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MC300 Prism Management Card

User's Guide

6311631-10

Ver. 10, Rel. 0

Quantum

MC300 Prism Management Card User's Guide, 6311631-10, Ver. 10, Rel. 0, June 2003, Made in USA.

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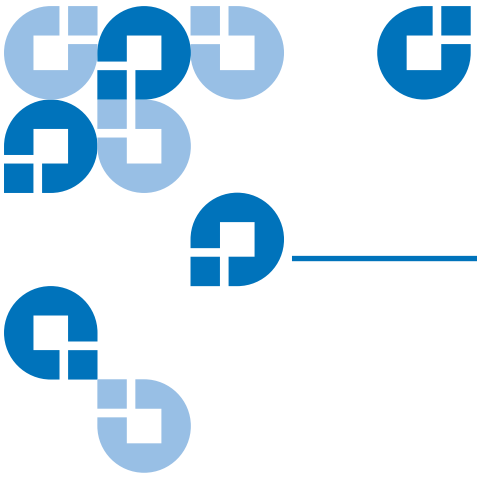
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Preface

This document describes the storage and management options offered by the Prism Management Console, a Web-based interface associated with the MC300 Prism Management Card (PMC).

Audience

This document is intended for use by customers who have purchased a Quantum ATL M-Series library and a PMC. Hereafter, the libraries are referred to as ATL M1500 and ATL M2500.

This document assumes that the reader has a moderate level of general computer knowledge and server systems administration experience. This experience should include the installation of expansion cards as well as the administration of operating systems, Ethernet, and TCP/IP networks.

Purpose

This manual describes the following PMC options:

- PMC Server Management
- ALERT E-mail
- ALERT SNMP
- ALERT Library Management
- Fibre Channel Management

Document Organization

The manual is organized as follows:

- Chapter 1, Prism Management Console, explains how to access the Prism Management Console Web pages introduces the Prism Management Console interface and **Home** page.
- Chapter 2, PMC Server Management, explains how to use the **PMC Server Management** Web pages: **Network Configuration**, **Date and Time Configuration**, **User Management**, and **Utilities**.
- Chapter 3, ALERT SNMP, explains how to use the **ALERT SNMP** Web pages: **SNMP Configuration** and **Community Management**.
- Chapter 4, ALERT E-mail, explains how to use the **ALERT E-mail** Web pages: **Contact Configuration**, **Message Configuration**, and **E-mail Configuration**.
- Chapter 5, ALERT Library Management, explains how to use the **ALERT Library Management** Web pages: **Library Status**, **Library Configuration**, **Library Statistics**, **Service Operations**, **Monitoring Configuration**, and **Event History**.
- Chapter 6, Fibre Channel Management, explains how to use the **Fibre Channel Management** Web pages: **Route Status**, **Bridge Status**, and **Bridge Administration**.
- Chapter 7, Getting Help, describes the Help system available in the Prism Management Console Web pages.
- Appendix A, Event Details Listing, lists the predefined SNMP traps by their reporting level and provides FSC codes and descriptions for **Information**, **Warning**, and **Failure** events.
- Appendix B, Battery Statements, provides regulatory statements for the PMC.

This document concludes with a glossary and an index.

Document Illustrations

Multiple ATL M1500 and ATL M2500 library stacks were used to create the illustrations in this document. The Prism Management Console screens that display on your system may vary from those shown in this document.

System Requirements

The following minimum library firmware versions are required:

- Boot block version 3.00
- System code version 3.00

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

Browser Support

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

- Netscape™ Communicator™ 4.78 and 6.2 or later

  You can download this software from `http://www.netscape.com`

- Microsoft® Internet Explorer® (IE) 5.5 or 6.0

  You can download this software from `http://www.microsoft.com`

Other versions of these 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.

Notational Conventions

This document uses the following conventions:

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

Caution: Cautions indicate potential hazards to equipment and are included to prevent damage to equipment.

Related Documents

Documents related to the PMC are shown below:

Related Quantum Documentation

Document No.	Document Title	Document Description
6423001	*ATL M-Series Installation Guide*	This guide explains how to install an ATL M1500 or ATL M2500 library.
6473004	*ATL MC300 Quick Reference Guide*	This guide provides step by step instructions for installation of the PMC for the ATL M-Series libraries.
6473010	*ATL FC310 Quick Reference Guide*	This guide provides step by step instructions for installation of the Prism FC310 Fibre Channel card for the ATL M-Series libraries.
6473032	*ATL FC420 Quick Reference Guide*	This guide provides step by step instructions for installation of the Prism FC420 Fibre Channel card for the ATL M-Series libraries.
6423002	*ATL M-Series User's Guide*	This guide explains how to operate an ATL M1500 or ATL M2500 library.
6311658	*Prism SNMP Integration Guide*	This manual describes the procedures for integrating a Prism library with network management software.

Refer to the appropriate product manuals for information about your tape drive and cartridges. Use Adobe® Acrobat® Reader® 4 or higher to view the appropriate Portable Document Format (PDF) file.

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

Contact

Quantum company contacts are listed below.

Quantum Corporate Headquarters

To order documentation on the PMC or other products contact:

Quantum
P.O. Box 57100
Irvine, CA 92619-7100
(949) 856-7800
(800) 284-5101

Technical Publications

To comment on existing documentation send e-mail to:

doc-comments@quantum.com

Quantum Home Page

http://www.Quantum.com

Customer Support

The Quantum Customer Support Department provides a 24-hour help desk that can be reached at:

North/South America:	(949) 725-2100 or (800) 284-5101
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Europe/Middle East/Africa:	(International Code) +44 (0) 1256 848748

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Asia/Pacific Rim:	(International Code) +61 7 3839 0955
Europe/Middle East/Africa:	(International Code) +44 (0) 1256 8487777

Send e-mail for the Customer Support Department to:

North/South America:	www.quantum.com/askaquestion
Asia/Pacific Rim:	apachelp@quantum.com
Europe/Middle East/Africa:	eurohelp@quantum.com

Chapter 1

Prism Management Console

The MC300 Prism Management Card (PMC) is an intelligent server card that plugs directly into the ATL M-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.

Determining the IP Address of the Library

Before you can access the Prism Management Console Web pages, you must determine the IP address of the library.

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. To determine the IP address assigned, go to the **DHCP Manager** window on the DHCP server. You can also obtain this information from the library graphical user interface (GUI) by selecting **Main** > **QuickView** > **Library** > **Network**.

If DHCP 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**.

> **Note:** If the IP address If 192.168.x.x is already used in the network, the PMC assigns itself the static IP address 10.0.0.x instead.

In the **Address** field of your Web browser, type **http://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 need to 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 browser, enter the IP address **192.168.1.1** to access the Prism Management Console Web pages. At this point, change the PMC network configuration to an appropriate IP address and subnet mask for your network.

If you still have problems accessing the IP address, contact your local system administrator for information on including the PMC in your network.

Accessing the Prism Management Console Web Pages

To access the Prism Management Console Web pages:

1 On the host computer, open the Internet browser software.

> **Note:** Internet browser software is not supplied with the PMC. You must obtain and install this software independently. See Browser Support on page xiii for a list of supported Internet browsers.

Table 1 lists the default network settings for the PMC.

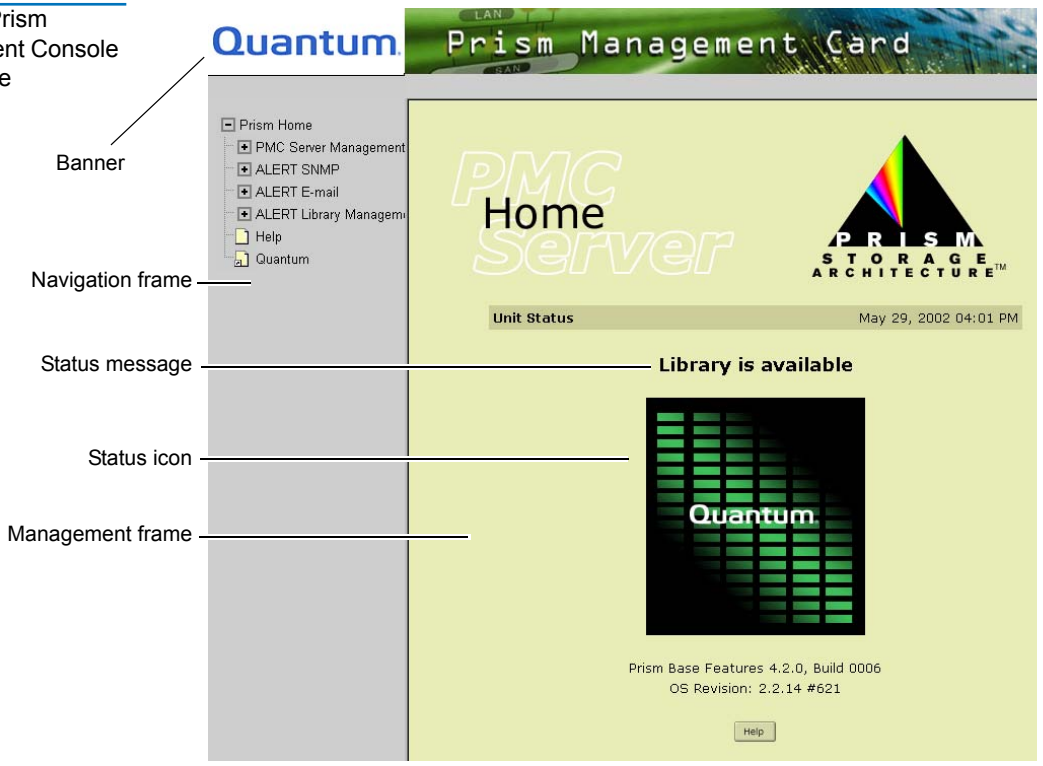
Table 1 PMC Default Network Settings

Field	Description
Use DHCP	Enabled
Hostname	PMC300-[MAC address]
Domain	[local domain]
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Default Gateway	[default or blank]

2 In the **Address** field of your browser, type the IP address for the PMC.

When the correct IP address for the PMC has been entered, the Internet browser displays the Prism Management Console **Home** page (see figure 1).

Figure 1 Prism Management Console Home Page



Using the Prism Management Console Interface

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

- The Banner frame displays the Quantum logo and software name. Clicking the Quantum logo links you to the Quantum web site.
- The Navigation frame lists the Prism Management Console web pages. To view a page, select its corresponding link.

- The Management frame displays the currently selected page. To return to a previous Prism Management Console page, click the Internet browser's **Back** button.

Home Page

The **Home** page (see figure 1) indicates whether the library is ready for use. Table 2 explains the significance of the status messages and status icon colors that may appear on the **Home** page.

Table 2 Status Messages

Status Message	Status Icon Color	Description
Library is available	Green	The library is ready for normal operation.
Unable to communicate with library	Red	A communication problem exists between the PMC and the library. Possible causes include a bad serial connection from the PMC to the library, or a conflicting baud rate[a] between the library and the PMC.
Library is unavailable **— initializing** **— demo running** **— diagnostic running**	Red	The library is not available to the host system for backup operations for one of the following reasons: • It is in Standby mode • It is in Stop mode • It is initializing • It is in Demo mode • Diagnostics are in progress • SCSI communication is disabled

a. The PMC communicates with the library at the library's default baud rate of 38400. To check or set the library baud rate, use the GUI on the library front panel.

First Time User Account Setup

The first time you access another page from the **Home** page, you will be required to enter a user name and password.

> **Note:** A default user name (**admin**) and password (**admin**) is assigned when you install the PMC.

> **Caution:** To protect the integrity of your network and PMC access, it is recommended that you set up a new administration account when you begin using the PMC with your library. *After* this is accomplished, delete the existing admin account. Refer to Adding User Accounts on page 14 and Deleting User Accounts on page 15 for more information.

Accessing Online Help

The Prism Management Console Web pages provide extensive online help files defining actions and terms for every function, feature, and field. To access these help files:

- Click the **Help** link at the bottom of the Navigation frame.

  A new Internet browser window opens and displays the first page of the online help files.

- Click the **Help** button at the bottom of the current Web page.

  A new Internet browser window opens and displays online help for the current Web page.

> **Note:** Due to the limitations of some Web browers, clicking on the **Back** button may return you to the **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.

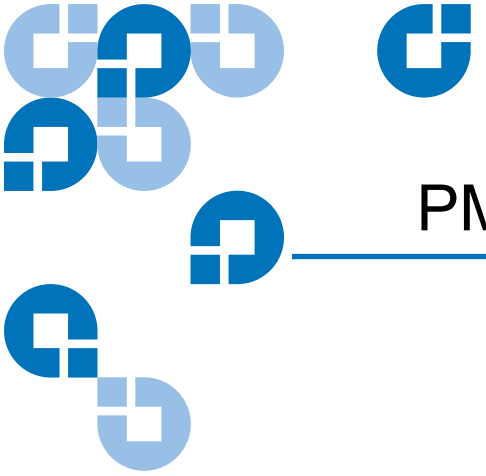
Accessing the Quantum Web Site

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 2

PMC Server Management

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

- Network Configuration Page allows you to configure the hostname, domain, IP address, subnet mask, and gateway addresses
- Date and Time Configuration Page allows you to set or adjust the date and time.
- User Management Page allows you to set up users that are permitted access to the PMC and define their passwords.
- Utilities Page allows you to perform software upgrades, reboot, save and restore configuration files, and shutdown the PMC.

These Web pages are location in the navigational menu under **PMC Server Management**.

Network Configuration Page

The **Network Configuration** page allows you to view and change the settings used to communicate with the PMC.

Accessing or Editing Network Configuration

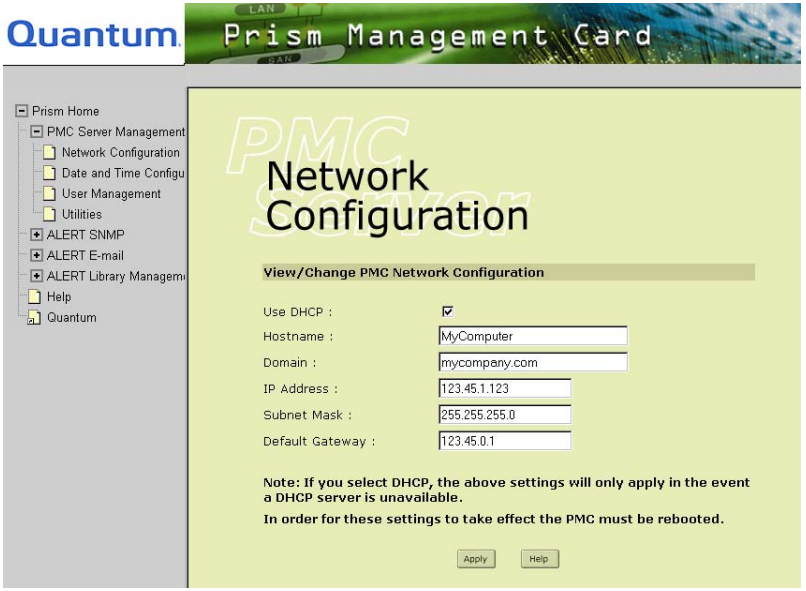
To access or change the basic configuration of the PMC:

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

The **Network Configuration** page displays (figure 2).

> **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 2 Network Configuration



2 Edit the configuration information as required (see table 3).

Table 3 Network Configuration Fields

Field	Description
Use DHCP	Select **Use DHCP** if your network utilizes DHCP for dynamic IP addressing. In the event a DHCP server is unavailable, the other 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 **PMC300-[MAC address]**. 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 Corporation. The default value is the **[local domain]**.
IP Address	View or set the IP address for the PMC. The default IP address is **192.168.1.1**.
Subnet Mask	View or set the subnet mask for the PMC. The default subnet mask is **255.255.255.0**.
Default Gateway	View or set the default gateway for the PMC. The default value is **[default for your gateway or blank]**. Change the value only as required by your network.

3 Click **Apply**.

The PMC will not use the new configuration until it is rebooted (see Rebooting the PMC and Library on page 19).

Date and Time Configuration Page

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.

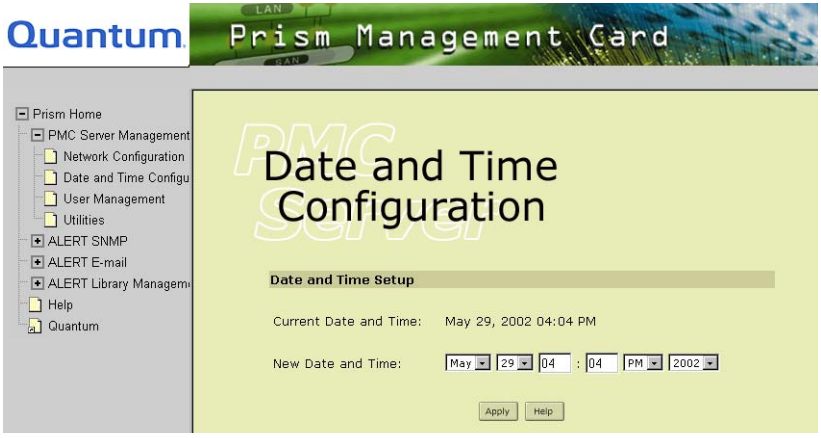
Accessing Date and Time Configuration

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 3).

Figure 3 Date and Time Configuration



2 Use the pull-down boxes to change the date and time as necessary and 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 Page

The **User Management** page allows you to view, add, or delete user accounts. These accounts are used to control access to the Prism Management Console. A user can be authenticated by suppling a valid user name and password.

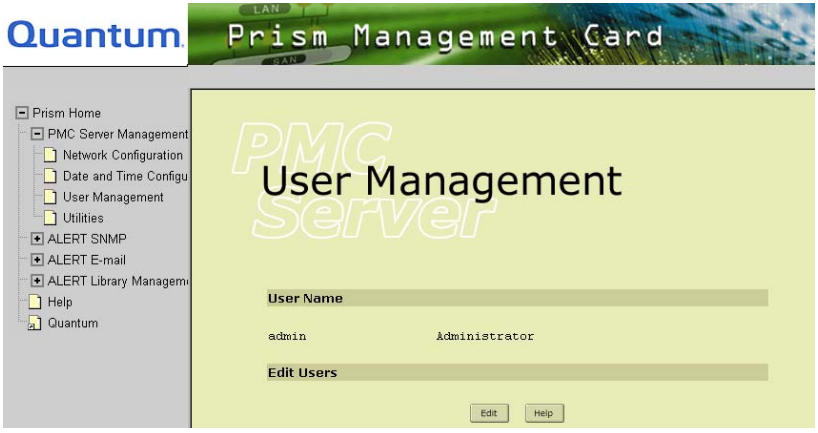
> **Note:** This authentication is designed for intranet use; passwords are transmitted as plain text and use over the Internet is discouraged unless a Virtual Private Network (VPN) is being used.

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 4).

Figure 4 User Management



Viewing User Accounts

To view existing user accounts, access the **User Management** page. The **User Name** section of the page lists the configured user accounts.

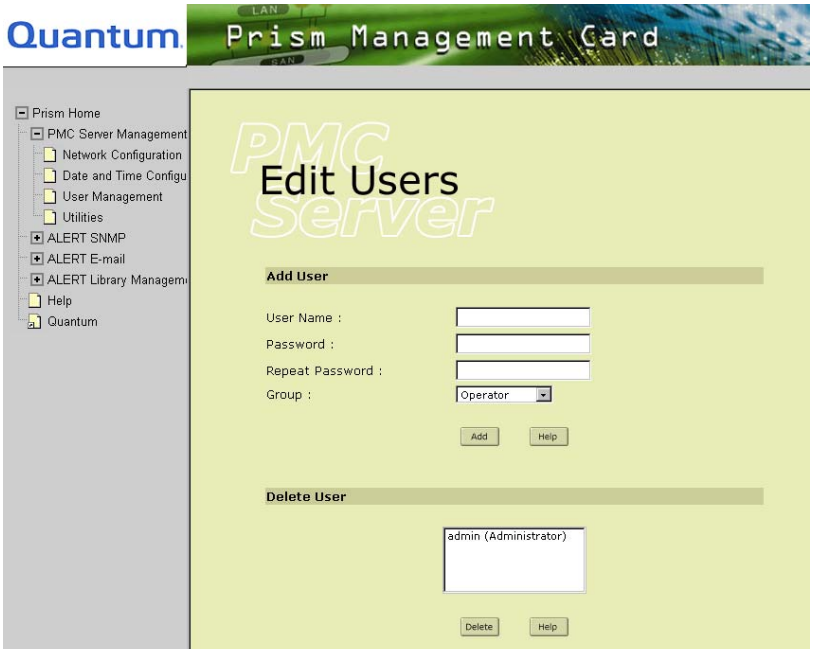
Adding User Accounts

To add a user account:

1. Access the **User Management** page.
2. Under **Edit Users**, click **Edit**.

   The management frame displays the **Edit Users** page (see figure 5).

Figure 5 Edit Users



3. Under **Add User**, add the new user account information:
   - A unique user name in the **User Name** field
   - The desired password 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 menu. The default groups are Administrator and Operator.

The available groups are **Administrator** and **Operator**. **Administrator** allows access to all functions of the PMC. **Operator** allows read-only access to the PMC.

5 Click **Add**.

A **Results** page indicates the account has been added.

6 Click **OK** to return to the **Edit Users** page.

Deleting User Accounts

To delete a user account:

1 Access the **User Management** page.

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

The management frame displays the **Edit Users** page (see figure 5).

3 Under **Delete User**, select the user account from the list box.

4 Click **Delete**.

A **Results** page indicates the account was 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. If the account needs to be deleted, create a new administrator account with the correct information *before* deleting the existing one.

Utilities Page

The **Utilities** page allows you to perform maintenance functions on the PMC, including uploading and activating software images. The **Utilities** page also allows you to reboot or shutdown the PMC.

The **Upload New 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.

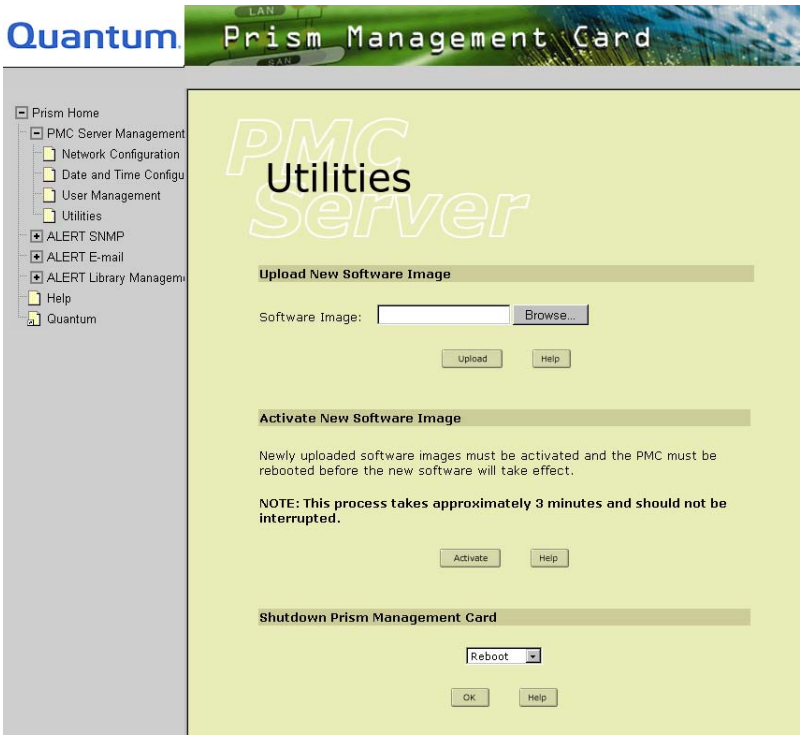
The **Activate New Software Image** button causes the last updated PMC Software Image file, if any, to be moved from the temporary staging area to replace the current Software Image. Once this is done, the new Software Image is used on the next reboot of the PMC.

The **Shutdown Remote Management Card** control allows you to reboot or shutdown the Prism Management Card.

Accessing Utilities

To access the **Utilities** page, in the navigation frame, under **PMC Server Management**, click **Utilities**. The management frame displays the **Utilities** page (see figure 6).

Figure 6 Utilities



Uploading 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 file name of the new software image.

> **Note:** Use the **Browse** button to browse the system and locate the new software image. The file name for the new software image begins with `PMC300` and ends with `.image`, for example: `PMC300.[version].[build].image`. Do not interrupt the upload process.
>
> If the PMC does not recognize the new software image file as a valid software image, the transfer aborts.

3 Click **Upload** to place the new software image in a temporary area of the system for PMC images only.

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 you reboot the library before activating the uploaded software image, the image file is erased and the upload process must be performed again.

The PMC system will use the new software image after completing the **Activate the New Software Image** and rebooting the PMC (see Rebooting the PMC and Library).

Activating a New Software Image

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

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

1 Access the Utilities Page.

2 Under **Activate New Software Image**, click **Activate**.

A progress bar indicates when the software has been activated.

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

When complete, a **Results** page displays indicating the software has been activated.

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

After completion of the **Activate New Software Image**, the PMC system uses the new software image the next time the PMC system is rebooted (see Rebooting the PMC and Library).

Rebooting the PMC and Library

To utilize updated configuration information, the PMC and library must be rebooted. To reboot the PMC and library:

To reboot the PMC and library:

1 Access the Utilities Page.

2 Under **Shutdown Prism Management Card,** select **Reboot** and click **OK**.

The PMC reboots itself, including restarting and initializing the library. In a multiple frame environment, all libraries will be restarted and initialized.

> **Note:** Rebooting the PMC and library may take up to 15 minutes during which time the library is unavailable. Before rebooting the PMC and library, ensure there are no active or pending jobs being processed by the library. It should not be necessary to reboot the PMC and library during normal operation.

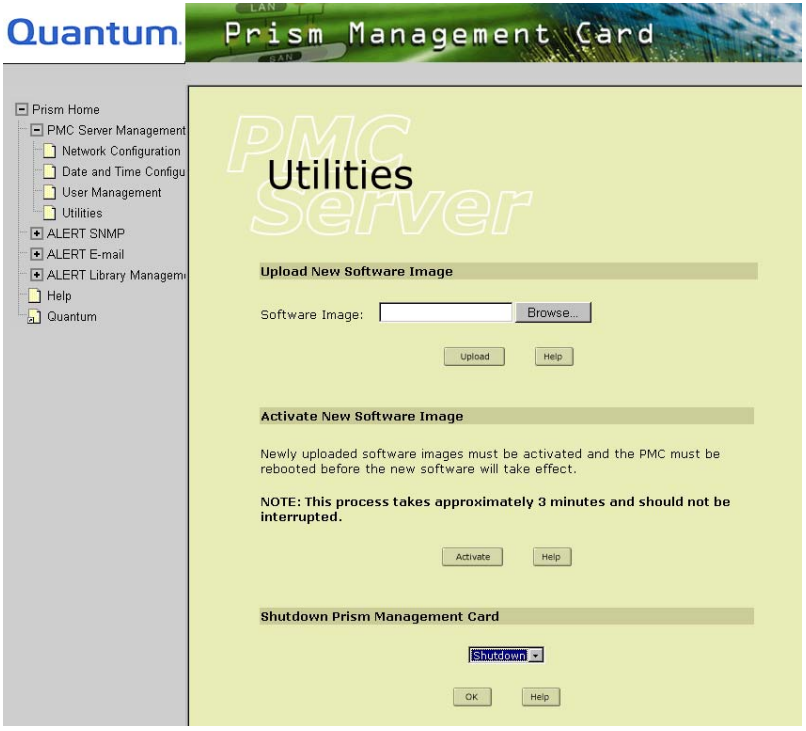
Shutting Down the PMC

Shutting down an ATL M1500 and ATL M2500 library while the PMC is in operation may cause the PMC image and/or the configuration file to be corrupted. To prevent this from occurring, follow this procedure whenever you must shutdown a library with a PMC installed:

1 Shutdown the PMC first.

Select **Shutdown** from the **Shutdown Prism Management Card** pull-down menu on bottom of the **Utilities** page (see figure 7).

Figure 7 Shutdown Prism Management Card



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

3 Follow the standard procedure to shut down the library.

For more information on shutting down the library, refer to the appropriate library User's Guide.

Chapter 3

ALERT SNMP

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

- SNMP Configuration allows you to set up information about SNMP and select categories containing predefined traps.
- SNMP Community Management allows you to set up the communities that have access to the ALERT SNMP option, and define their read-write privileges.

SNMP Configuration

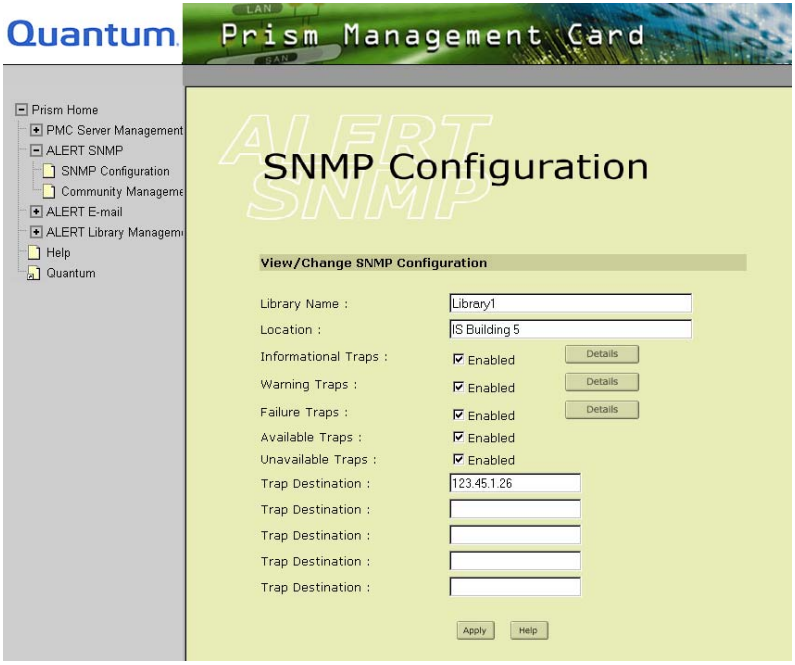
The **SNMP Configuration** page allows you to view and change the **ALERT SNMP** management settings used by the PMC. Consult your system administrator before changing any information on this page.

To view or edit the SNMP configuration of the PMC:

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

The management frame displays the **SNMP Configuration** page (see figure 8). Edit the configuration information as required (see table 4).

Figure 8 SNMP Configuration



2 If necessary, change the library name or location.

3 If necessary, enable the trap types to be reported:

- Informational Traps
- Warning Traps
- Failure Traps
- Available Traps
- Unavailable Traps

The **Details** buttons provide a listing of the supported traps for the **Informational**, **Warning**, and **Failure** trap types.

4 If necessary, enter trap destinations.

5 Click **Apply**.

A **Results** page indicates the configuration has been changed.

6 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 **Hostname** of the PMC.
Location	Location of the library and PMC, for example, `San Diego office, 101 Main St., Building 15, Room 127`.
Informational Traps	If selected, **Informational** level traps are enabled. The **Details** button displays a listing of the supported Informational traps.
Warning Traps	If selected, **Warning** level traps are enabled. The **Details** button displays a listing of the supported Warning traps.
Failure Traps	If selected, **Failure** level traps are enabled. The **Details** button displays a listing of the supported Failure traps.
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.
Trap Destination	View or set the IP addresses that are to receive the traps generated by the PMC (for example, `123.456.7.89`). Up to five trap destination addresses may be set. If less than five trap destinations are used, leave unused **Trap Destination** fields blank.

SNMP Community Management

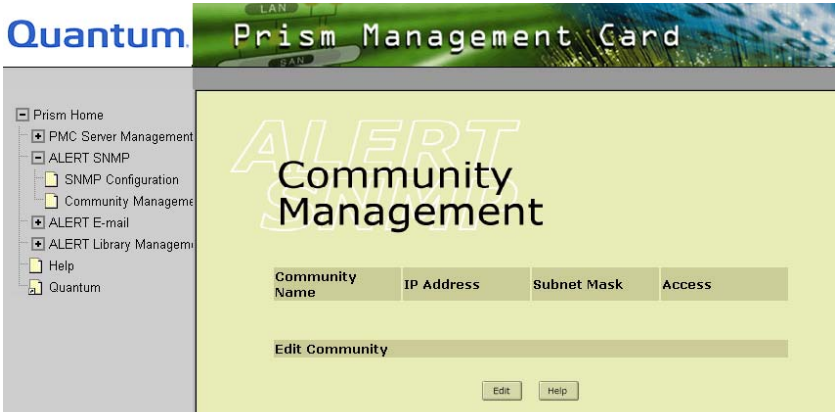
The **Community Management** page displays a list of all the **ALERT SNMP** community settings configured for the PMC. To perform SNMP **get** and **set** operations, SNMP management software must specify a community name as part of the context of the request. To perform a **set** operation, the SNMP 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, in the navigation frame under **ALERT SNMP**, click **Community Management.** The management frame displays the **Community Management** page (see figure 9).

Figure 9 Community Management



Viewing Existing Communities

To view existing communities, access the **Community Management** page. The **Community Name** section of the page lists the currently configured communities and their properties, including:

- **`Community Name`** = createname
- **`IP Address`** = xxx.xx.x.x
- **`Subnet Mask`** = 255.255.255.0
- **`Access`** = read-only

> **Note:** An IP address or subnet mask set to `0.0.0.0`, or left blank, indicates that IP-address-based access control is disabled.

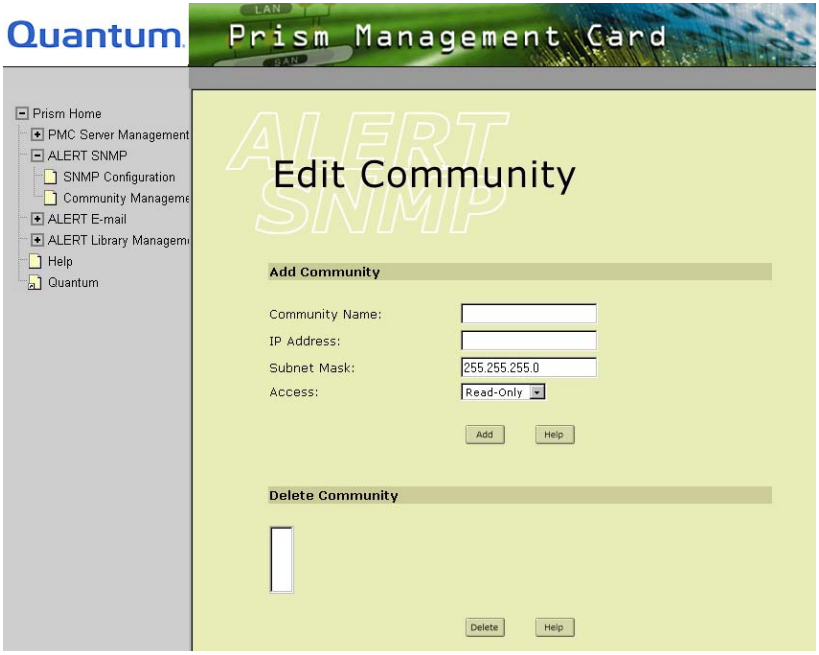
Editing a Community

To edit a community:

1. Access the **Community Management** page.
2. Under **Edit Community**, click **Edit**.

   The management frame displays the **Edit Community** page (see figure 10).

Figure 10 Edit Community



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

- Enter 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).

- Enter an IP address in the **IP Address** field. If the value in the Subnet Mask field ends in a zero, the value in the IP address edit box must also end in a zero.
- Enter a 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.

- Enter the 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 indicates the community has been added.

5 Click **OK** to return to the **Edit Community** page.

Deleting Communities

To delete communities:

1 Access the **Community Management** page.

2 Under **Edit Communities**, click **Edit**.

The management frame displays the **Edit Community** page (see figure 10).

3 Under **Delete Community**, select the community names you wish to delete from the list box.

4 Click **Delete**.

A **Results** page indicates the community has been deleted.

5 Click **OK** to return to the **Edit Community** page.

Chapter 4

ALERT E-mail

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

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

Contact Configuration Page

The **Contact 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.

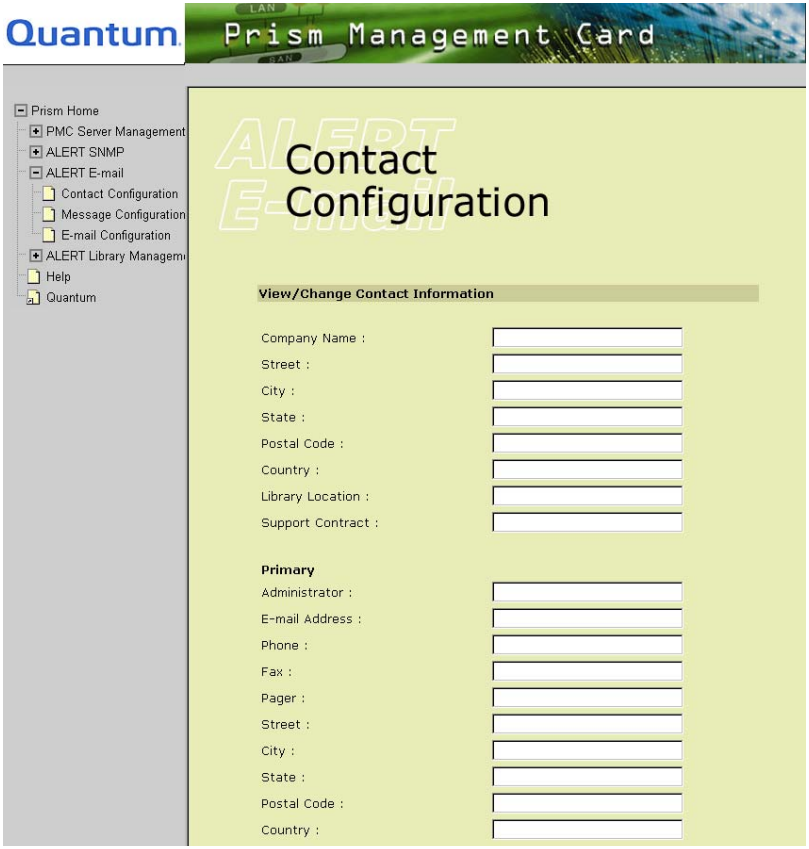
To view or edit the contact configuration of ALERT E-mail:

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

The management frame displays the **Contact Configuration** page (see figure 11).

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

Figure 11 Contact Configuration



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

> **Note:** The **Support Contract** field is initially set up by the FSE during installation of the PMC. This field is read-only and may not be changed by the customer. All other fields can be entered by the customer.

Note: No quotation marks (") or spaces 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. An example of a correct telephone entry is `(949)555-1212`.

Table 5 Contacts and Company Information

Field	Description
Company Name	Name of the company for the installed library
Street	Street address at which the library is installed
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
Country	Country for the above street address
Library Location	Location of the installed library within the facility
Support Contract	Support contract number for the library

Table 6 Library Administrator Information

Field	Description
Administrator	Person responsible for library administration
E-mail Address	The e-mail address for the library administrator
Phone	The daytime telephone number for the library administrators, including area code
Fax	The business fax telephone number for the library administrator, including area code

Field	Description
Pager	The pager telephone number for the library administrator, including area code
Street	Business address for the library administrator
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 indicates the contact information has been saved.

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

Message Configuration Page

The **Message Configuration** page (see figure 12) allows you to:

- Control who in the company is notified of various types of library errors, failures, and activity
- Select when to notify Quantum Customer Support

Figure 12 Message Configuration

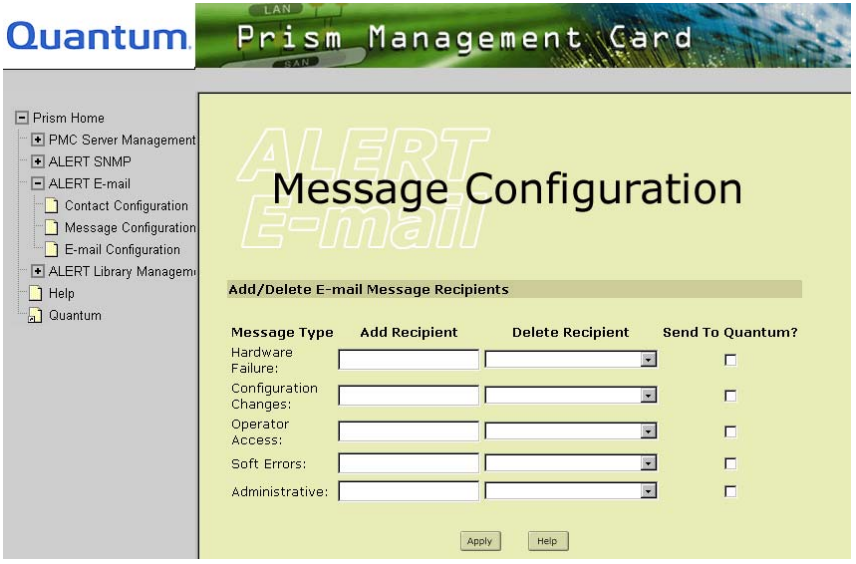


Table 7 provides a description of the message types.

Table 7 Message Configuration Fields

Field	Description
Hardware Failure	Errors or failures requiring onsite assistance or follow-up, such as: • Tape drive failure detection • Library control card failure
Configuration Changes	Changes to the library or the PMC, such as: • Addition of new tape drive • Changing the BUS ID of a tape drive
Operator Access	Operator access of the library, such as: • Accessing the magazine • Opening a library door

Field	Description
Soft Errors	Errors or failures not requiring onsite assistance, but may lead to future problems, such as: • High temperature warnings • Excessive positioning retries
Administrative	Regularly scheduled status reports, such as: • General status reports • Test messages

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 12).

Viewing E-mail Recipients

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

1. Access the **Message Configuration** page.
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.
2. In the **Add Recipient** column of the page, 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 the Quantum Customer Support Help Desk is to be notified of all instances of the desired message type.

   Note: The Quantum Customer Support Help Desk will only respond to hardware failure messages.
4. Click **Apply**.

   A **Results** page indicates 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.
2. Click the down arrow next to the **Delete Recipient** section of the desired message type.
3. Click to highlight the e-mail address you wish to delete.

   Note: Delete one e-mail recipient at a time.
4. Click **Apply**.

   A **Results** page indicates the e-mail recipient has been deleted.
5. Click **OK** to return to the **Message Configuration** page.

E-mail Configuration Page

The **E-mail Configuration** page allows you to define the e-mail server information for the ALERT E-mail feature, and to send test messages. The information must be entered before any ALERT E-mail options will work.

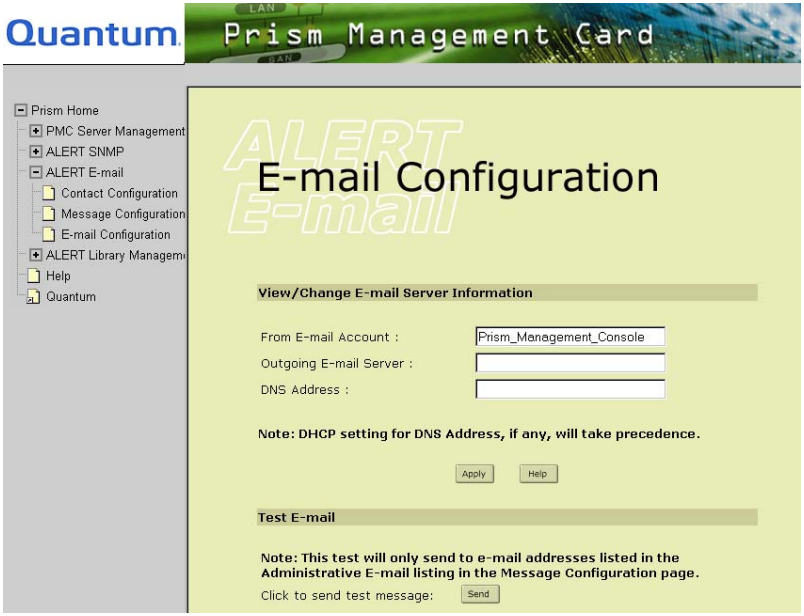
Viewing or Changing E-mail Configuration

To view or edit the **E-mail Configuration** page:

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

The **E-mail Configuration** page displays (see figure 13).

Figure 13 E-mail Configuration



2 Edit the configuration as required (see table 8).

> **Note:** If DHCP is enabled, the DHCP DNS address, if any, will take precedence.

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 not* add the domain name (@xxx) in this field. Not all e-mail server types require an account to be created. If you have problems, see your network administrator.
Outgoing E-mail Server	Name of the server designated for outgoing e-mail, such as `mail2.com`
DNS Address	Domain name server address, for example, `123.123.22.12`. This is the IP address of your server providing DNS name resolution services.

3 Click **Apply**.

A **Results** page indicates the mailer configuration has been saved.

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

Sending a Test E-mail

The **Test E-mail** option is intended as a test message to verify that the e-mail configuration has been successfully completed. To verify the information, click **Send** to send a test message.

> **Note:** This test only sends to e-mail addresses in the Administrative E-mail list on the **Message Configuration** page.

Chapter 5

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. It also allows you to move cartridges to various locations in the library or multiple library stack.
- Library Configuration Page allows you to view and set the BUS ID configuration of the library and drives.
- Library Statistics Page allows you to view specific information about the library and the number of times specific functions have been performed.
- Service Operations Page allows you to perform various service and status tests and view the results.
- Monitoring Configuration Page allows you to set the monitoring and status report interval.
- Event History Page allows you to view recent SNMP events for the library.

Library Status

The **Library Status** page allows you to view the general status of the library and to move cartridges within the library.

Accessing Library Status

To view the current library status, from the navigation frame of the Prism Management Console **Home** page, click **Library Status**, or click the status icon.

The **Library Status** page contains library pictures and related information. Placing the cursor over a section of a library picture indicates the library frame number and the level within the frame. Under the frame number is additional information (see table 9).

> **Note:** This page remains blank while the PMC queries the library for status. The page will periodically go blank while the information refreshes.

Table 9 Library Status Fields

Field	Description
Frame / Level	**Frame** indicates the individual links to the frames in a multiframe library. Also included is the serial number, firmware revision number, and model number. **Level** defines a section of a frame in an ATL M2500 library.
Drive	Each drive may be accessed for more detailed information (see Viewing Drive Status). Click on the corresponding drive number to access the element information.
Elevator	This is only available in multi-frame libraries. Displays the status of the elevator. There is only one elevator per multi-frame library.
Fixed Slot	Cartridge status in the fixed slot

Field	Description
Hand	Cartridge status in the hand
Bin	Cartridge status of the bins. Bins appearing with a shaded area are designated as import/export bins from the front panel of the library.

Figure 14 Library Status, Part 1

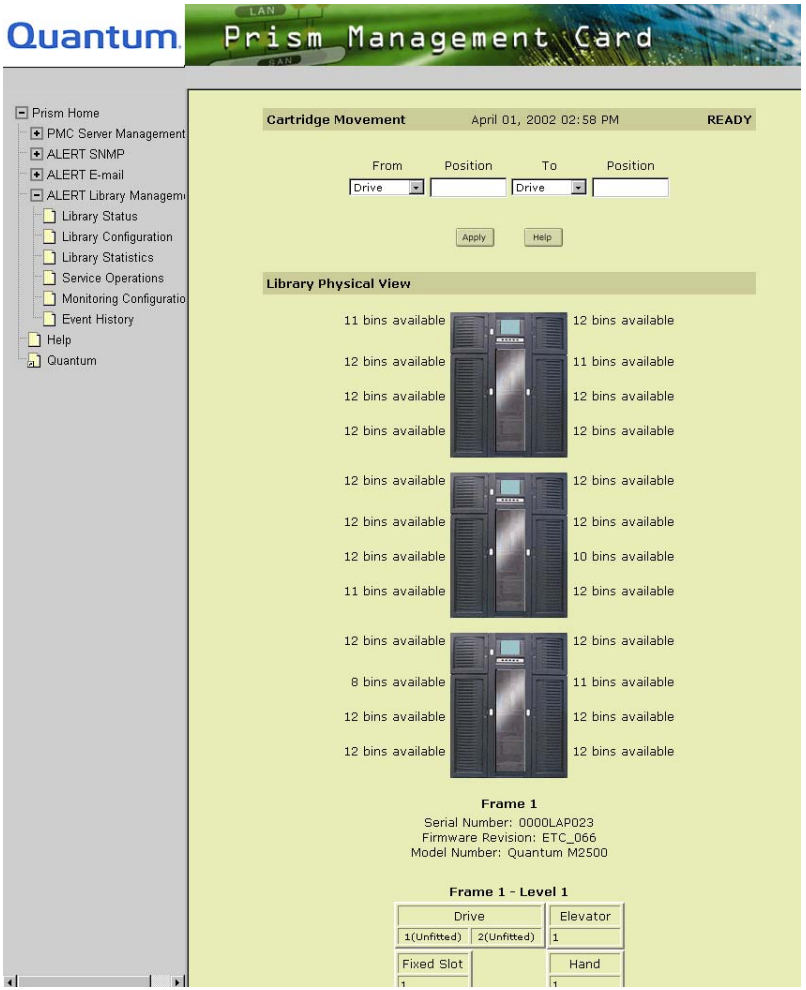
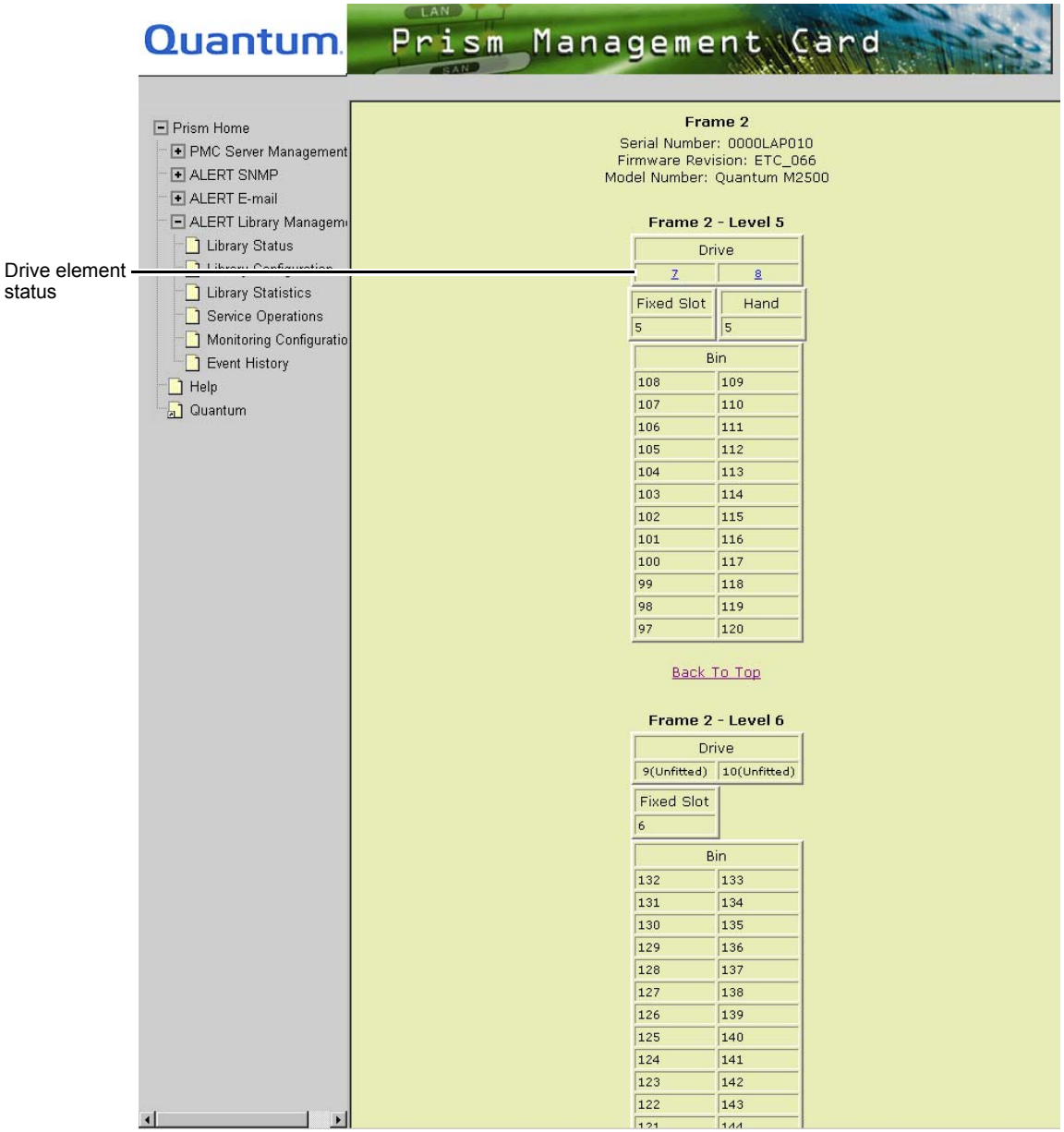


Figure 15 Library Status, Part 2



Cartridge Movement

The **Cartridge Movement** section of the **Library Status** page allows you to move tape cartridges to various locations within the library, or in the case of multiple frames, within various libraries.

Cartridges can be moved individually within the same library, or in a multiframe environment, from one frame to another. For example, you can move a cartridge from one drive to another, or to precise bin locations (see figure 14 and figure 15). Also, refer to the physical view of the library frames to determine the identification of the bins for the cartridge movement (see Library Status).

To move an individual tape cartridge from one position in the library to another position:

1. Enter the current **From** location of the tape cartridge.
   - **Drive** (tape drive)
   - **Bin**
   - **Port**
   - **Fixed Slot**
   - **Hand**
   - **Elevator**
2. Enter the current position of the tape cartridge.
3. Enter the desired **To** location.
   - **Drive** (tape drive)
   - **Bin**
   - **Port**
   - **Fixed Slot**
4. Enter the desired position of the tape cartridge. Use the position as displayed in the fields below the Cartridge Movement section.
5. Click **Apply**.

   A **Results** page displays indicating the movement is complete.
6. Click **OK** to return to the **Library Status** page.

Viewing Drive Status

To view the element status for a particular tape drive:

1. Access the **Library Status** page.

   Scroll down to the appropriate frame and level, then select the desired tape drive in the **Drive** section of the graphic.

2. In the **Library Physical View** section of the page, click the number of the drive to view status information.

   The management frame displays the read-only **Element Information** page, (see figure 16), with information on a specific drive (see table 10).

Figure 16 Element Information

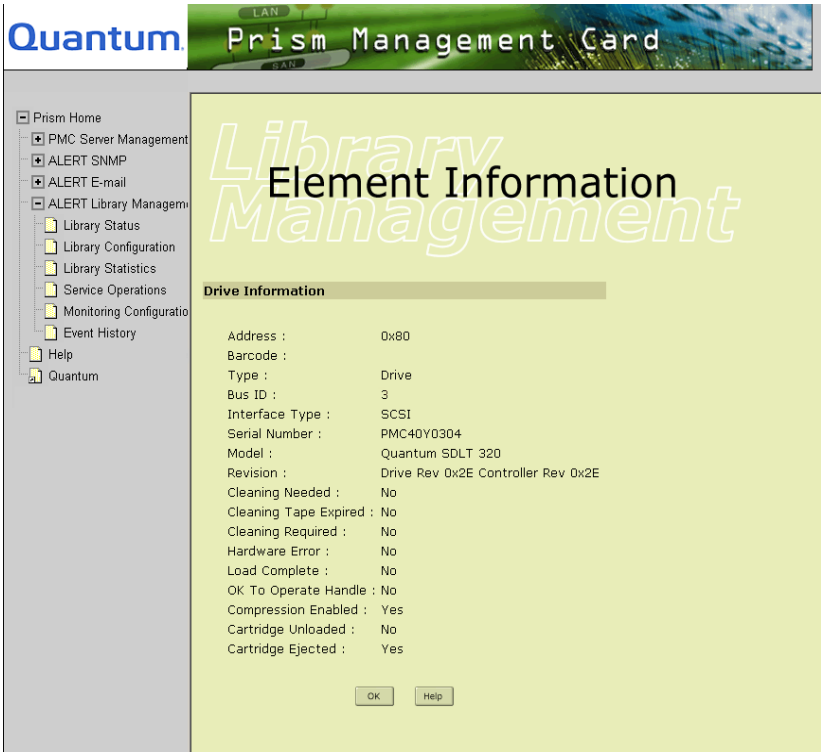


Table 10 Element Information Fields

Field	Description
Address	Displays the hexadecimal address of the element
Barcode	If a cartridge is present in the element and has a barcode, the barcode label displays. If a cartridge is present in the element and does not have a barcode, the message **(Barcode?)** appears. If no cartridge is present in the element, the field is blank.
Type	Displays the element being viewed
BUS ID	This field displays the BUS ID of the element being viewed. (For SCSI devices, the BUS ID is the unique target ID of the device. For Fibre Channel devices, the BUS ID is the unique Loop ID of the device or "Soft" to indicate soft addressing mode.)
Interface Type	This field displays the element connection type (whether SCSI or Fibre Channel)
Serial Number	Displays the serial number of the selected tape drive
Model	Displays the tape drive type, such as **DLT8000**
Revision	Displays the firmware revision number
Cleaning Needed	Displays **Yes** if the tape drive is in need of cleaning. This informational message permits you to schedule the drive cleaning. If the condition is allowed to persist, the drive eventually moves to the **Cleaning Required** state and the drive will not function until cleaning is performed.
Cleaning Tape Expired	Displays **Yes** if the cleaning cartridge has expired
Cleaning Required	Displays **Yes** if cleaning is required. The tape drive will not function until cleaning is performed.
Hardware Error	Displays **Yes** for a hardware error, default is **No**
Load Complete	If the tape load is complete, displays **Yes**, default is **No**

Field	Description
OK to Operate Handle	Displays status and whether the hand is available for operation
Compression Enabled	Displays **Yes** or **No** depending on setting
Cartridge Unloaded	Displays **Yes** if the cartridge is unloaded but not ejected
Cartridge Ejected	Displays **Yes** if the cartridge is ejected

Library Configuration Page

The Library Configuration page allows you to view or configure the interface type and the BUS ID of the library and drives.

Figure 17 Library Configuration, BUS ID Configuration

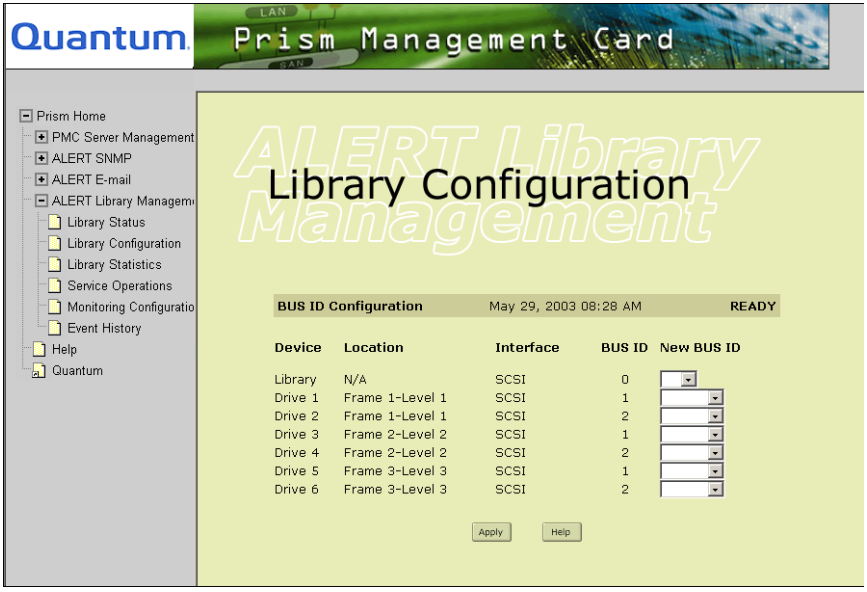


Table 11 Library Configuration Page Field Descriptions

Field	Description
Device	This field lists the SCSI devices within the library. This list includes the library robotic controller and the drives installed in the library. The library robotic controller is indicated by the device name **Library**. Drives may appear with **(Unfitted)** after their number indicating the drive is not present. BUS IDs may be set without the drive present.
Location	Indicates the frame location of the device (in a multiframe environment, the individual frame number is indicated)
Interface	Using the pull-down menu, the interface type can be selected. The two choices are SCSI and Fibre. **Note:** The interface is obtained automatically for the current fitted devices and can be set for future drives.
BUS ID	Indicates the BUS ID of the device. For SCSI devices, BUS ID is the unique target ID of the device. For Fibre Channel devices BUS ID is the unique Loop ID of the device or "Soft" to indicate soft addressing mode. **Note:** The BUS ID for unfitted devices will default to 0 unless specified using the **New BUS ID** control.
New BUS ID	Using the pull-down menu, the BUS ID can be modified for either the library or the drives. Each device must have a separate and unique BUS ID for that topology. Each drive also displays its current BUS ID and allows you to assign a new BUS ID.

Caution: Changing a BUS ID once your configuration has already been used by a backup software application or Fibre Channel bridge could render the configuration invalid.

Library Statistics Page

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.

Accessing Library Statistics

To view library statistics:

1 In the navigation frame of the PMC Home page, under **ALERT Library Management**, click **Library Statistics**.

The management frame displays the **Library Statistics** page (see figure 18).

The **Library Statistics** page includes statistical information on each library frame and its operations. The following information is repeated for each left magazine, each right magazine, drives, fixed slot, and elevator (shuttle) portions of each library (see figure 19).

The following statistics are listed for each frame and level:

- **Power On Hours** (does not reset upon initialization)
- **Good Fetches**
- **Fetch Retry 1**
- **Fetch Retry 2**
- **Fetch Retry 3**
- **Good Stows**
- **Stow Retry 1**
- **Stow Retry 2**
- **Stow Retry 3**
- **Scan Retries**
- **Scan Count**

Figure 18 Library Statistics, Part 1

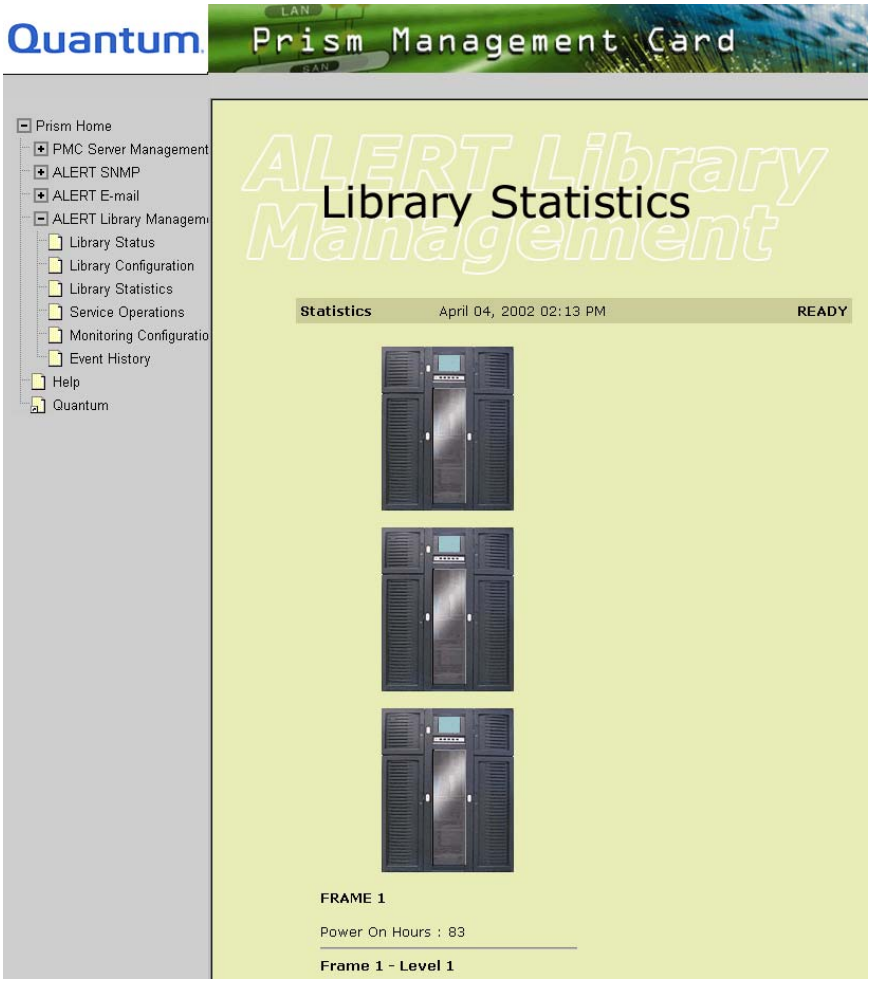
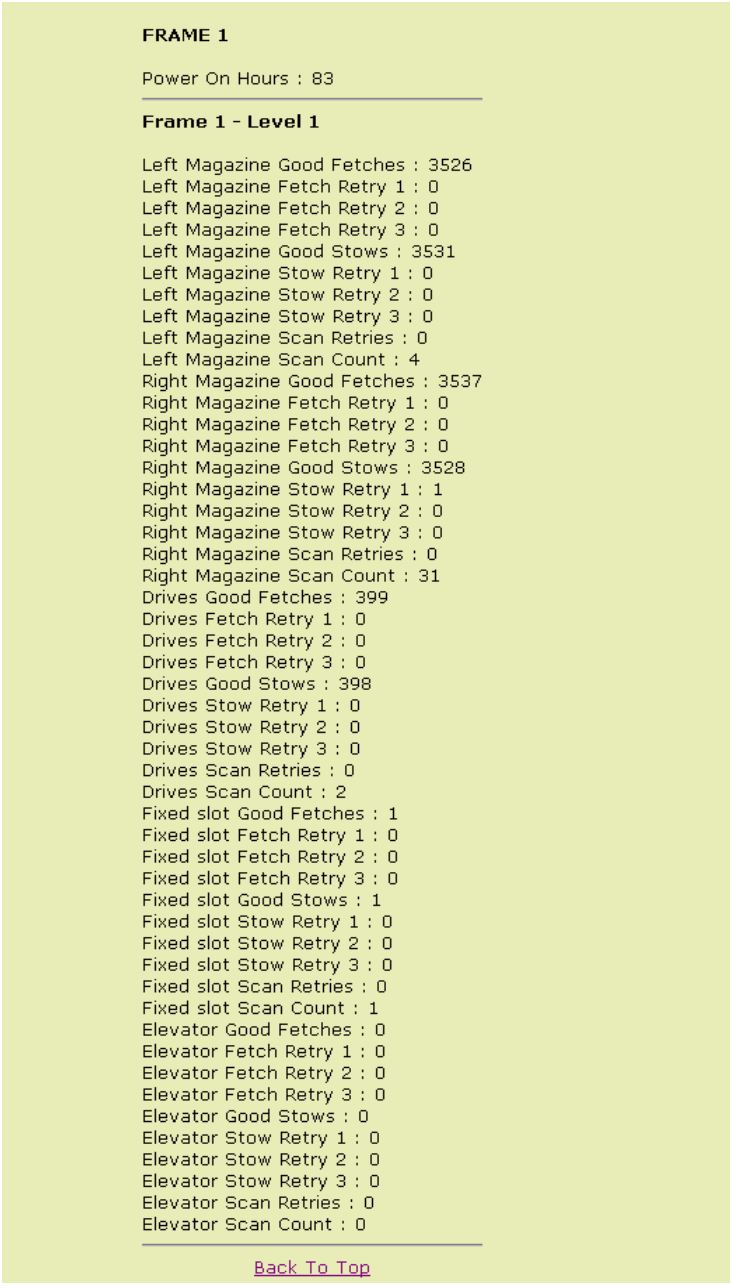


Figure 19 Library Statistics, Part 2



FRAME 1

Power On Hours : 83

Frame 1 - Level 1

Left Magazine Good Fetches : 3526
Left Magazine Fetch Retry 1 : 0
Left Magazine Fetch Retry 2 : 0
Left Magazine Fetch Retry 3 : 0
Left Magazine Good Stows : 3531
Left Magazine Stow Retry 1 : 0
Left Magazine Stow Retry 2 : 0
Left Magazine Stow Retry 3 : 0
Left Magazine Scan Retries : 0
Left Magazine Scan Count : 4
Right Magazine Good Fetches : 3537
Right Magazine Fetch Retry 1 : 0
Right Magazine Fetch Retry 2 : 0
Right Magazine Fetch Retry 3 : 0
Right Magazine Good Stows : 3528
Right Magazine Stow Retry 1 : 1
Right Magazine Stow Retry 2 : 0
Right Magazine Stow Retry 3 : 0
Right Magazine Scan Retries : 0
Right Magazine Scan Count : 31
Drives Good Fetches : 399
Drives Fetch Retry 1 : 0
Drives Fetch Retry 2 : 0
Drives Fetch Retry 3 : 0
Drives Good Stows : 398
Drives Stow Retry 1 : 0
Drives Stow Retry 2 : 0
Drives Stow Retry 3 : 0
Drives Scan Retries : 0
Drives Scan Count : 2
Fixed slot Good Fetches : 1
Fixed slot Fetch Retry 1 : 0
Fixed slot Fetch Retry 2 : 0
Fixed slot Fetch Retry 3 : 0
Fixed slot Good Stows : 1
Fixed slot Stow Retry 1 : 0
Fixed slot Stow Retry 2 : 0
Fixed slot Stow Retry 3 : 0
Fixed slot Scan Retries : 0
Fixed slot Scan Count : 1
Elevator Good Fetches : 0
Elevator Fetch Retry 1 : 0
Elevator Fetch Retry 2 : 0
Elevator Fetch Retry 3 : 0
Elevator Good Stows : 0
Elevator Stow Retry 1 : 0
Elevator Stow Retry 2 : 0
Elevator Stow Retry 3 : 0
Elevator Scan Retries : 0
Elevator Scan Count : 0

Back To Top

Service Operations Page

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

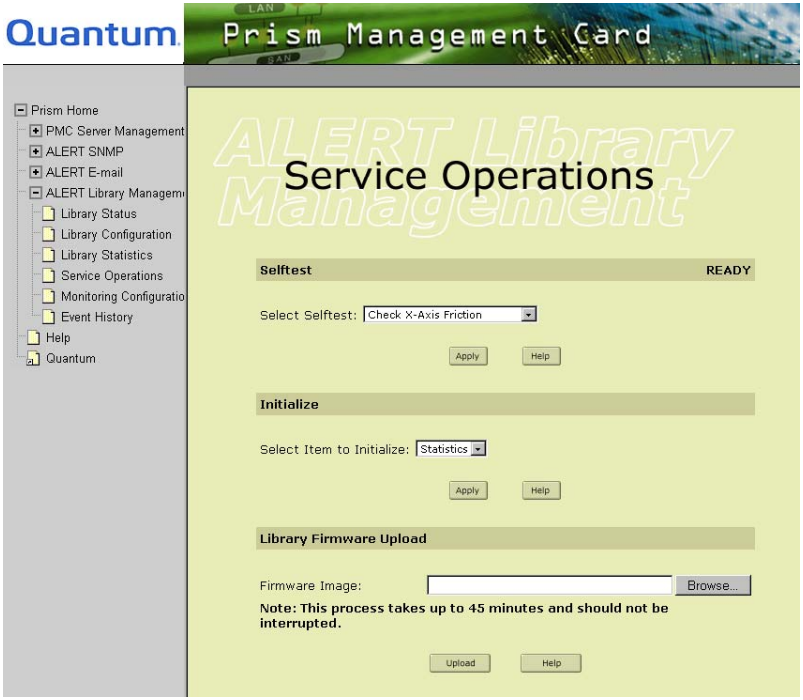
Accessing Service Operations

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 20).

Figure 20 Service Operations



Performing Library Self-tests

To perform a self-test on the library:

1. In the **Selftest** section of the page, select an area of the library:
   - **Check X-Axis Friction**
   - **Check Y-Axis Friction**
   - **Check Z-Axis Friction**
   - **Check Picker-Axis Friction**
   - **Check Theta-Axis Friction**
   - **Check Elevator-Axis Friction**
   - **Check X-Axis Sensor**
   - **Check Y-Axis Sensor**
   - **Check Picker-Axis Sensor**
   - **Check Theta-Axis Sensor 1**
   - **Check Theta-Axis Sensor 2**
   - **Check Elevator-Axis Sensor**
2. Click **Apply**.

   A **Results** page indicates the self-test is complete.
3. Click **OK** to return to the **Service Operations** page.

Initializing Statistics

To initialize the statistics functions of the library:

1. In the **Selftest** section of the page, select **Statistics**.

   Caution: Initializing **Statistics** resets all values in the statistics listing with the exception of the **Power On Hours**.
2. Click **Apply**.

   A **Results** page indicates the initialization, or reset, is complete.
3. Click **OK** to return to the **Service Operations** page.

Library Firmware Upload

To upload the library firmware:

1 Click **Browse** to select the appropriate image file on the host computer.

> **Caution:** Before performing an upload, make sure there are no processes or applications accessing the library. If there are, shut down the process or pause the operation until the upload completes.
>
> Verify the image file is valid, otherwise you may render the library unusable after the upload.

2 Click **Upload** to begin the library firmware upload.

> **Caution:** The entire process may take up to 45 minutes depending on the network connection speed and the image file size. **Do not interrupt the process.** Wait for the upload to finish completely.
>
> In a multiple library stack, the master library module is updated first, then the succeeding library modules.

> **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 Page

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

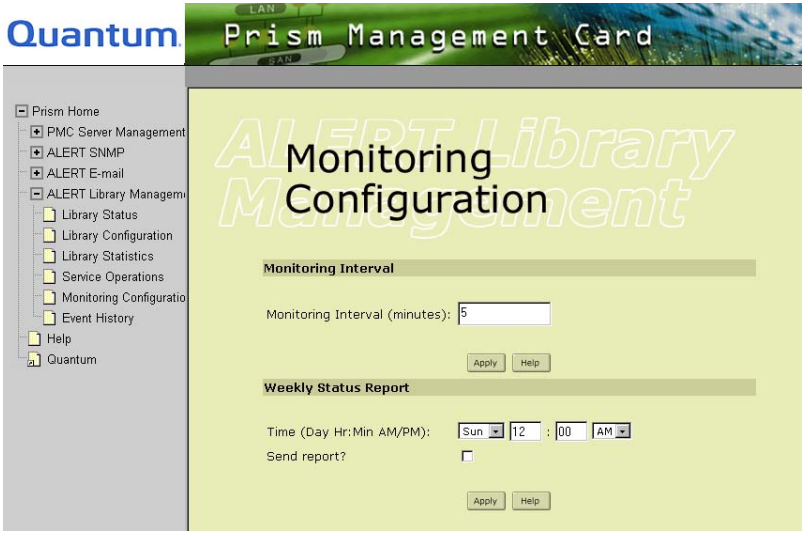
Accessing Monitoring Configuration

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 21).

Figure 21 Monitoring Configuration



Setting the Monitoring Interval

To set the monitoring interval time in minutes:

1. In the **Monitoring Interval** section of the page, 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 this 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.

> **Note:** The default monitoring interval is 5 minutes. If the monitoring interval is changed to 0 (zero) minutes, no library configuration changes are reported, and no configuration change e-mails are sent.

2 Click **Apply**.

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

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

Generating a 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.

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

1 In the **Weekly Status Report** section of the page, specify the desired time (day, hour, minute, and AM/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 weekly status report information has been saved.

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

Event History Page

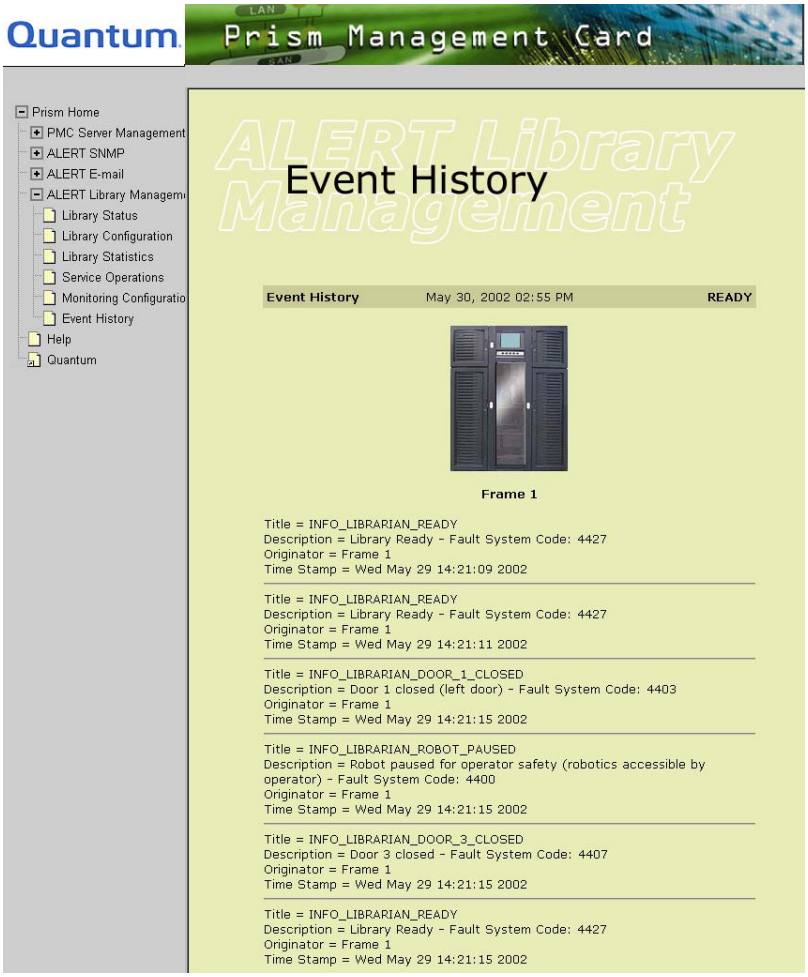
A record of events occurring on the library are recorded by use of SNMP traps and normal operational events. This list is available through the **Event History** page (see figure 22).

The **Event History** page includes information by:

- **Title** – the specific trap code
- **Description** – a brief description of the code including the Fault System Code identifier
- **Originator** – the equipment returning the information, such as the frame number
- **Time Stamp** – a date and time indication of when the error or event occurred

This information can be used as a log of the general service and usage of the library.

Figure 22 Event History



Chapter 6

Fibre Channel Management

Fibre Channel Management allows you to remotely manage one or more FC420 Fibre Channel bridges that are installed in your library (or libraries).

> **Note:** Fibre Channel Management is only available when one or more FC420 bridges are installed in your library and are connected to the PMC through a dedicated 100BaseT Ethernet connection (see Cabling the FC420s to the PMC).

Fibre Channel Management is controlled through the following Prism Management Console Web pages:

- Route Status - allows you to view and refresh the route maps related to the Fibre Channel bridges.
- Bridge Status - allows you to view the hardware and software status of the Fibre Channel bridges.
- Bridge Administration - allows you to configure the hardware and software settings for the Fibre Channel bridges, and reboot or upload new firmware to one or all FC420 bridges.

Cabling the FC420s to the PMC

Fibre Channel Management requires a physical Ethernet connection between the PMC and all installed FC420 bridges. The physical connection is not provided with your library.

Use these instructions to cable the FC420 bridge (or bridges) to the PMC.

> **Note:** These instructions call out specific Ethernet cables to be used with a 100 Mbit per second Ethernet hub/switch. Attach the hub/switch in a convenient location, based on cable lengths and routing. The hub/switch need not be located or mounted in the rack that contains the library (or libraries).
>
> These Ethernet cables and Ethernet hub/switch are not supplied with your library and must be obtained separately.

Cabling a Single FC420

To cable a single FC420 to the PMC:

1. Use an Ethernet cross-over cable to connect the bottom Ethernet port on the PMC (ETH 1) to the Ethernet port on the FC420 bridge (see figure 23 and figure 24).

> **Note:** The 10-foot (3 meter) Ethernet cross-over cable supplied with the FC420 can be used if you are unable to obtain a short cable.

Figure 23 Cabling for a Single FC420 in an ATL M1500

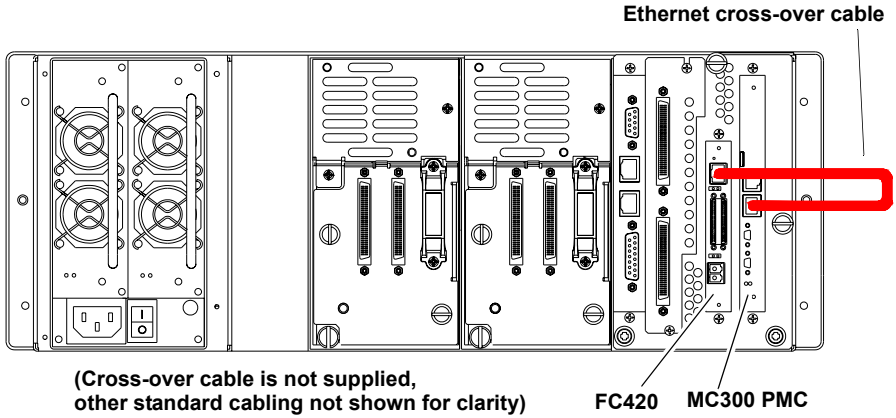
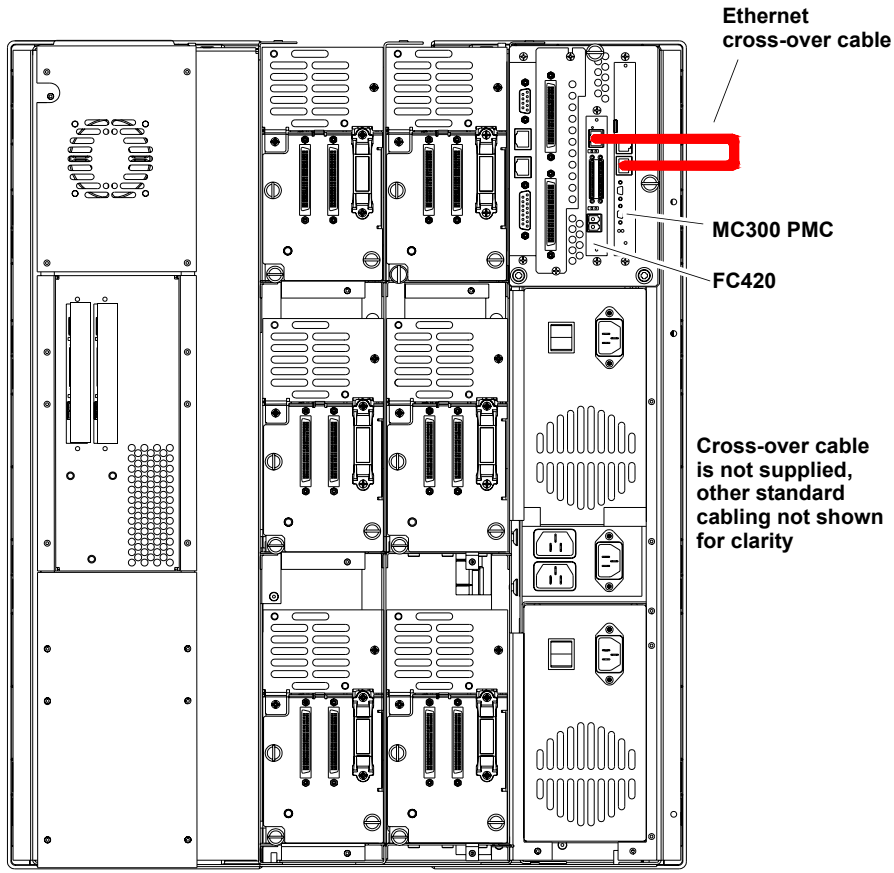


Figure 24 Cabling for a Single FC420 in an ATL M2500



Cabling Two or More FC420s

To cable two or more FC420s to the PMC:

1 Connect the bottom Ethernet port on the PMC (ETH 1) to an available port on a 100 Mbit per second Ethernet hub/switch using a CAT-5 Ethernet cable.

> **Note:** If your Ethernet hub/switch includes an Uplink port, do not use it.

2 Connect the Ethernet port of each FC420 bridge to an available port on the Ethernet hub/switch using a CAT-5 Ethernet cable (see figure 25, figure 26, and figure 27).

The cabling procedure is complete.

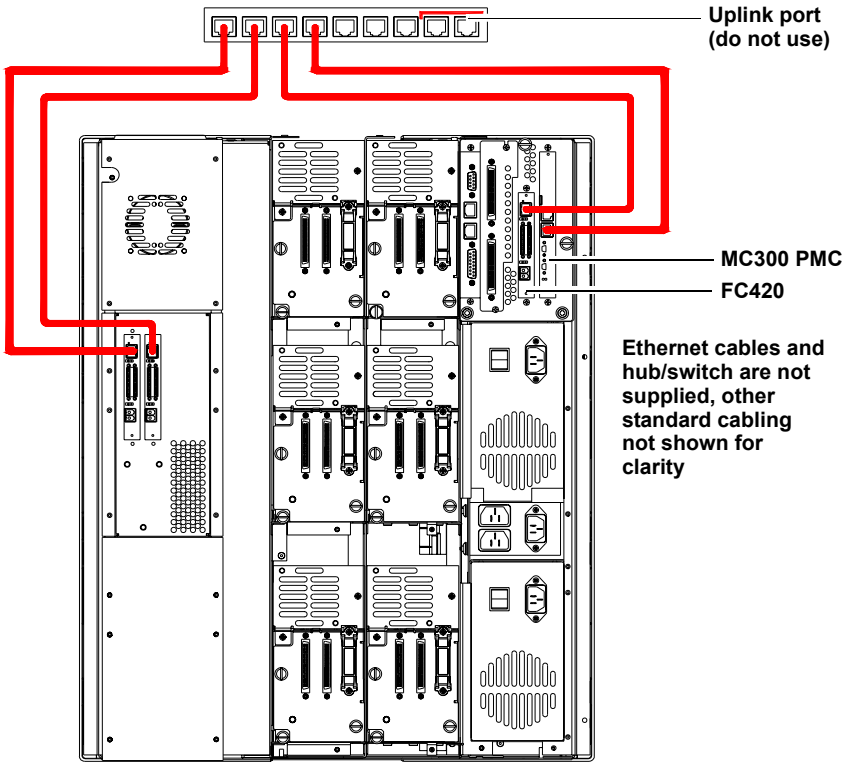
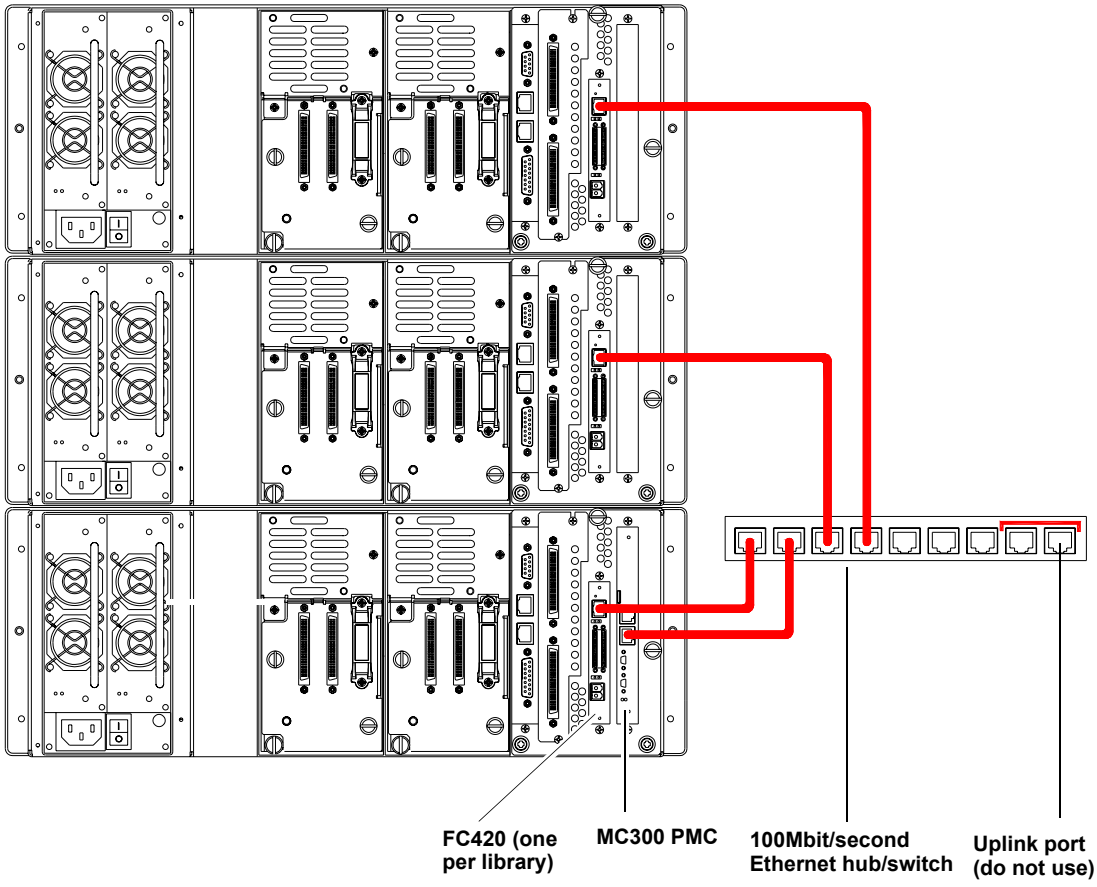


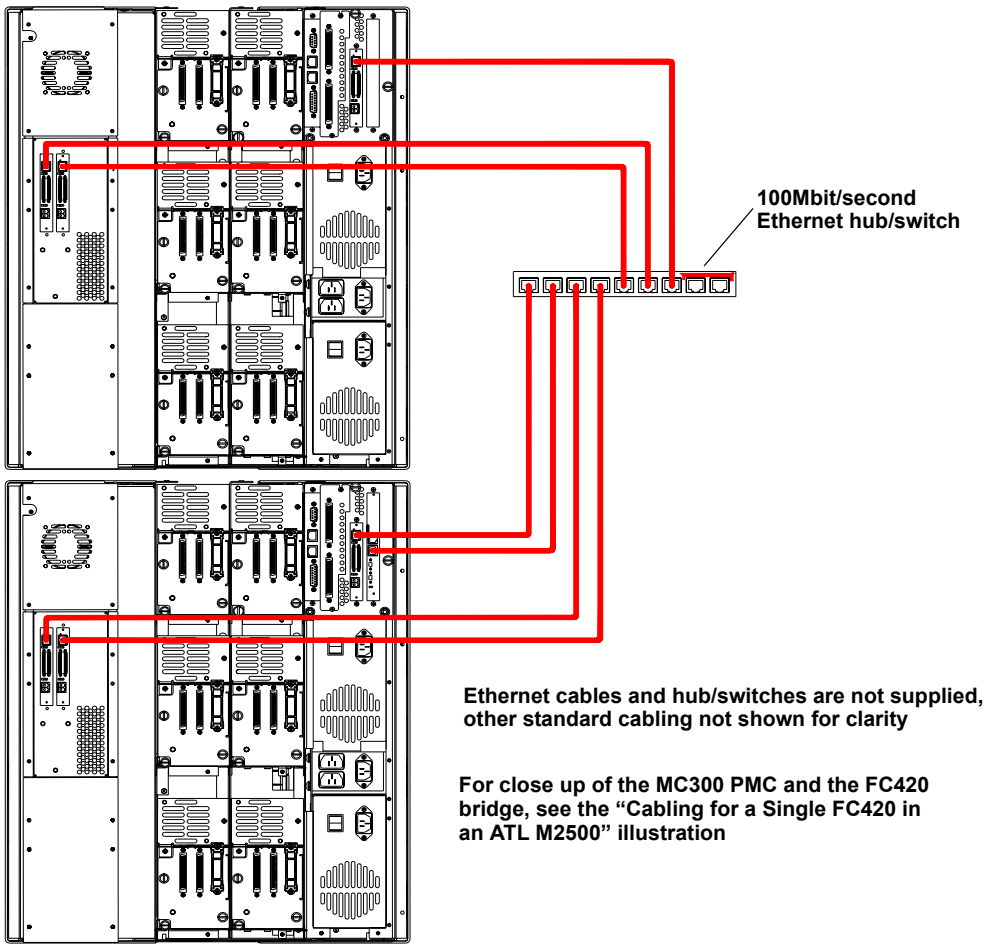
Figure 25 Cabling for Three FC420s in an ATL M2500

Figure 26 Cabling for Two or More FC420s in an ATL M1500 Stack



(Ethernet cables and hub/switch are not supplied, other standard cabling not shown for clarity)

Figure 27 Cabling for Two or More FC420s in an ATL M2500 Stack



Note: You will need one hub/switch port for the PMC and one hub/switch port for each FC420 bridge. If your hub/switch does not have enough ports, you can connect the uplink port of a second hub/switch to one of the standard ports on the primary hub/switch to provide more ports.

Route Status

The **Route Status** page allows you to view and refresh the route maps related to the FC420 bridges. Access the **Route Status** page using the link provided in the Navigation frame. Under **Fibre Channel Management**, click **Route Status**. The Management frame displays the **Route Status** page (see figure 28).

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

At the top of the **Route Status** page is a line of text that denotes the number of FC420 bridges that are installed and connected to the PMC.

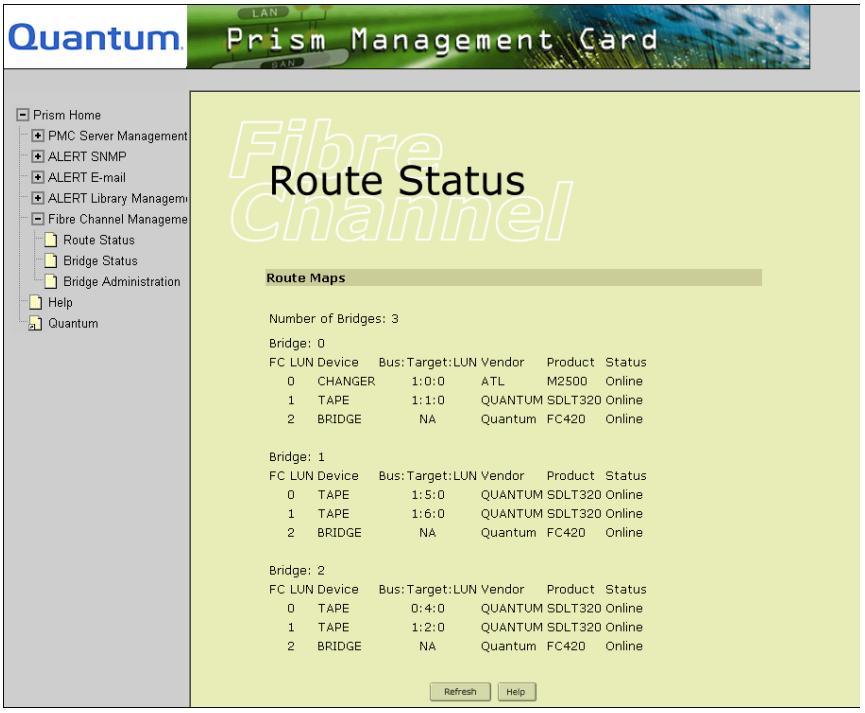
Each bridge is separated by a title that contains the bridge number. Under each bridge title is the route map that denotes the Fibre Channel paths from the host to the FC420 bridge, including port, bus, target, and Logical Unit Number (LUN).

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.

Figure 28 Route Status



Each bridge is displayed with a table that describes the routes that have been created (see table 12).

Table 12 Route Status Descriptions

Field	Description
LUN	The LUN assigned to the Fibre Channel port
Device	The SCSI device type using the LUN (available types are **CHANGER, TAPE**, and **BRIDGE**)
Bus:Target:LUN	The bus, target ID, and LUN of the SCSI device
Vendor	The vendor ID for the SCSI device
Product	The product ID for the SCSI device
Status	Indicates whether the SCSI device is **Online** or **Offline**

Bridge Status

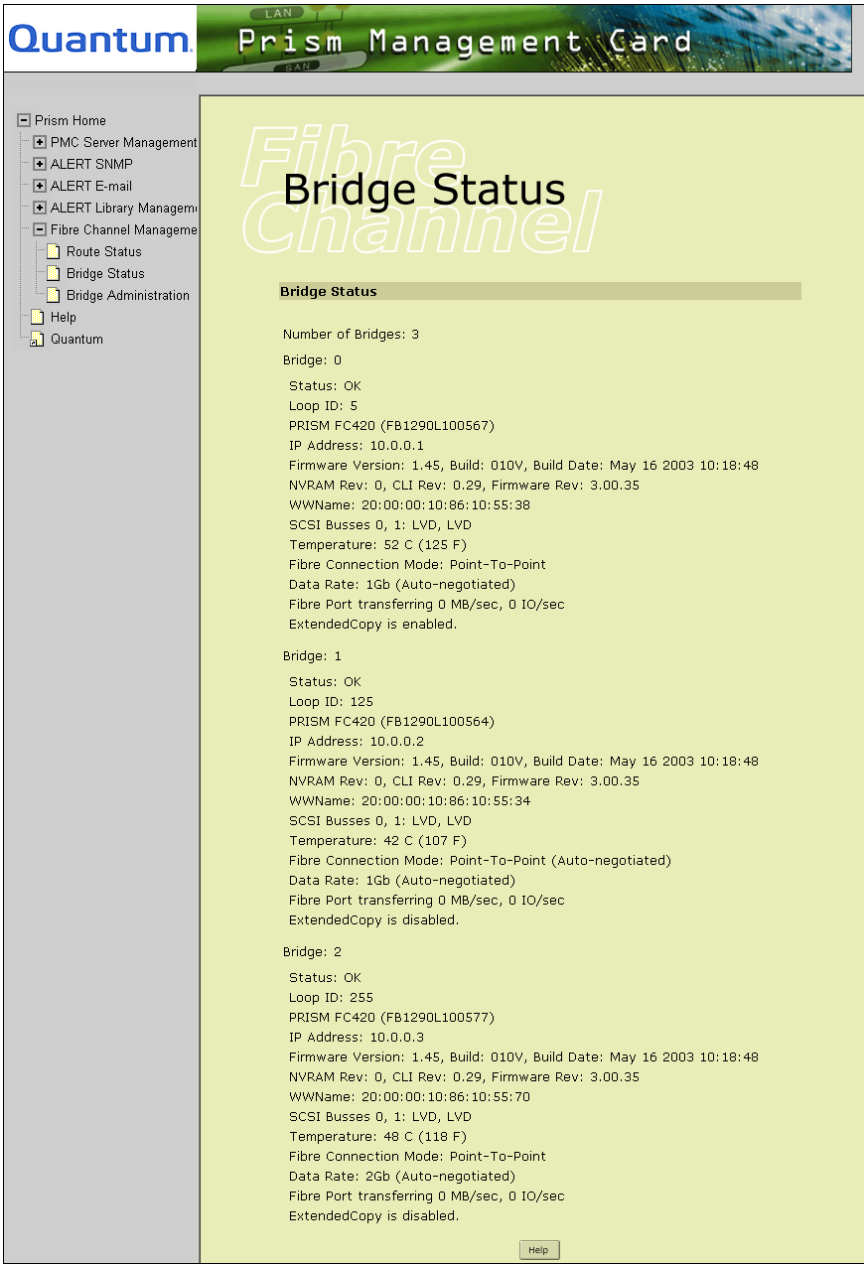
The **Bridge Status** page allows you to view the hardware and software status of the FC420 bridges. Access the **Bridge Status** page using the link provided in the Navigation frame. Under **Fibre Channel Management**, click **Bridge Status**. The Management frame displays the **Bridge Status** page (see figure 29).

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

At the top of the **Bridge Status** page is a line of text that denotes the number of FC420 bridges that are installed and connected to the PMC.

Each bridge is separated by a title that contains the bridge number. Under each bridge title is the table that lists a variety of hardware and software attributes. These attributes include hardware information, such as Loop ID, IP address, and bridge temperature; and software information such as firmware revision, connection mode, and NVRAM settings.

Figure 29 Bridge Status



The hardware and software status information within the table is defined below (see table 13).

Table 13 Bridge Status Descriptions

Field	Description
Status	Displays the status of the Fibre Channel port
Loop ID	Displays the Loop ID entry for the Fibre Channel port
PRISM FC420	Displays the serial number and name of the Prism FC420 bridge
IP Address	Displays the IP address for the bridge
Firmware Version	Displays the firmware version of the bridge
NVRAM Rev, CLI Rev, Firmware Rev	Displays the current revision levels for the NVRAM, Command Line Interface, and the Fibre Channel bridge firmware
WWName	Displays the World Wide Name (WWN) for the Fibre Channel port
SCSI Busses n = LVD	Displays the number and type of SCSI buses
Temperature	Indicates the temperature of the FC420 bridge in degrees Celsius (Fahrenheit)
Fibre Connection Mode	Displays whether the Fibre Channel connection mode is Loop, Point-to-Point (PTP), Loop-PTP, or PTP-Loop
Data Rate	Displays the data rate of the Fibre Channel connection (1 or 2 gigabit per second)
Fibre Port transferring xxx MB/sec, xxx IOs/sec	Displays the transfer rate for the Fibre Channel port in MB/sec, IOs/sec
Extended Copy	Displays whether Extended Copy (XCopy) is enable or disabled

Bridge Administration

The **Bridge Administration** page allows you to configure the hardware and software settings for each FC420 bridge (listed in the tables on the **Bridge Status** page). Access the **Bridge Administration** page using the link provided in the Navigation frame. Under **Fibre Channel Management**, click **Bridge Administration**. The Management frame displays the **Bridge Administration** page (see figure 30).

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

The hardware and software settings for each FC420 bridge are:

Set Fibre Channel Connection Mode - configures the connection mode of the Fibre Channel. You can choose between Loop, PTP, Loop to PTP, or PTP to Loop (takes effect after a reboot).

Set Fibre Channel Data Rate - configures the data transfer rate at which the bridge will operate. The options are 1 Gb per second, 2 Gb per second, or Auto-negotiated (takes effect after a reboot).

Set Fibre Channel Loop ID - configures a hard addressing (0 - 125) or soft addressing (255) for the Loop ID during initialization (takes effect after a reboot).

Route Map - configures the map between a SCSI device and the bridge. The SCSI device must be present in the Fibre Channel. It takes approximately 10 seconds to re-route a map.

Route Bridge LUN - configures a LUN for the bridge device (there is one bridge device per bridge). The destination LUN must be free for this setting to operate. It takes approximately 10 seconds to reroute the bridge LUN (view in the **Route Status** page).

Auto Map - configures a map from the bridge to its SCSI device. It takes approximately 60 seconds to refresh the map.

Options - allows you to enable or disable the Extended Copy (XCopy) feature.

Reboot Bridge - allows you to reboot one or all bridges. A bridge takes approximately 30 seconds to reboot.

Upload New Bridge Firmware - installs new bridge firmware to one bridge or all bridges. It takes approximately 60 seconds to upload new bridge firmware. The bridge(s) are automatically rebooted. The new firmware becomes active after the reboot.

Figure 30 Bridge Administration, Part 1

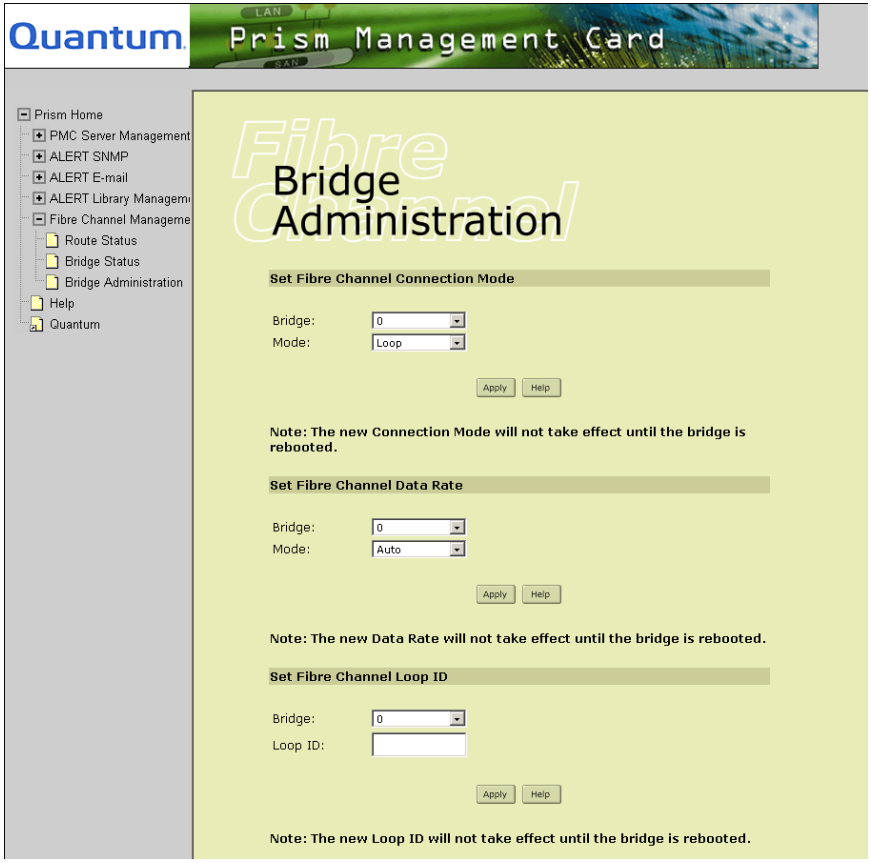
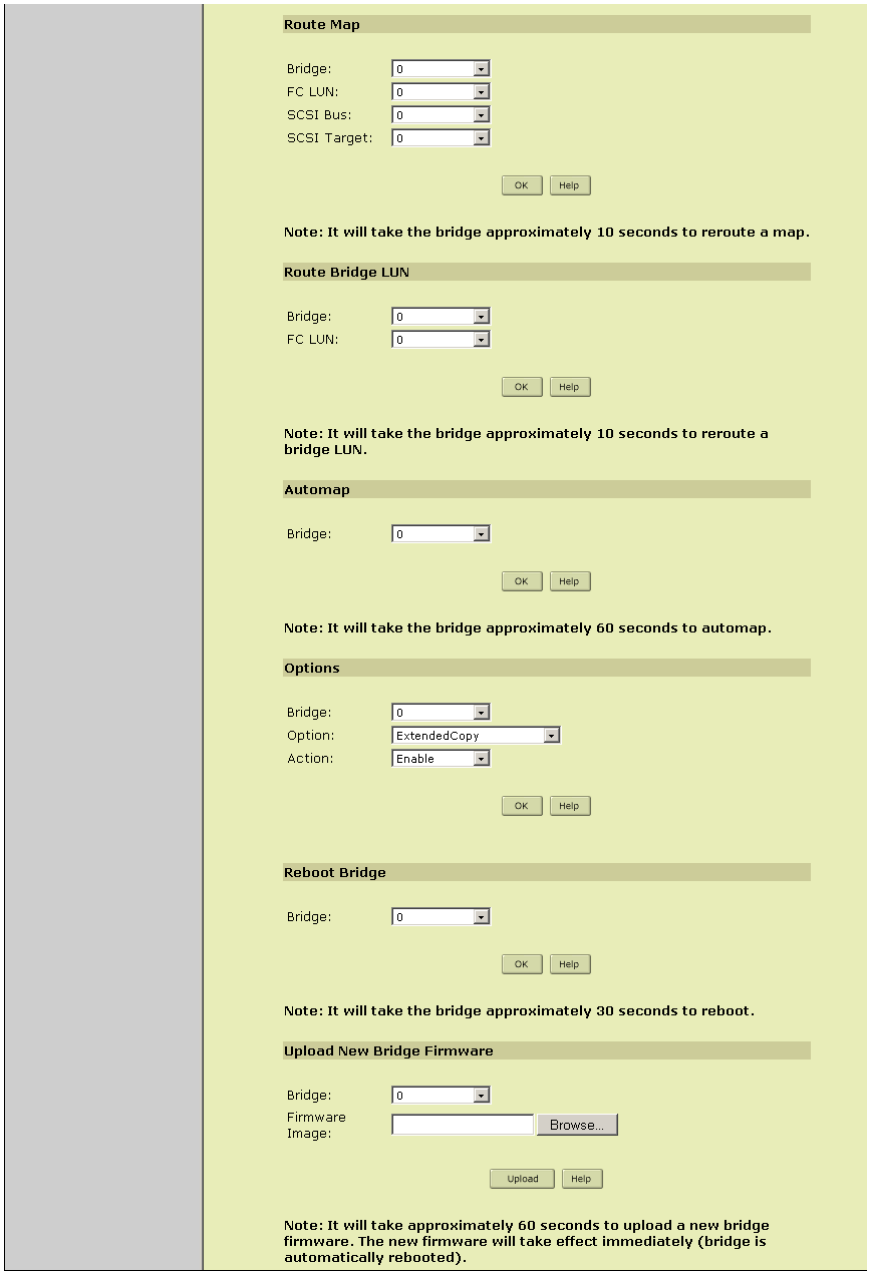


Figure 31 Bridge Administration, Part 2



Setting the Fibre Channel Connection Mode

To configure the Fibre Channel connection mode:

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

   In the Navigation frame, under **Fibre Channel Management**, click **Bridge Administration**.

2. Under **Set Fibre Channel Connection Mode**, select a bridge from the **Bridge** pull-down list.

3. Select a mode from the **Mode** pull-down list.

   The mode types include:

   - **Loop**
   - **Point-to-Point**
   - **Loop-to-PTP**
   - **PTP-to-Loop**

4. Click **Apply**.

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

> **Note:** Reboot the FC420 bridge to utilize the new connection mode.

Setting the Fibre Channel Data Rate

To configure the Fibre Channel data rate:

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

   In the Navigation frame, under **Fibre Channel Management**, click **Bridge Administration**.

2. Under **Set Fibre Channel Data Rate**, select a bridge from the **Bridge** pull-down list.

3. Select a data rate from the **Data Rate** pull-down list.

   The data rate types include:

   - **Auto Negotiate**
   - **1 Gb**
   - **2 Gb**

4 Click **Apply**.

A **Results** page displays indicating the data rate was configured.

> **Note:** Reboot the FC420 bridge to utilize the new connection mode (see Rebooting a Bridge).

Setting the Fibre Channel Loop ID

To configure the Fibre Channel loop ID:

1 Access the **Bridge Administration** page.

In the Navigation frame, under **Fibre Channel Management**, click **Bridge Administration**.

2 Under **Set Fibre Channel Loop ID**, select a bridge from the **Bridge** pull-down list.

3 Enter the desired **Loop ID** for the selected bridge.

> **Note:** Enter a number between 0 - 125 for hard addressing to the Fibre port. To disable hard addressing and use soft addressing to the Fibre port, enter 255.

4 Click **Apply**.

A **Results** page appears indicating the loop ID was configured.

> **Note:** Reboot the FC420 bridge to utilize the new loop ID.

Route Maps

To configure a Route Map:

> **Note:** You can only map a device to a Fibre port (LUN) location that is offline.

1 Access the **Bridge Administration** page.

In the Navigation frame, under **Fibre Channel Management**, click **Bridge Administration**.

2. Select a bridge from the **Bridge** pull-down list.
3. Select a FC LUN from the **FC LUN** pull-down list.
4. Select a SCSI bus from the **SCSI Bus** pull-down list.
5. Select a SCSI target from the **SCSI Target** pull-down list.
6. Click **OK**.

   A **Results** page displays indicating the Route Map was configured.

Route Bridge LUN

To select a bridge and a destination LUN:

1. Select a bridge from the **Bridge** pull-down list.
2. Select a Fibre Channel LUN from the **FC LUN** pull-down list.

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

3. Click **OK**.

> **Note:** It takes the bridge approximately 10 seconds to re-route a bridge LUN.

A **Results** page displays indicating the LUN was configured.

Auto Map

To configure a map from the bridge to its SCSI device:

1. Select a bridge from the **Bridge** pull-down list.
2. Click **OK**

> **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.

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

Options

This option allows you to enable or disable the ExtendedCopy (XCopy) feature. Enabling ExtendedCopy allows data being transferred directly from the hard disk to tape cartridges without involving application servers except to initiate transfers and to received reports of data transfer results (also known as Serverless Backup). To change the ExtendedCopy setting:

1. Select a bridge from the **Bridge** pull-down list.
2. Select an action from the **Action** pull-down list.

   The choices are **Enable** or **Disable**.
3. Click **OK**.

   A **Results** page appears indicating the change has been made.

Note: Reboot the FC420 bridge to utilize the new setting.

Rebooting a Bridge

To reboot one or all bridges:

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

   In the Navigation frame, under **Fibre Channel Management**, click **Bridge Administration**.
2. Select a specific bridge or **All** from the **Bridge** pull-down list.
3. Click **OK**.

Note: The bridge takes approximately 30 seconds to reboot.

Uploading Bridge Firmware

To upload bridge firmware:

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

   In the Navigation frame, under **Fibre Channel Management**, click **Bridge Administration**.

2. Select a specific bridge or **All** from the **Bridge** pull-down list.

3. Enter the name of the firmware image file or click the Browse button to select the firmware image file.

4. Click **OK**.

   A **Results** page displays indicating the file was uploaded successfully.

Chapter 7

Getting Help

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

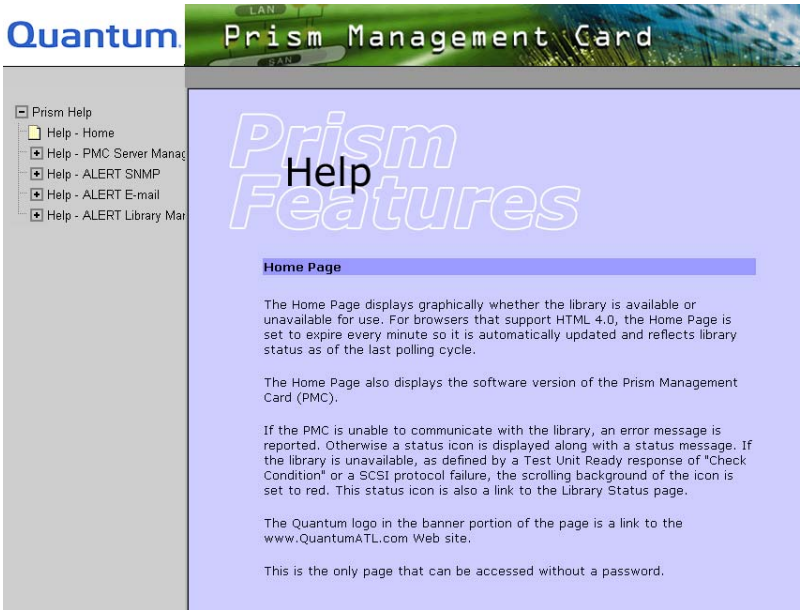
The Prism Management Console Web pages provide extensive online help files defining actions and terms for all functions, features, and fields.

To access the **Help** page, press 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 Web page to open a new window and display online help for that Web page.

The Internet browser opens a new window and displays the **Help** page (see figure 32).

Figure 32 Help



Appendix A

Event Details Listing

Prism ALERT SNMP is managed through the SNMP traps. For information on setting up ALERT SNMP, refer to SNMP Configuration on page 21. ALERT SNMP is accessible using Internet browser software installed on the host computer.

This configuration allows you to set up information about SNMP and select categories containing predefined traps. The predefined traps are listed in this appendix by their reporting level.

Enable the trap types to be reported: **Informational**, **Warning**, **Failure**, **Available**, or **Unavailable**. The **Details** button on the ALERT SNMP Configuration page also provides the supported traps for the **Informational**, **Warning**, and **Failure** trap types.

Table 14 Information Events Detail, FSC Code

FSC Code	E-mail Message Error Type	Description
2403	No mail generated	Source is empty
2404	No mail generated	Destination is full
2405	No mail generated	Element address supplied is invalid
2408	No mail generated	Destination slot not present. Magazine or drive removed.
2413	No mail generated	Source slot not present. Magazine or drive removed.
2415	No mail generated	Move medium attempted to drive that is being autocleaned
2418	Soft Error	Requested action cannot be performed because robot is in use
2629	Hardware Failure	A hand jam has been recovered
2A00	Soft Error	Shuttle queue is full
4000	Soft Error	SCSI command received for invalid LUN
4001	Soft Error	An ASC/ASCQ was used without updating error log logging
4002	Soft Error	Illegal SCSI command received
4003	Soft Error	Command received, but library is busy
4004	Soft Error	Deferred error is pending
4005	Soft Error	Unit attention–due to reset
4006	Soft Error	Unit attention–due to mode parameters changed

FSC Code	E-mail Message Error Type	Description
4007	Soft Error	Unit attention–due to medium changed
4008	Soft Error	SCSI command had invalid field in CDB
4009	Soft Error	SCSI command had parameter list length error
400A	Soft Error	SCSI command had invalid field in parameter list
400B	Soft Error	SCSI command had invalid parameter value
400C	Soft Error	SCSI command failed due to servo problem
400D	Soft Error	No sense available
400E	Soft Error	Cleaner cartridge fitted
400F	No mail generated	Move medium destination full
4010	No mail generated	Move medium source empty
4011	Soft Error	Parameters not saved. Undefined.
4012	Soft Error	Illegal element number
4013	Soft Error	Cannot complete command while cartridge is in hand
4014	Soft Error	Power-on configuration not yet finished
4015	Soft Error	Library will be ready soon, check back later
4016	Soft Error	Not ready–unknown reason
4017	Operator Access	Door is open
4018	Operator Access	Import/export is open
4019	Configuration Change	Operator panel is in menu mode
401A	Operator Access	Import/export has been accessed

FSC Code	E-mail Message Error Type	Description
401B	Operator Access	Command failed due to reservation conflict
401C	Operator Access	SCSI bus reset received
401D	Operator Access	SCSI bus device reset message received
401E	Operator Access	SCSI abort message received
401F	Operator Access	SCSI parity error received
4020	Operator Access	SCSI initiator detected error received
4100	Configuration Change	Time was set via serial port
4101	Configuration Change	Time set via synchronization command
4102	Configuration Change	Synchronize clock command issued
4103	No mail generated	Library is rebooting
4104	Configuration Change	Library entering boot mode
4105	No mail generated	Library has just started
4106	Soft Error	Timeout waiting for remote ACK
4107	Soft Error	Timeout waiting for remote response
4108	Soft Error	Remote machine sent timeout message
4400	Operator Access	Robot paused for operator safety (robotics accessible by operator)
4401	Operator Access	Door 1 open (left door)
4402	Operator Access	Door 2 open (right door)

FSC Code	E-mail Message Error Type	Description
4403	Operator Access	Door 3 open
4404	Operator Access	Door 4 open
4405	Operator Access	Door 1 closed (left door)
4406	Operator Access	Door 2 closed (right door)
4407	Operator Access	Door 3 closed
4408	Operator Access	Door 4 closed
4409	No mail generated	Magazine 1 has been removed (left magazine)
440A	No mail generated	Magazine 2 has been removed (right magazine)
440B	No mail generated	Magazine 3 has been removed (left magazine)
440C	No mail generated	Magazine 4 has been removed (right magazine)
440D	No mail generated	Magazine 5 has been removed (left magazine)
440E	No mail generated	Magazine 6 has been removed (right magazine)
440F	No mail generated	Magazine 7 has been removed (left magazine)
4410	No mail generated	Magazine 8 has been removed (right magazine)
4411	No mail generated	Magazine 9 has been removed (left magazine)
4412	No mail generated	Magazine 10 has been removed (right magazine)

FSC Code	E-mail Message Error Type	Description
4413	No mail generated	Magazine 1 has been inserted (left magazine)
4414	No mail generated	Magazine 2 has been inserted (right magazine)
4415	No mail generated	Magazine 3 has been inserted (left magazine)
4416	No mail generated	Magazine 4 has been inserted (right magazine)
4417	No mail generated	Magazine 5 has been inserted (left magazine)
4418	No mail generated	Magazine 6 has been inserted (right magazine)
4419	No mail generated	Magazine 7 has been inserted (left magazine)
441A	No mail generated	Magazine 8 has been inserted (right magazine)
441B	No mail generated	Magazine 9 has been inserted (left magazine)
441C	No mail generated	Magazine 10 has been inserted (right magazine)
441D	No mail generated	Magazine 1 absent at power-up (left magazine)
441E	No mail generated	Magazine 2 absent at power-up (right magazine)
441F	No mail generated	Magazine 3 absent at power-up (left magazine)
4420	No mail generated	Magazine 4 absent at power-up (right magazine)

FSC Code	E-mail Message Error Type	Description
4421	No mail generated	Magazine 5 absent at power-up (left magazine)
4422	No mail generated	Magazine 6 absent at power-up (right magazine)
4423	No mail generated	Magazine 7 absent at power-up (left magazine)
4424	No mail generated	Magazine 8 absent at power-up (right magazine)
4425	No mail generated	Magazine 9 absent at power-up (left magazine)
4426	No mail generated	Magazine 10 absent at power-up (right magazine)
4427	No mail generated	Library ready
4428	No mail generated	Library not ready
4429	No mail generated	Drive 1 in this frame removed
442A	No mail generated	Drive 2 in this frame removed
442B	No mail generated	Drive 3 in this frame removed
442C	No mail generated	Drive 4 in this frame removed
442D	No mail generated	Drive 5 in this frame removed
442E	No mail generated	Drive 6 in this frame removed

FSC Code	E-mail Message Error Type	Description
4434	No mail generated	Drive 1 in this frame inserted
4435	No mail generated	Drive 2 in this frame inserted
4436	No mail generated	Drive 3 in this frame inserted
4437	No mail generated	Drive 4 in this frame inserted
4438	No mail generated	Drive 5 in this frame inserted
4439	No mail generated	Drive 6 in this frame inserted
443E	No mail generated	Drive 1 in this frame absent at power-on
443F	No mail generated	Drive 2 in this frame absent at power-on
4440	No mail generated	Drive 3 in this frame absent at power-on
4441	No mail generated	Drive 4 in this frame absent at power-on
4442	No mail generated	Drive 5 in this frame absent at power-on
4443	No mail generated	Drive 6 in this frame absent at power-on
4448	No mail generated	Drive 1 in this frame has powered-up
4449	No mail generated	Drive 2 in this frame has powered-up

FSC Code	E-mail Message Error Type	Description
444A	No mail generated	Drive 3 in this frame has powered-up
444B	No mail generated	Drive 4 in this frame has powered-up
444C	No mail generated	Drive 5 in this frame has powered-up
444D	No mail generated	Drive 6 in this frame has powered-up
4452	No mail generated	Drive 1 in this frame has powered-down
4453	No mail generated	Drive 2 in this frame has powered-down
4454	No mail generated	Drive 3 in this frame has powered-down
4455	No mail generated	Drive 4 in this frame has powered-down
4456	No mail generated	Drive 5 in this frame has powered-down
4457	No mail generated	Drive 6 in this frame has powered-down
445C	Soft Error	Drive 1 in this frame requesting autoclean
445D	Soft Error	Drive 2 in this frame requesting autoclean
445E	Soft Error	Drive 3 in this frame requesting autoclean
445F	Soft Error	Drive 4 in this frame requesting autoclean
4460	Soft Error	Drive 5 in this frame requesting autoclean
4461	Soft Error	Drive 6 in this frame requesting autoclean

FSC Code	E-mail Message Error Type	Description
4466	Soft Error	Cleaning cycle started on Drive 1 in this frame
4467	Soft Error	Cleaning cycle started on Drive 2 in this frame
4468	Soft Error	Cleaning cycle started on Drive 3 in this frame
4469	Soft Error	Cleaning cycle started on Drive 4 in this frame
446A	Soft Error	Cleaning cycle started on Drive 5 in this frame
446B	Soft Error	Cleaning cycle started on Drive 6 in this frame
4470	Soft Error	Cleaning tape expired
4471	Soft Error	Drive clean attempted with a noncleaning tape
4472	Soft Error	Drive 1 in this frame has been cleaned successfully
4473	Soft Error	Drive 2 in this frame has been cleaned successfully
4474	Soft Error	Drive 3 in this frame has been cleaned successfully
4475	Soft Error	Drive 4 in this frame has been cleaned successfully
4476	Soft Error	Drive 5 in this frame has been cleaned successfully
4477	Soft Error	Drive 6 in this frame has been cleaned successfully
447C	Soft Error	Drive 1 in this frame is still requesting cleaning after being cleaned
447D	Soft Error	Drive 2 in this frame is still requesting cleaning after being cleaned
447E	Soft Error	Drive 3 in this frame is still requesting cleaning after being cleaned
447F	Soft Error	Drive 4 in this frame is still requesting cleaning after being cleaned
4480	Soft Error	Drive 5 in this frame is still requesting cleaning after being cleaned

FSC Code	E-mail Message Error Type	Description
4481	Soft Error	Drive 6 in this frame is still requesting cleaning after being cleaned
4486	No mail generated	Module at level 1 in stack has been powered-down/ disconnected
4487	No mail generated	Module at level 2 in stack has been powered-down/ disconnected
4488	No mail generated	Module at level 3 in stack has been powered-down/ disconnected
4489	No mail generated	Module at level 4 in stack has been powered-down/ disconnected
448A	No mail generated	Module at level 5 in stack has been powered-down/ disconnected
448B	No mail generated	Module at level 6 in stack has been powered-down/ disconnected
448C	No mail generated	Module at level 7 in stack has been powered-down/ disconnected
448D	No mail generated	Module at level 8 in stack has been powered-down/ disconnected
448E	No mail generated	Module at level 9 in stack has been powered-down/ disconnected
448F	No mail generated	Module at level 10 in stack has been powered-down/ disconnected
4490	No mail generated	Module at level 11 in stack has been powered-down/ disconnected
4491	No mail generated	Module at level 12 in stack has been powered-down/ disconnected
4492	No mail generated	New module has joined stack

FSC Code	E-mail Message Error Type	Description
4493	No mail generated	Level 1 fitted in stack
4494	No mail generated	Level 2 fitted in stack
4495	No mail generated	Level 3 fitted in stack
4496	No mail generated	Level 4 fitted in stack
4497	No mail generated	Level 5 fitted in stack
4498	No mail generated	Level 6 fitted in stack
4499	No mail generated	Level 7 fitted in stack
449A	No mail generated	Level 8 fitted in stack
449B	No mail generated	Level 9 fitted in stack
449C	No mail generated	Level 10 fitted in stack
449D	No mail generated	Level 11 fitted in stack
449E	No mail generated	Level 12 fitted in stack
449F	No mail generated	Level 1 not fitted in stack
44A0	No mail generated	Level 2 not fitted in stack

FSC Code	E-mail Message Error Type	Description
44A1	No mail generated	Level 3 not fitted in stack
44A2	No mail generated	Level 4 not fitted in stack
44A3	No mail generated	Level 5 not fitted in stack
44A4	No mail generated	Level 6 not fitted in stack
44A5	No mail generated	Level 7 not fitted in stack
44A6	No mail generated	Level 8 not fitted in stack
44A7	No mail generated	Level 9 not fitted in stack
44A8	No mail generated	Level 10 not fitted in stack
44A9	No mail generated	Level 11 not fitted in stack
44AA	No mail generated	Level 12 not fitted in stack
4600	No mail generated	The library's power-on initialization sequence has completed
4680	Soft Error	Drive 1 in this frame has rejected the cartridge. A reload is underway.
4681	Soft Error	Drive 2 in this frame has rejected the cartridge. A reload is underway.
4682	Soft Error	Drive 3 in this frame has rejected the cartridge. A reload is underway.

FSC Code	E-mail Message Error Type	Description
4683	Soft Error	Drive 4 in this frame has rejected the cartridge. A reload is underway.
4684	Soft Error	Drive 5 in this frame has rejected the cartridge. A reload is underway.
4685	Soft Error	Drive 6 in this frame has rejected the cartridge. A reload is underway.
4900	Configuration Change	This unit has become the stack-master (elevator controller)
4901	Configuration Change	This unit has changed from stack-master to slave module
4902	Soft Error	The stack-master is no longer polling this unit

Table 15 Information Events Detail, Tape Alert Flag

Tape Alert Flag	E-mail Message Error Type	Description
10	Soft Error	Manual or software unload attempted while prevent media removal on
11	Soft Error	Cleaning tape encountered during backup or restore
12	Soft Error	Attempted load of unsupported tape format
17	Soft Error	Media loaded that is read-only format
19	Soft Error	The tape cartridge is nearing the end of its calculated life

Table 16 Warning Events Detail

FSC Code	E-mail Message Error Type	Description
000A	Hardware Failure	Hand CV check found hand disconnected
000B	Hardware Failure	Servo CV check found servo board disconnected
000C	Hardware Failure	X axis CV check found X axis disconnected
000D	Hardware Failure	Y axis CV check found Y axis disconnected
000E	Hardware Failure	Z axis CV check found Z axis disconnected
000F	Hardware Failure	FP CV check found front panel disconnected
0020	Soft Error	OS timer interrupt has not occurred, but should have
200A	Hardware Failure	Drive caddy not present (drive 1 in this frame)
200B	Hardware Failure	Drive caddy not present (drive 2 in this frame)
200C	Hardware Failure	Drive caddy not present (drive 3 in this frame)
200D	Hardware Failure	Drive caddy not present (drive 4 in this frame)
200E	Hardware Failure	Drive caddy not present (drive 5 in this frame)
200F	Hardware Failure	Drive caddy not present (drive 6 in this frame)
2022	Hardware Failure	The requested function is not implemented in the drive type
202C	Hardware Failure	Response packet received from drive 1 in this frame indicates command failed
202D	Hardware Failure	Response packet received from drive 2 in this frame indicates command failed
202E	Hardware Failure	Response packet received from drive 3 in this frame indicates command failed
202F	Hardware Failure	Response packet received from drive 4 in this frame indicates command failed

FSC Code	E-mail Message Error Type	Description
2030	Hardware Failure	Response packet received from drive 5 in this frame indicates command failed
2031	Hardware Failure	Response packet received from drive 6 in this frame indicates command failed
2034	Hardware Failure	Response received from drive 1 in this frame indicates drive busy
2035	Hardware Failure	Response received from drive 2 in this frame indicates drive busy
2036	Hardware Failure	Response received from drive 3 in this frame indicates drive busy
2037	Hardware Failure	Response received from drive 4 in this frame indicates drive busy
2038	Hardware Failure	Response received from drive 5 in this frame indicates drive busy
2039	Hardware Failure	Response received from drive 6 in this frame indicates drive busy
2104	Hardware Failure	Expected response from hardware was not received
2303	Hardware Failure	Barcode reader did not find a barcode
2409	Hardware Failure	Magazine removed when door was shut
240A	Hardware Failure	Magazine inserted without proper access
240B	Soft Error	Demo stopped; no slot available for cartridge destination
240C	Soft Error	Sequence stopped; no cartridge available to perform requested action
240D	Soft Error	Librarian uncertain of cartridge origin
240E	Hardware Failure	Manual intervention required to remove cartridge from the elevator

FSC Code	E-mail Message Error Type	Description
240F	Hardware Failure	The requested move cannot be performed
2410	Hardware Failure	The requested move cannot be performed
2411	Hardware Failure	Autoclean cannot be performed as there are no cleaning tapes
2412	Hardware Failure	Autoclean cannot be performed as all the cleaning tapes are in use
2414	Soft Error	Demo unable to select random start slot. Try rerunning demo.
2417	Soft Error	Fixed slot reserved for dedicated cleaner; not for general use
2419	Soft Error	Illegal magazine configuration. Recheck.
241A	Soft Error	Stack contains modules configured for different media to stack-master
241B	Soft Error	Fixed slot detected when library configured for 6 drive operation
241C	Soft Error	No fixed slot detected when library configured for 5 drive operation
241D	Soft Error	Magazine 5 detected when library configured for 6 drive operation
241E	Soft Error	Drive 3 in this frame detected when library configured for 5 drive operation
2504	Soft Error	Bad page code in send diagnostic
2612	Soft Error	Requested action cannot be carried out with a cartridge in the hand
2613	Soft Error	Requested action cannot be carried out without a cartridge in the hand
261A	Hardware Failure	The hand action ‘completed’ with no cartridge detected in the source

FSC Code	E-mail Message Error Type	Description
2624	Hardware Failure	The (nvr spec'd) xy build does not provide access to the cleaner slot
2625	Hardware Failure	The elevator vertical position is still unknown
2634	Hardware Failure	The inserted magazine has not been pushed fully home
2636	Hardware Failure	The elevator X axis offset is too great; likely build error
2637	Hardware Failure	The elevator is set too far back on the hand axis; likely build error
263B	Soft Error	The cleaning tape in use has expired
263C	Soft Error	The autoclean cycle has loaded a noncleaning or invalid tape
263E	Hardware Failure	The cartridge is not fully in the elevator; manual intervention required
263F	Hardware Failure	Manual intervention and power cycle are required
2640	Hardware Failure	Detail is not known, but manual intervention and power cycle required
2641	Hardware Failure	The fixed slot check has detected a fixed slot
26B8	Soft Error	Drive 1 in this frame has no cartridge to unload
26B9	Soft Error	Drive 2 in this frame has no cartridge to unload
26BA	Soft Error	Drive 3 in this frame has no cartridge to unload
26BB	Soft Error	Drive 4 in this frame has no cartridge to unload
26BC	Soft Error	Drive 5 in this frame has no cartridge to unload
26BD	Soft Error	Drive 6 in this frame has no cartridge to unload
26D8	Hardware Failure	Attempt to initialize Drive 1 in this frame before it has become available

FSC Code	E-mail Message Error Type	Description
26D9	Hardware Failure	Attempt to initialize Drive 2 in this frame before it has become available
26DA	Hardware Failure	Attempt to initialize Drive 3 in this frame before it has become available
26DB	Hardware Failure	Attempt to initialize Drive 4 in this frame before it has become available
26DC	Hardware Failure	Attempt to initialize Drive 5 in this frame before it has become available
26DD	Hardware Failure	Attempt to initialize Drive 6 in this frame before it has become available
4200	Soft Error	NVR CRC invalid and contents probably corrupt

Table 17 Information Events Detail, Tape Alert Flag

Tape Alert Flag	E-mail Message Error Type	Description
1	Soft Error	The drive is having severe trouble reading the media
2	Soft Error	The drive is having severe trouble writing to the media
3	Hardware Failure	The drive had a hard read or write error
7	Soft Error	The media has exceeded its specified life
8	Soft Error	The drive has not been able to read the MRS stripes
15	Soft Error	Memory chip failed in cartridge
16	Soft Error	Manual or forced eject while drive actively writing or reading

Tape Alert Flag	E-mail Message Error Type	Description
18	Soft Error	Directory data stored on tape has been corrupted
21	Soft Error	The drive is ready for a periodic cleaning
23	Soft Error	Invalid cleaning tape type used
29	Soft Error	The drive requires preventive maintenance other than cleaning
32	Hardware Failure	The drive has identified an interfacing fault
34	Soft Error	Firmware download failed
35	Soft Error	Drive humidity limits exceeded
36	Soft Error	Drive temperature limits exceeded
37	Soft Error	Drive voltage limits exceeded
38	Soft Error	Predictive failure of drive hardware
39	Soft Error	The drive may have a hardware fault that extended diagnostics may help identify
42	Hardware Failure	Library mechanism has a hardware fault
46	Soft Error	Predictive failure of loader mechanism hardware
65	Soft Error	Unknown tape alert flag
69	Soft Error	Unknown tape alert flag

Table 18 Failure Events Detail

FSC Code	E-mail Message Error Type	Description
0001	Hardware Failure	A divide by zero exception has occurred
0002	Hardware Failure	A parity error has been detected on the address/data bus
0003	Hardware Failure	Out of memory
0004	Soft Error	_flsbuf was called
0005	Soft Error	_getbuf was called
0006	Hardware Failure	Stack was exhausted
0007	Hardware Failure	Floating point trap
0008	Hardware Failure	Free( ) called on bad memory block
0009	Hardware Failure	Realloc( ) found corrupted memory block
0010	Hardware Failure	Free( ) found corrupted memory block trailer
0011	Hardware Failure	Realloc( ) found corrupted memory block trailer
0012	Hardware Failure	NVR capacity exceeded
0013	Hardware Failure	Heap consistency check found corruption
0014	Hardware Failure	Heap consistency check found corruption
0015	Hardware Failure	Watchdog has interrupted processor
0016	Hardware Failure	Size passed to malloc too large
0017	Hardware Failure	Size passed to calloc too large
0018	Hardware Failure	Size passed to realloc too large
0019	Hardware Failure	Breakpoint instruction executed
001A	Hardware Failure	Debug exception occurred

FSC Code	E-mail Message Error Type	Description
001B	Hardware Failure	Code attempted to write to address 0
001C	Hardware Failure	Code attempted to execute at address 0
001D	Hardware Failure	Code attempted to write to address 0
001E	Hardware Failure	Code attempted to execute at address 0
001F	Hardware Failure	Old system boards are no longer supported
1000	Hardware Failure	FPGA INIT pin was detected as being high when it should have been low
1001	Hardware Failure	FPGA INIT pin was detected as being low when it should have been high
1002	Hardware Failure	FPGA DONE pin was detected as being high when it should have been low
1003	Hardware Failure	FPGA DONE pin was detected as being low when it should have been high
2000	Hardware Failure	DLT initialization failed
2001	Hardware Failure	Drive timeout waiting for status (drive 1 in this frame)
2002	Hardware Failure	Drive timeout waiting for status (drive 2 in this frame)
2003	Hardware Failure	Drive timeout waiting for status (drive 3 in this frame)
2004	Hardware Failure	Drive timeout waiting for status (drive 4 in this frame)
2005	Hardware Failure	Drive timeout waiting for status (drive 5 in this frame)
2006	Hardware Failure	Drive timeout waiting for status (drive 6 in this frame)
2009	Hardware Failure	Requires newer version of system board
2012	Hardware Failure	Invalid byte received from drive 1 in this frame
2013	Hardware Failure	Invalid byte received from drive 2 in this frame

FSC Code	E-mail Message Error Type	Description
2014	Hardware Failure	Invalid byte received from drive 3 in this frame
2015	Hardware Failure	Invalid byte received from drive 4 in this frame
2016	Hardware Failure	Invalid byte received from drive 5 in this frame
2017	Hardware Failure	Invalid byte received from drive 6 in this frame
201A	Soft Error	Invalid packet received from drive 1 in this frame
201B	Soft Error	Invalid packet received from drive 2 in this frame
201C	Soft Error	Invalid packet received from drive 3 in this frame
201D	Soft Error	Invalid packet received from drive 4 in this frame
201E	Soft Error	Invalid packet received from drive 5 in this frame
201F	Soft Error	Invalid packet received from drive 6 in this frame
2023	Hardware Failure	Could not get a semaphore from OS
2024	Hardware Failure	Response packet received from drive 1 in this frame indicates command failed
2025	Hardware Failure	Response packet received from drive 2 in this frame indicates command failed
2026	Hardware Failure	Response packet received from drive 3 in this frame indicates command failed
2027	Hardware Failure	Response packet received from drive 4 in this frame indicates command failed
2028	Hardware Failure	Response packet received from drive 5 in this frame indicates command failed
2029	Hardware Failure	Response packet received from drive 6 in this frame indicates command failed
2100	Hardware Failure	I2C interface failed to initialize

FSC Code	E-mail Message Error Type	Description
2101	Hardware Failure	Timed out waiting for I2C bus to go not busy
2102	Hardware Failure	No acknowledge received from slave
2103	Hardware Failure	Exceeded retry limit while trying to send message
2105	Hardware Failure	Message received from I2C bus but destination is unknown
2106	Hardware Failure	Message to send over I2C bus is too large (see path)
2107	Hardware Failure	Message received over I2C bus is too large
2108	Hardware Failure	I2C mailbox is full
2109	Hardware Failure	Receiver address in I2C message incorrect
210A	Hardware Failure	Pending interrupt status not reset
2200	Hardware Failure	UI task init failed
2201	Hardware Failure	UI queue full
2202	Hardware Failure	The UI is not in the correct state to perform the requested action
2301	Hardware Failure	Timed out waiting for data from barcode reader
2302	Hardware Failure	Did not detect barcode reader
2400	Hardware Failure	Librarian task init failed
2401	Hardware Failure	Librarian task received an unknown or unexpected message
2402	Hardware Failure	Librarian queue full
2406	Hardware Failure	Servo initialization not complete. Librarian unsure of servo status.
2407	Hardware Failure	Servo turned off due to failure. Librarian unsure of servo status.
2416	Hardware Failure	Bad parameter in Librarian message
2500	Hardware Failure	SCSI task init failed

FSC Code	E-mail Message Error Type	Description
2501	Soft Error	SCSI task received a bad message
2502	Hardware Failure	SCSI queue full
2503	Hardware Failure	FAS366 not detected
2600	Hardware Failure	Servo task init failed
2601	Hardware Failure	Servo queue full
2602	Hardware Failure	The X axis failed to get to its target position
2603	Hardware Failure	The Y axis failed to get to its target position
2604	Hardware Failure	The Theta axis failed to get to its target position
2605	Hardware Failure	The hand axis failed to get to its target position
2606	Hardware Failure	The elevator axis failed to get to its target position
2607	Hardware Failure	The Z axis failed to get to its target location
2608	Hardware Failure	The X axis tacho counter failed to clear at power-on
2609	Hardware Failure	The Y axis tacho counter failed to clear at power-on
260A	Hardware Failure	The Theta axis tacho counter failed to clear at power-on
260B	Hardware Failure	The hand axis tacho counter failed to clear at power-on
260C	Hardware Failure	The elevator axis tacho counter failed to clear at power-on
260D	Hardware Failure	The Z axis tacho counter failed to clear at power-on
260E	Hardware Failure	The hand could not be returned to the XY center during power-on
260F	Hardware Failure	The servo task has received an invalid command code
2610	Hardware Failure	The hand action ‘completed’ with no cartridge detected in the hand

FSC Code	E-mail Message Error Type	Description
2611	Soft Error	The put action 'completed' with the cartridge still in the hand
2614	Soft Error	Command cannot be executed without first initializing the axis
2615	Hardware Failure	Theta nvr data has been corrupted, or not yet initialized
2616	Hardware Failure	Axis friction nvr data has been corrupted, or not yet initialized
2617	Hardware Failure	Axis offset nvr data has been corrupted
2618	Hardware Failure	The build nvr data has been corrupted, or not initialized
2619	Hardware Failure	An error has been detected in the servo nvr
261B	Hardware Failure	The hand action 'completed' but there was a hand sensor failure
261C	Hardware Failure	The hand action 'completed' but was unable to engage
261D	Hardware Failure	The hand will not move in either direction
261E	Hardware Failure	The hand could not get the cartridge to its required position
261F	Hardware Failure	The elevator sensor of the box was not detected during elevator calibration
2620	Hardware Failure	Elevator nvr data has been corrupted or not yet initialized
2621	Hardware Failure	The X axis cannot be moved properly in either direction
2622	Hardware Failure	The servo failed to raise the drive hub
2623	Hardware Failure	The cartridge is still being retained by the drive
2626	Hardware Failure	The Theta angles are out of specification after calibration attempt
2627	Hardware Failure	The X axis did not travel the minimum distance when calibrating
2628	Hardware Failure	The Y axis did not travel the minimum distance when calibrating

FSC Code	E-mail Message Error Type	Description
262A	Hardware Failure	The Theta sensor closest to the right magazine failed to switch
262B	Hardware Failure	The Theta sensor closest to the left magazine failed to switch
262C	Hardware Failure	The X axis sensor could not be detected changing state
262D	Hardware Failure	The Y axis sensor could not be detected changing state
262E	Hardware Failure	The hand axis did not travel the minimum distance when calibrating
262F	Hardware Failure	The X axis friction is too high for normal operation
2630	Hardware Failure	The Y axis friction is too high for normal operation
2631	Hardware Failure	The Theta axis friction is too high for normal operation
2632	Hardware Failure	The hand axis friction is too high for normal operation
2633	Hardware Failure	The Z axis did not travel the minimum distance when calibrating
2635	Hardware Failure	The Z axis friction is too high for normal operation
2638	Hardware Failure	One of the axis has suffered a gross position error
2639	Hardware Failure	The cartridge position error detected on the Y axis is too great
263A	Hardware Failure	The cartridge position error detected on the X axis is too great
263D	Hardware Failure	The elevator has not been detected opposite the hand during calibration
2680	Hardware Failure	Drive 1 in this frame has reported a hardware error
2681	Hardware Failure	Drive 2 in this frame has reported a hardware error
2682	Hardware Failure	Drive 3 in this frame has reported a hardware error
2683	Hardware Failure	Drive 4 in this frame has reported a hardware error
2684	Hardware Failure	Drive 5 in this frame has reported a hardware error

FSC Code	E-mail Message Error Type	Description
2685	Hardware Failure	Drive 6 in this frame has reported a hardware error
2688	Hardware Failure	Drive 1 in this frame will not allow the hand to be operated as required
2689	Hardware Failure	Drive 2 in this frame will not allow the hand to be operated as required
268A	Hardware Failure	Drive 3 in this frame will not allow the hand to be operated as required
268B	Hardware Failure	Drive 4 in this frame will not allow the hand to be operated as required
268C	Hardware Failure	Drive 5 in this frame will not allow the hand to be operated as required
268D	Hardware Failure	Drive 6 in this frame will not allow the hand to be operated as required
2690	Hardware Failure	Drive 1 in this frame hand failed to close
2691	Hardware Failure	Drive 2 in this frame hand failed to close
2692	Hardware Failure	Drive 3 in this frame hand failed to close
2693	Hardware Failure	Drive 4 in this frame hand failed to close
2694	Hardware Failure	Drive 5 in this frame hand failed to close
2695	Hardware Failure	Drive 6 in this frame hand failed to close
2698	Hardware Failure	Drive 1 in this frame hand failed to open
2699	Hardware Failure	Drive 2 in this frame hand failed to open
269A	Hardware Failure	Drive 3 in this frame hand failed to open
269B	Hardware Failure	Drive 4 in this frame hand failed to open
269C	Hardware Failure	Drive 5 in this frame hand failed to open

FSC Code	E-mail Message Error Type	Description
269D	Hardware Failure	Drive 6 in this frame hand failed to open
26A0	Hardware Failure	Drive 1 in this frame is indicating 'in flux,' not ready for commands
26A1	Hardware Failure	Drive 2 in this frame is indicating 'in flux,' not ready for commands
26A2	Hardware Failure	Drive 3 in this frame is indicating 'in flux,' not ready for commands
26A3	Hardware Failure	Drive 4 in this frame is indicating 'in flux,' not ready for commands
26A4	Hardware Failure	Drive 5 in this frame is indicating 'in flux,' not ready for commands
26A5	Hardware Failure	Drive 6 in this frame is indicating 'in flux,' not ready for commands
26A8	Hardware Failure	Drive 1 in this frame is indicating its hand is closed and should be open
26A9	Hardware Failure	Drive 2 in this frame is indicating its hand is closed and should be open
26AA	Hardware Failure	Drive 3 in this frame is indicating its hand is closed and should be open
26AB	Hardware Failure	Drive 4 in this frame is indicating its hand is closed and should be open
26AC	Hardware Failure	Drive 5 in this frame is indicating its hand is closed and should be open
26AD	Hardware Failure	Drive 6 in this frame is indicating its hand is closed and should be open
26B0	Hardware Failure	Drive 1 in this frame is indicating its hand is open and should have been closed

FSC Code	E-mail Message Error Type	Description
26B1	Hardware Failure	Drive 2 in this frame is indicating its hand is open and should have been closed
26B2	Hardware Failure	Drive 3 in this frame is indicating its hand is open and should have been closed
26B3	Hardware Failure	Drive 4 in this frame is indicating its hand is open and should have been closed
26B4	Hardware Failure	Drive 5 in this frame is indicating its hand is open and should have been closed
26B5	Hardware Failure	Drive 6 in this frame is indicating its hand is open and should have been closed
26C0	Hardware Failure	Drive 1 in this frame has not responded to multiple requests to unload
26C1	Hardware Failure	Drive 2 in this frame has not responded to multiple requests to unload
26C2	Hardware Failure	Drive 3 in this frame has not responded to multiple requests to unload
26C3	Hardware Failure	Drive 4 in this frame has not responded to multiple requests to unload
26C4	Hardware Failure	Drive 5 in this frame has not responded to multiple requests to unload
26C5	Hardware Failure	Drive 6 in this frame has not responded to multiple requests to unload
26C8	Hardware Failure	Drive 1 in this frame has rejected the cartridge; cannot be loaded
26C9	Hardware Failure	Drive 2 in this frame has rejected the cartridge; cannot be loaded
26CA	Hardware Failure	Drive 3 in this frame has rejected the cartridge; cannot be loaded
26CB	Hardware Failure	Drive 4 in this frame has rejected the cartridge; cannot be loaded
26CC	Hardware Failure	Drive 5 in this frame has rejected the cartridge; cannot be loaded

FSC Code	E-mail Message Error Type	Description
26CD	Hardware Failure	Drive 6 in this frame has rejected the cartridge; cannot be loaded
26D0	Hardware Failure	Drive 1 in this frame has failed to load the tape successfully
26D1	Hardware Failure	Drive 2 in this frame has failed to load the tape successfully
26D2	Hardware Failure	Drive 3 in this frame has failed to load the tape successfully
26D3	Hardware Failure	Drive 4 in this frame has failed to load the tape successfully
26D4	Hardware Failure	Drive 5 in this frame has failed to load the tape successfully
26D5	Hardware Failure	Drive 6 in this frame has failed to load the tape successfully
2700	Hardware Failure	PCDIAG task init failed
2701	Soft Error	Unknown or bad diagnostic message
2702	Soft Error	Current diagnostic stack has terminated
2703	Soft Error	PCDIAG queue full
2704	Soft Error	Diagnostic command failure; initiator task unknown
2800	Soft Error	Event Log task init failed
2801	Soft Error	NVR space allocated to event log is too small. Refer to the path for required space and change in system.h.
2802	Soft Error	Event logger received bad retry level definition
2803	Soft Error	Number in event log is bad (log corrupted?)
2900	Hardware Failure	Stack Controller task init failed
2901	Hardware Failure	Stack Controller queue is full
2902	Hardware Failure	Stack Controller task received an unknown or unexpected message

Table 19 Failure Events Detail

Tape Alert Flag	E-mail Message Error Type	Description
4	Soft Error	Media can no longer be written or read, or performance is severely degraded
5	Hardware Failure	The drive can no longer read data from the tape
6	Hardware Failure	The drive can no longer write data to the tape
9	Hardware Failure	Write command attempted to a write-protected tape
13	Hardware Failure	Tape snapped or cut in the drive where media can be ejected
14	Hardware Failure	Tape snapped or cut in the drive where media cannot be ejected
20	Soft Error	The drive has a head clog or needs cleaning
22	Soft Error	The cleaning tape has expired
30	Hardware Failure	The drive has a hardware fault that requires a reset to recover
31	Hardware Failure	The drive has a hardware fault that requires a power cycle to continue
33	Soft Error	Error recovery action
40	Hardware Failure	Library mechanism is having trouble communicating with the tape drive
41	Soft Error	Stray tape left in library after previous error recovery
43	Operator Access	Library door open
44	Hardware Failure	The library mechanism had a hardware fault that is not mechanically related
45	Hardware Failure	Library magazine not present

Appendix B

Battery Statements

Caution

The PMC contains a lithium battery that is replaceable only by qualified service personnel. If replacement is required, return the PMC to Quantum or an authorized Quantum service center.

There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.

Attention

Il y a danger d'explosions' s'il y a remplacement incorrect de la batterie.

Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées conformement aux instructions du fabricant.

Additional Battery Statements

Caution

This product contains a Lithium battery. The Dallas Semiconductor DS12B887 on the motherboard contains a Lithium battery. Lithium may be considered a hazardous material. Dispose of this battery in accordance with local, state, and federal laws.

Let Op

Dit product bevat een lithiumbatterij. De DS12B887-chip van Dallas Semiconductor op het moederbord bevat een lithiumbatterij. Lithium kan als gevaarlijk materiaal worden beschouwd. Werp de batterij weg in overeenstemming met de plaatselijke en landelijke milieuwetgeving.

Varoitus

Tässä tuotteessa on litiumparisto. Emolevyllä oleva Dallas Semiconductor DS12B887 sisältää litiumpariston. Litium saattaa olla luokiteltu vaaralliseksi aineeksi. Hävitä tämä paristo paikallisten lakien ja määräysten mukaisesti.

Attention

Ce produit contient une batterie au lithium. Le composant Dallas DS12B887 de la carte mère contient une batterie au lithium. Le lithium peut être considéré comme un produit dangereux. Rejetez cette batterie selon les règlements locaux, régionaux ou fédéraux.

Achtung

Dieses Produkt enthält eine Lithium-Batterie. Der Dallas Halbleiter DS12B887 auf der Hauptplatine enthält eine Lithium-Batterie. Lithium gilt als speziell zu entsorgender Sondermüll. Bei der Entsorgung dieser Batterie müssen die entsprechenden lokalen, länder- und bundesweiten Gesetze und Regelungen betreffend Sammel- und Rückgabestellen beachtet werden.

Attenzione

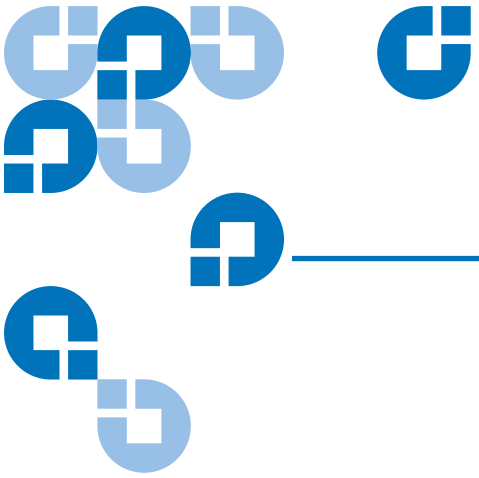
Questo prodotto contiene una batteria al litio. Il modulo Dallas Semiconductor DS12B887 contiene una batteria al litio sulla scheda madre. Il litio può essere considerato un materiale pericoloso. Utilizzare questo tipo di batterie in accordo con le normative vigenti.

Precaución

Este producto contiene una batería de litio. El modelo Dallas Semiconductor DS12B887 de la placa base contiene una batería de litio. El litio puede ser considerado un material peligroso. Deseche la batería conforme a la normativa vigente de aplicación.

Varning!

Denna produkt innehåller ett litiumbatteri. Dallas Semiconductor DS12B887 på moderkortet innehåller ett litiumbatteri. Litium kan betraktas som ett miljöfarligt ämne. När batteriet förbrukats, ska de lagar som gäller för miljöfarligt avfall respekteras.



Glossary

A

Activate Software Image This 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.

B

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

C

community name The administratively-assigned name of a logical management domain on a network as assigned by the system administrator. 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 community names.

D

default gateway The default gateway is the address through which IP packets will be routed if the system at the source address cannot communicate directly with the system at the destination address. Like the IP address, this is a 32-bit binary numeric address written as four decimal numbers separated by periods.

DHCP Dynamic Host Configuration Protocol. A protocol for assigning dynamic IP addresses on a network. With dynamic

addressing, a device can have a different IP address each time it connects to the network.

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).

F

frame A distinct and separate section of a Web page, commonly divided into a banner frame, a navigation frame, and a management frame – each section acting as an independent browser window. 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.

Frame Separate library modules connected through a common robot or elevator are considered frames. Each individual frame will have a unique identifier.

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

H

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

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.

K

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

L

LUN Logical unit number.

M

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

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

N

navigation frame The browser frame on the left of the screen which displays a list of the PMC Web pages.

O

offline A condition of the library in which the library is ready for communication with a diagnostic computer.

online A condition of the library in which the library is ready for communications with a host.

P

page properties The display and configuration attributes of a page.

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

R

reboot The process of restarting a computer so the operating system is reloaded.

restart The process of restarting a computer without reloading the operating system.

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 PrismAdmin Network Management Processor.

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.

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.

W

Web browser A client application that renders HTML code in a 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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