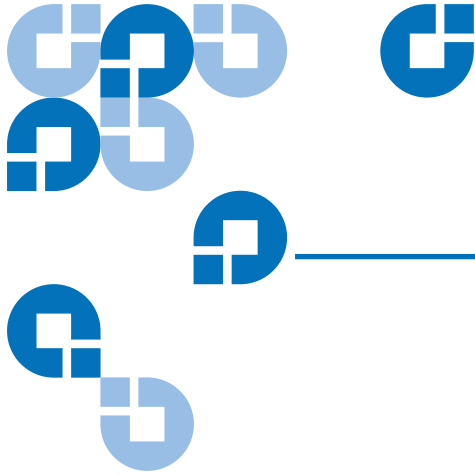
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**W**

**Web browser** A client application that renders HTML code in a Graphical User Interface (GUI) and uses HTTP and other Internet protocols to communicate with Web servers. For example, Netscape Navigator and Internet Explorer are Web browsers.







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