Overland STORAGE™

Gigabit Ethernet Option 2 (GEO2)
10/100/1000Base-T
Connectivity for NEO Libraries

Enter here...

GEOi2 User Manual
iSCSI Connectivity for the Neo Series of Libraries

Worldwide Headquarters	Overland Storage, Inc. 4820 Overland Avenue San Diego, CA 92123 Toll Free (800) 729-8725 Tel: (858) 571-5555 Fax: (858) 571-3664
Sales	Tel: (858) 571-5555 Fax: 9858) 571-3664 E-mail: sales@overlandstorage.com http://overlandstorage.com
Technical Support	Tel: (858) 571-5555 x5 (Worldwide) Toll Free (877) 654-3429 (U.S. & Canada) Fax: (858) 571-3664 E-mail: techsupport@overlandstorage.com http://support.overlandstorage.com
Overland Storage EMEA	Overland House, Ashville Way Wokingham, Berkshire RG41 2PL, England Tel: +44 (0) 118-9898000 Fax: +44 (0) 118-9891897 www.overlandstorage.com

Preface

Purpose of This Manual

This user guide provides installation instructions and operational information required for use of the Overland Storage Virtual Interface Architecture (V.I.A.) Gigabit Ethernet Option iSCSI 2 (GEOi2) card in a NEO SERIES™ library.

Manual Organization

The following information is contained in this manual.

Chapter 1, Introduction
Provides an introduction to the GEOi2 card along with a description of its benefits, features, and capabilities.

Chapter 2, Installation
Presents a step by step procedure for installing the GEOi2 card, information on connecting its various interfaces, and a description of the configuration options.

Chapter 3, GUI Configuration Options
Provides details concerning the various GEOi2 GUI screens and the options they contain.

Chapter 4, CLI Command Set
Provides syntax information for the GEOi2 CLI command set.

Appendix A, Glossary
Definitions for the terms used in this manual.

Appendix B, Event Log Messages
A list of Event Log Messages.

Appendix C, MIB
SNMP MIB listing and user information.

Appendix D, DumpConfiguration
Example of data returned from a DumpConfiguration CLI command.

About this Guide

This user guide describes how to install and configure your GEOi2 card. It assumes you are familiar with basic functions of your computer and iSCSI.

Electrostatic Discharge Information

A discharge of static electricity can damage static-sensitive devices such as the GEOi2 card. Proper packing and grounding techniques are necessary

precautions to prevent damage. To prevent electrostatic damage, observe the following precautions.

- Transport the GEOi2 in an antistatic bag.
- Keep the GEOi2 in its antistatic bag until you are ready to install it.
- Keep the workspace free of non-conductive material such as foam packing material.
- Use a wrist strap connected to the properly grounded NEO chassis.
- Make sure you are properly grounded before removing the GEOi2 card from its antistatic bag.
- Avoid touching the pins, leads or circuitry of the GEOi2 card.

Overland Technical Support

For assistance configuring and using the GEOi2 card search help at:

http://support.overlandstorage.com/jive/kbindex.jspa

Our Overland Storage Technical Support staff is also available to assist you by phone at:

1.877.654.3429 (Toll free – US and Canada)
1.858.571.5555 x 5 (World wide)

Overland Technical Support is available normal business days from 6 AM through 5 PM (California time) excluding Overland holidays. At all other times we will respond to technical support calls within 4 hours.

Technical support for our European customers is available as well from our United Kingdom office at:

+44 (0) 118-9898050
9:00 AM to 5:00 PM (GMT) Monday through Friday.

You can also e-mail our technical support staff at:
techsupport@overlandstorage.com.

Table of Contents

(i)

Introduction

GEOi2 card introduction

The Virtual Interface Architecture (V.I.A.) Gigabit Ethernet Option 2 (GEOi2) card is the second generation of GigE iSCSI to SCSI bridge cards specifically designed for the NEO SERIES tape library family. The GEOi2 is ROHS compliant.

Benefits and Features

The GEOi2 card offers you these key benefits:

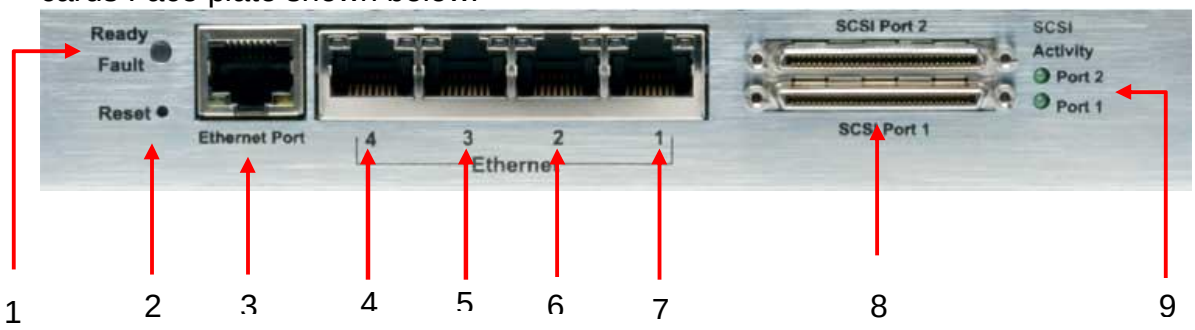
- Lets you seamlessly connect a Neo Series library to a Gigabit Ethernet infrastructure running iSCSI protocol.
- Permits a Neo library to be shared among many host over an iSCSI SAN
- The DUAL Ultra 320 SCSI data ports of the GEOi2 card permit today's high speed tape drives to run at their maximum burst rate.
- Allows you to remotely manage the GEOi2 card over the LAN

The GEOi2 provides these major features:

- Auto support 10, 100 and 1000 BaseT Data port Ethernet connectivity
- 4 Independent GigE capable Data ports
- Two independent ULTRA 320 SCSI Buses
- Manual and Auto SCSI device mapping
- Dedicated 10/100 BaseT Ethernet Port with Embedded browser based GUI screens for ease of configuration
- Command Line Interface (CLI) for scripting
- ROHS Compliant
- Support for Microsoft iSCSI MPIO

GEOi2 Status LEDs and Connectivity

All normally used Status LEDs and connectors for the GEOi2 are located on the cards Face plate shown below.



#	Description	Meanings /Function
1	Ready/Fault LED	No illumination – either Neo is powered off or GEOi2 is in midst of POST (Power On Self Test) Green – GEOi2 card is powered on and ready. Amber – GEOi2 card is powered on but in a faulted state. Flashing Green and Amber – The GEOi2 is in the Identify Bridge Mode of operation
2	Reset Portal	Small aperture through which a paper clip may be passed to depress the GEOi2 Reset switch for the card to reset.
3	10/100 Base T Management Ethernet Port	RJ45 connector for attaching the GEOi2 card to a management LAN for configuration or management purposes. The RJ45 Connector has built in Link and Activity LEDs. Green – indicates valid Ethernet link Off – Indicates no Ethernet Link Blinking Yellow – indicates Ethernet Activity
4	Data GigE Port 4	RJ45 connector for Gigabit Ethernet connectivity with embedded Link (left side) and Activity LED (right side) Link LED = Yellow = GigE, Link LED = Green = 100BaseT Activity LED flashing Green = Activity Activity LED off = No Activity
5	Data GigE Port 3	RJ45 connector for Gigabit Ethernet connectivity with embedded Link (left side) and Activity LED (right side) Link LED = Yellow = GigE, Link LED = Green = 100BaseT Activity LED flashing Green = Activity Activity LED off = No Activity
6	Data GigE Port 2	RJ45 connector for Gigabit Ethernet connectivity with embedded Link (left side) and Activity LED (right side)

		Link LED = Yellow = GigE, Link LED = Green = 100BaseT Activity LED flashing Green = Activity Activity LED off = No Activity
7	Data GigE Port 1	RJ45 connector for Gigabit Ethernet connectivity with embedded Link (left side) and Activity LED (right side) Link LED = Yellow = GigE, Link LED = Green = 100BaseT Activity LED flashing Green = Activity Activity LED off = No Activity
8	SCSI Port 1 & 2 Connectors	Independent Ultra 320 VHDCI based LVD SCSI ports 1 & 2
9	SCSI Ports 1 & 2 Activity LEDs	Off – No activity through SCSI Port. Flashing Green – Activity through SCSI Port

GEOi2 Connectivity

The following are brief descriptions of the interfaces provided by the GEOi2 card and their uses. See chapter 2 for details on connecting to these interfaces.

GigE Data Port 1-4

The four Data ports (1-4) are capable of independent operation auto sensing the incoming link rate of 10, 100, or 1Gigabit data rates. The four ports provide iSCSI access to SCSI attached backend devices that are mapped to iSCSI target / LUNs

SCSI Ports

The GEOi2 provides two independent onboard SCSI busses for backend library SCSI attachment. Each Ultra 320 (Ultra 4) SCSI bus can support up to 7 devices per bus. In the default mode both independent SCSI busses are terminated by the GEOi2 card simplifying SCSI termination issues. The GEOi2 does supply Terminator Power to the SCSI busses.

Both busses will negotiate with all attached devices for the actual transfer rate to be used. The card supports Fast (20 MB/s), Ultra (40 MB/s), Ultra 2 (80 MB/s), Ultra 3 (160 MB/s) and Ultra 4 (320 MB/s). The default for both buses is to negotiate the highest possible transfer rate. The Maximum Transfer Rate can be set through the SCSI GUI screen or by a CLI command.

Management Ethernet Port

The GEOi2 card uses a 10/100 Base –T Ethernet port for remote configuration and remote management. The Ethernet port supports the following Ethernet based protocols:
Browser access – for remote user friendly configuration and management.

Telnet – for remote configuration and management using the CLI commands.
FTP – for remotely updating the GEOi2 Firmware using File Transfer Protocol.
SNTP – to permit a remote Time Server to set the GEOI2s real time clock.
SNMP – permits the GEOi2 to send SNMP traps to SNMP monitoring stations.
DHCP – the GEOi2 card supports DHCP to allow a DHCP host to automatically set and IP address for the card.

Device Mapping

The key function of the GEOi2 card is to map backend SCSI devices (Tape drives and Media Changer) to front end iSCSI devices. Backend SCSI devices can be either Auto-mapped or manually mapped to front end iSCSI target devices.

Device mapping can be configured as either single target or multi-target mode, or both providing great flexibility of configuration. An ACL (Access Control List) function can also be used to enable only certain hosts to gain access to devices on a target by target basis.

CHAP (Challenge Handshake Authentication Protocol) is also supported on a target by target basis as a means to control access to SCSI devices attached to the GEOi2 card.

Specifications

The GEOi2 card is a custom CPCI blade level GigE iSCSI to SCSI bridging router.

Category	Item	Specification
Data Port Connectivity (Front End)	Physical Connection	Four RJ45 Auto Sensing 10/100/1000 BaseT Ethernet connectors
	Protocol Support	iSCSI Version 20, support for MS iSCSI 2.01
Library Connection (Back End)	Physical Connection	Dual independent ULTRA 320 LVD SCSI buses (Buses 1 & 2)
Configuration and Management Port	Physical Connection	One RJ 45 based 10/100 Base-T Ethernet Port.
Visible Indicators	Data Ports 1-4	Link / Link speed and Activity LEDs embedded in each of the four RJ45 connectors
	Management Port	Link and Activity LEDs embedded in the RJ45 connector visible on the face plate
	SCSI Port 1	Activity LED visible on the face plate
	SCSI Port 2	Activity LED visible on the face plate

	Status Indicator	Bicolor LED visible on the face plate
Power and Cooling	Power	Supported by the host Neo SERIES library by means of the CPCI connector.
	Cooling	Supplied by the host Neo SERIES library – the library with card should not be used in an operating environment that exceeds 40^{o} C
	Operating Humidity	Relative humidity 5% to 95% (non-condensing) Humidity gradient 10%/hr

GEOi2 card Alarm Thresholds and Shutdown

The alarm conditions make the Status light blink and will also trigger event messages to be logged into the Event log and be displayed in the GUI Status screen. Additionally if SNMP Is enabled and trap recipients are set, the GEOi2 card will send the traps out to the recipient systems(s).

Parameter	Operating Range	Warning	GEOi2 Shutdown
Celsius	5^{o} to 55^{o} C	55^{o} C	70^{o} C
Fahrenheit	41^{o} to 131^{o} F	131^{o} F	158^{o} F

If the GEOi2 reaches its shutdown temperature it will log the event and shut itself of to prevent permanent damage.

Installation

Overview

This chapter provides the pertinent information for installing the GEOi2 card into a Neo library.

GEOi2 Installation Procedure

1. Carefully unpack the GEOi2 card and ensure you have all the parts specified:
   - GEOi2 Card
   - The GEOi2 install CD with this manual and QuickNAV software that shipped with the GEOi2
   - Ethernet Crossover cable that shipped with the GEOi2

   Note – Make note of the serial number of the GEOi2 card you are installing. You will need it in the "Attaching the Ethernet Management Port" section coming up shortly. The GEOi2 serial number is listed on the label attached to rear CPCI on the componnet side. The format of the serial number is "IPB2600XXXXXX" where XXXXXX is the serial number of the GEOi2 card.

2. You will need to supply:
   - Cat5E or Cat6 Ethernet cables of proper length for each the GigE data ports you will be attaching.
   - Cat5, Cat5e or Cat6 Ethernet cable of proper length for Management LAN attachment.
   - #1 Phillips screw drive
   - At least two VHDCI to VHDCI Ultra 320 SCSI cables from Overland. (Usually included in the accessory kit)
   - VHDCI Ultra 320 Terminators – one per used SCSI bus.

3. Ensure the Neo library is power off and disconnect the power cords. For the NEO 8000 also turn off the NEO 8000 circuit beaker.
4. Remove the filler panel from any available slot in the Neo V.I.A. card cage. Retain the filler panel and screws for potential later use.
5. Observing standard electrostatic discharge procedures carefully slide the card into the empty open V.I.A. card slot until the front panel latches click into place. Resistance will be felt when the GEOi2 card begins to mate with the library backplane connector.

This completes the GEOi2 card installation. The next 3 sections of this chapter cover:

- GEOi2 to library SCSI attachment

- GigE Data Port attachment
- Ethernet Management Port attachment

GEOi2 SCSI Ports to Library Attachment

The GEOi2 provides two independent Ultra 320 SCSI Buses for library attachment. The Library Controller as well as tape drives are attached to the GEOi2s SCSI buses and will appear as iSCSI Target devices behind all of the GEOi2s Data Ports when mapped.

Note – Care must be taken to ensure that all cables and terminators used are capable of running Ultra 320 data rates. Please ensure they are SPI4 compliant.

Note – Care must be taken to minimize cable lengths when interconnecting NEO SCSI devices with the GEOi2 card.

Tape Drive Support

The following table outlines the recommended GEOi2 SCSI bus loading based on the tape drive technology and compressed data rates of 320 MB/s.

Tape Technology	Data Transfer Rate per Drive	Tape Drives per GEOi2	Tape Drives per SCSI Bus	Tape Drives per Data Port
LTO3	160 MB/s (compressed)	2*1	1	1*1
LTO2	60 MB/s (compressed)	4	2	1
SDLT 600	72 MB/s (compressed0	4	2	1

*1 – Gigabit Ethernet clock rate may impact drive performance

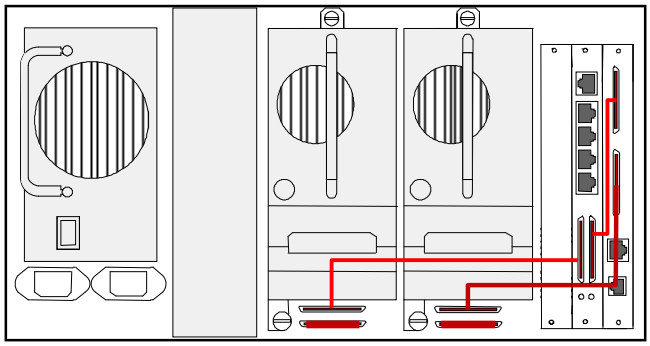
Note - Since the Library Controller bandwidth load is minimal it can be added to the previously listed tape drive configurations with little impact to tape drive performance.

Cabling Examples for the GEOi2 with the NEO 2000/4000 & 8000

The GEOi2 card supports all three product lines in the NEO SERIES family. The following are best practice examples for each member of the NEO family.

Note – Ensure Power is off when you are cabling the backend SCSI devices to the GEOi2 card.

NEO 2000



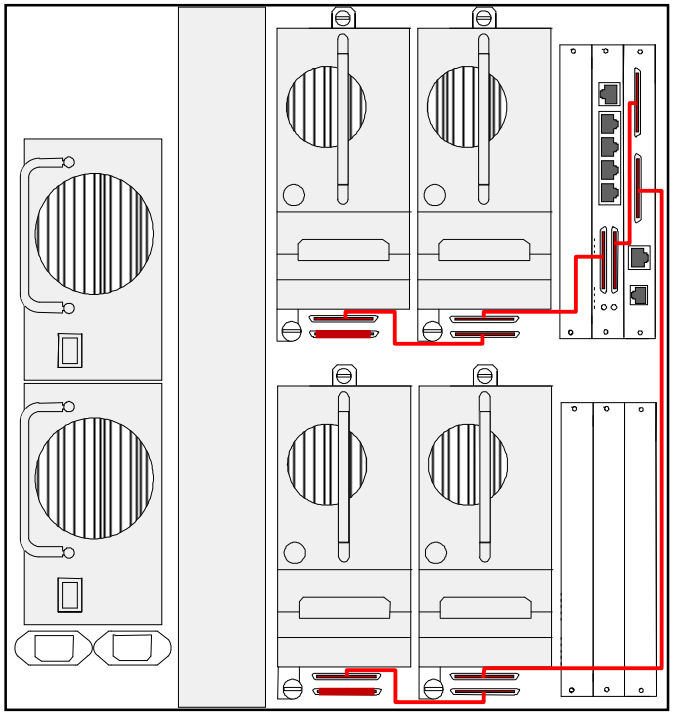
NEO - 2000

In this example the Library Controller card and tape drive 1 are cabled to SCSI Bus 2. SCIS Bus 2 is terminated at the GEOi2 card and at the lower daisy chain connecter for Tape Drive 1 with an external terminator.

Tape drive 2 is connected to SCSI Bus 1 of the GEOi2 card. SCSI Bus 1 is also terminated at one end by the GEOi2 card and at the other end by an external terminator applied to the lower daisy chain connector for tape drive 2 as shown.

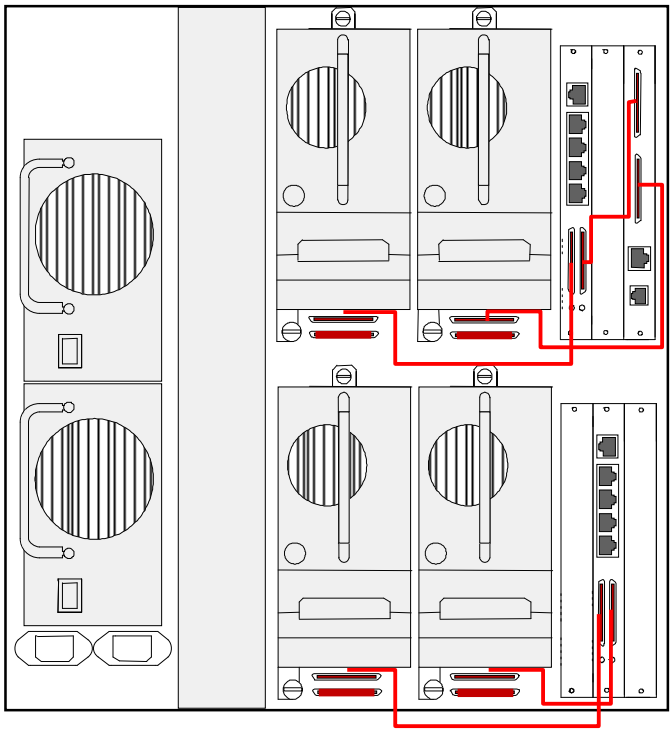
NEO 4000 – Single GEOi2 card Four Drive Configuration

In the first Neo 4000 example one GEOi2 card is used to support all four tape drives and media changer. In this example SCSI bus 1 is connected to Tape Drive 1 and Tape Drive 2 with a SCSI terminator on the lower SCSI connector of Tape Drive 2. SCSI bus Two is connected to the Library Control card followed by Tape Drive 3 then connected to Tape Drive 4 with a SCSI terminator on the lower SCSI connector of Tape Drive 4



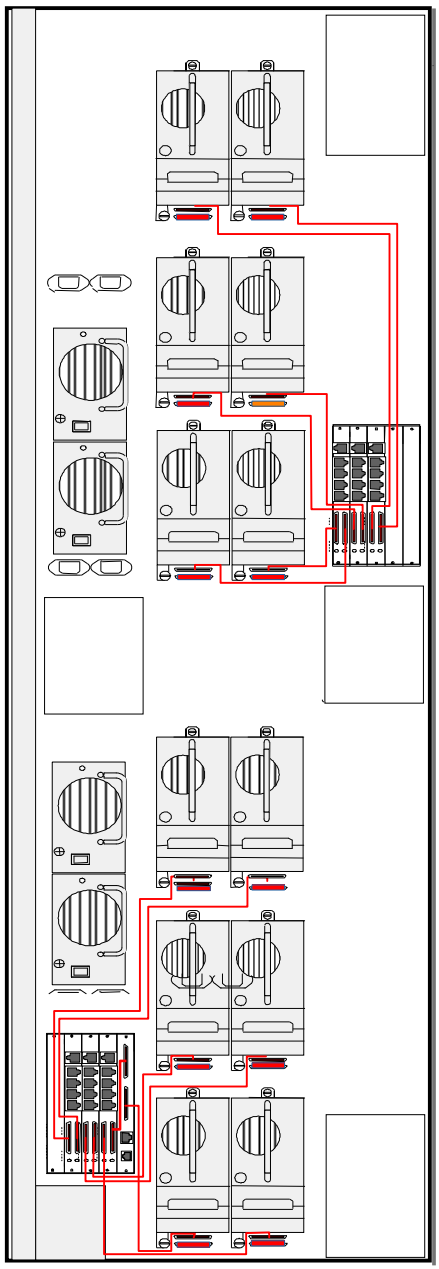
Neo 4000 – Dual GEOi2 cards Four Drive Configuration

In the second Neo 4000 example two GEOi2 cards (left & right) are used to support 4 LTO 3 drives. The left hand GEOi2 card supports the Library Controller and the upper drives 1 and 2. The Library Control card and Tape Drive 1 share SCSI bus 2 while Tape Drive 2 is the only device on SCSI bus 1. The right hand GEOi2 card supports the lower tape drives 3 and 4. Termination is supplied to all four SCSI buses by the appropriate GEOi2 card and four external terminators applied to the bottom daisy chain connectors for each drive as shown.



NEO 8000

In the following example six GEOi2 cards are used to connect the12 tape drives in the fully populated NEO 8000 library. In this example 2 drives per card are connected to each of the 6 GEOi2 cards with external terminators applied to the lower daisy chain connector for each tape drive



Attaching the GEOi2 Data Ports

Connecting the Data Port is a simple process of attaching a Cat5E or Cat6 patch cable from one of the four GOEn2s data ports to either a switch or the back of a host.

Note – Do not exceed 100 meters in total cable length from the GEOi2 card to its active end point (GigE switch) including patch panel cables.

Ethernet Management Port Attachment

The following section outlines the procedure for setting up the GEOi2 management port using QuickNAV software prior to long term use. The QuickNAV software is contained on the CD that ships with the GEOi2 and is Windows or Mackintosh compatible.

QuickNAV - First Time Setup off the Network

QuickNAV is software supplied with the GEOi2 card on the CD. It is used to set the IP address and Subnet mask of the GEOi2.

Note - QuickNAV may have trouble on large networks locating the GEOi2 card in its factory default state. When you first have the GEOi2 card installed in a Neo library it is highly recommended that you use the following procedure to set up the GEOi2 IP Address and Subnet Mask using QuickNAV on a dedicated laptop or desktop with the supplied crossover cable going directly to the GEOi2.

1) Secure a Static IP address, subnet mask and Gateway address (if needed) that the GEOi2 card will use from your LAN Administrator

2) Use the supplied Crossover cable that came with the GEOi2 card to attach the GEOi2 directly to a stand alone laptop, desk top or server running windows.

3) Temporarily hard set the IP address of the laptop to the IP address that will be used by the permanent management station for the GEOi2 card. Set the subnet mask to the value that will be used by the permanent management station.

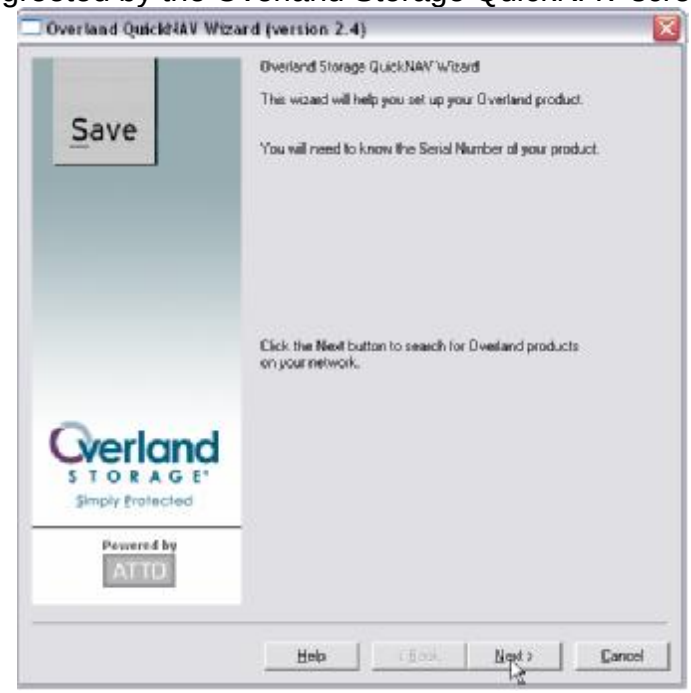
4) Install the QuickNAV software from the CD that was supplied with the GEOi2 card on your stand alone laptop, desktop, or server system.

5) Power on the Neo library and wait for one minute.

6) Execute the QuickNAV software by clicking on the QuickNav-Windows program you installed from the CD. The next portion will cover the QuickNAV menus. Please follow the instructions.

QuickNAV Screens

You will first be greeted by the Overland Storage QuickNAV screen shown next.



Click the [Next] button to continue.

This will bring up a screen similar to the one shown above. In the window should be the Serial number and “current” IP address of the target GEOi2 card.

If this is the correct GEOi2 card serial number, click [Next] to continue. If the GEOi2 card did not appear click the [Rescan] button to retry and discover the card. If still no card is visible verify you have link indication on the GEOi2 and the stand alone laptop or desktop and you are using the crossover cable.

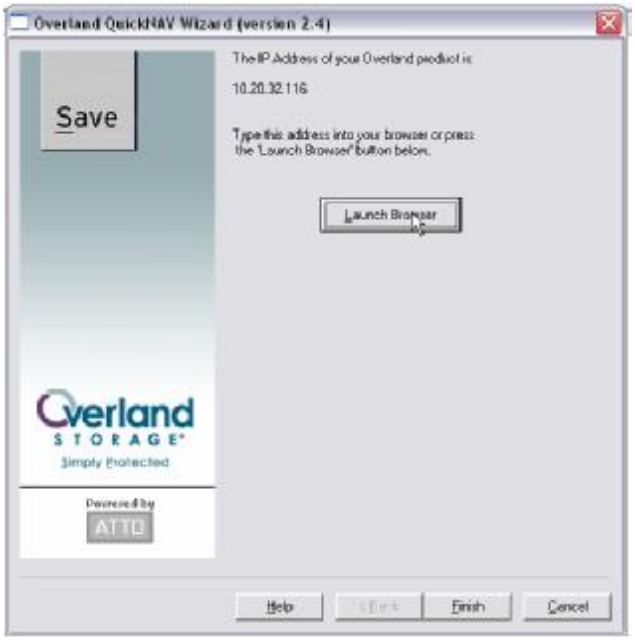
Use this screen to hard set the desired IP address and subnet mask for the GEOi2 card.

Note – it is very important for you to set these values to the desired value you want.

Once you have completed setting the values click the [Next] button to continue.

After [Next] is clicked QuickNAV will hard set the GEOi2 card's IP address and subnet mask to the values that have been previously entered. QuickNAV will then issue a firmware restart to the GEOi2 card. This will take about 60 seconds during which QuickNAV will post the following screen count down screen.

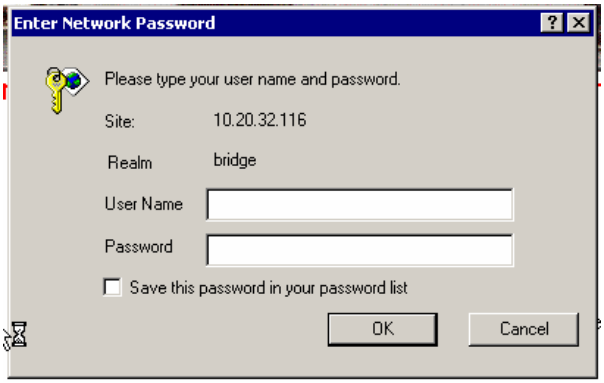
After the card has reset and you have clicked [Next] you are presented with the following screen.



Your network may have a Gateway (router) between the GEOi2 card and the permanent management station you will use. If that is the case click the [Launch Browser] button to finish configuring the GEOi2 Ethernet Management port for your LAN.

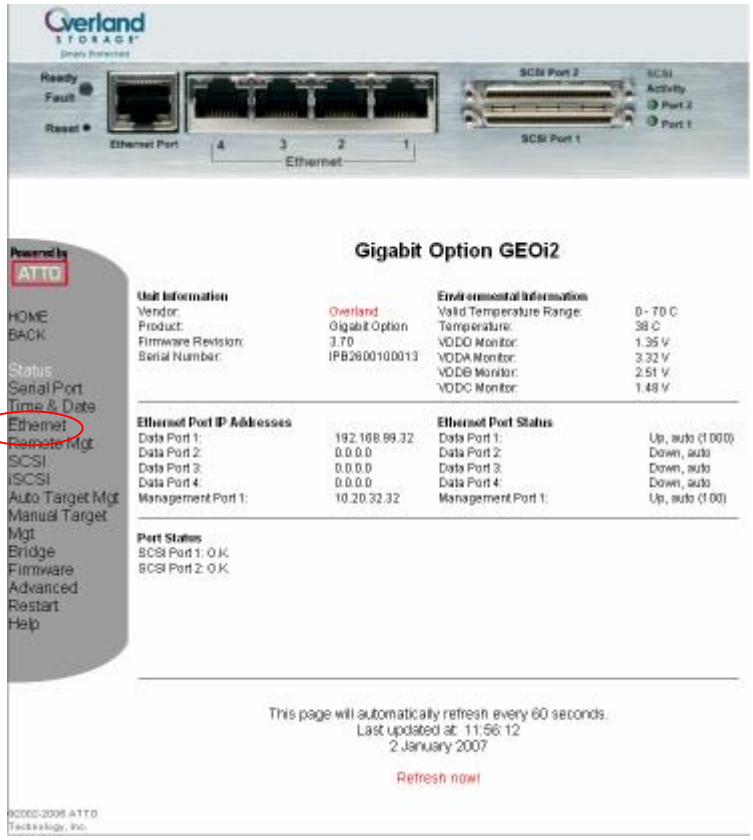
When you clicking the [launch Browser] button QuickNav will start the browser on the standalone laptop, desktop, or server and point it at the GEOi2s hard set address. After a few moments you will be greeted by the following screen.

Click the [Enter here…] as shown above. This will cause the GEOi2 to start a GUI logon sequence and to post a logon message window as shown.



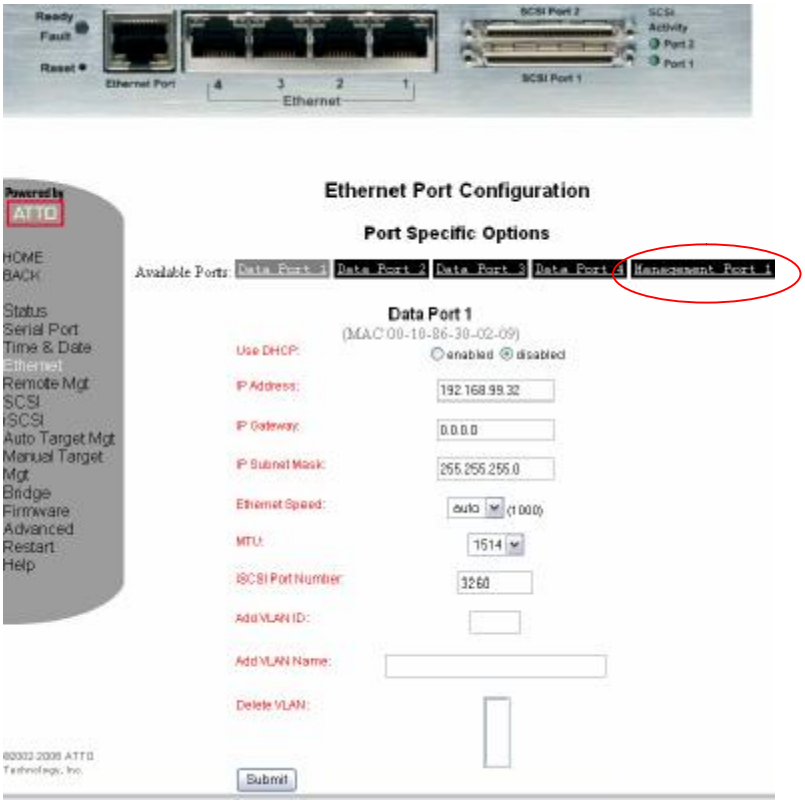
The default user name is “root”, and the default password is “Password”. Enter these values into the log in window and click [OK]. After a few moments you will be greeted with the Status screen as shown next.

Note – this is a complete view of a GUI screen including the Face plate portion. The remaining GUI screen captures in this manual will show the Face plate portion.



Click on the word Ethernet in the gray left hand column as shown circled in red to navigate to the Ethernet GUI page.

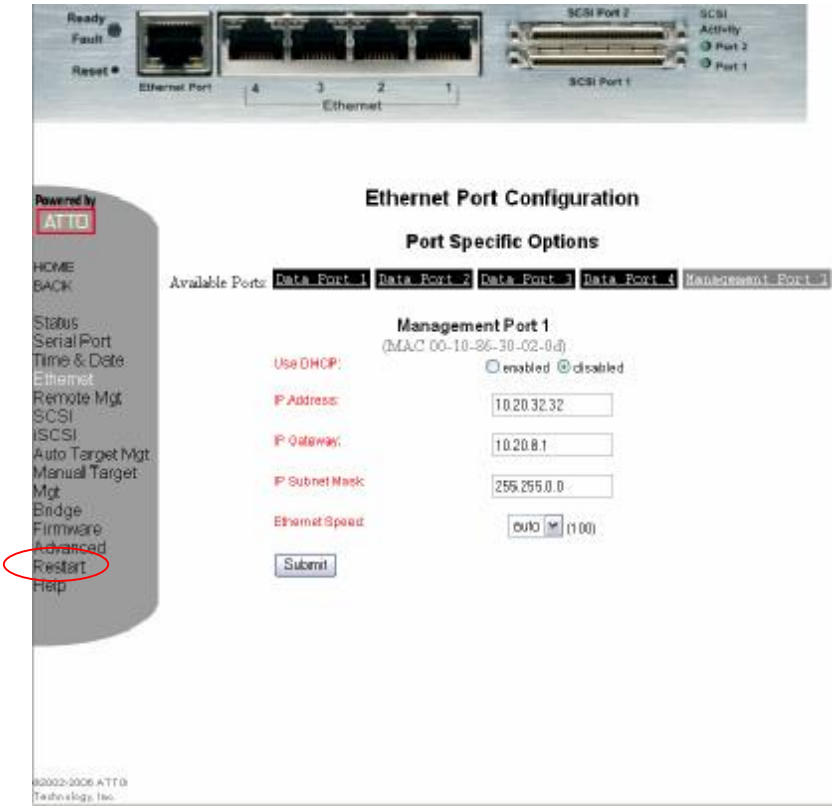
Note - You may also navigate to the interface specific GUI page by clicking on either the Ethernet connector area or SCSI connector area in the Face plate at the top of any GUI screen.



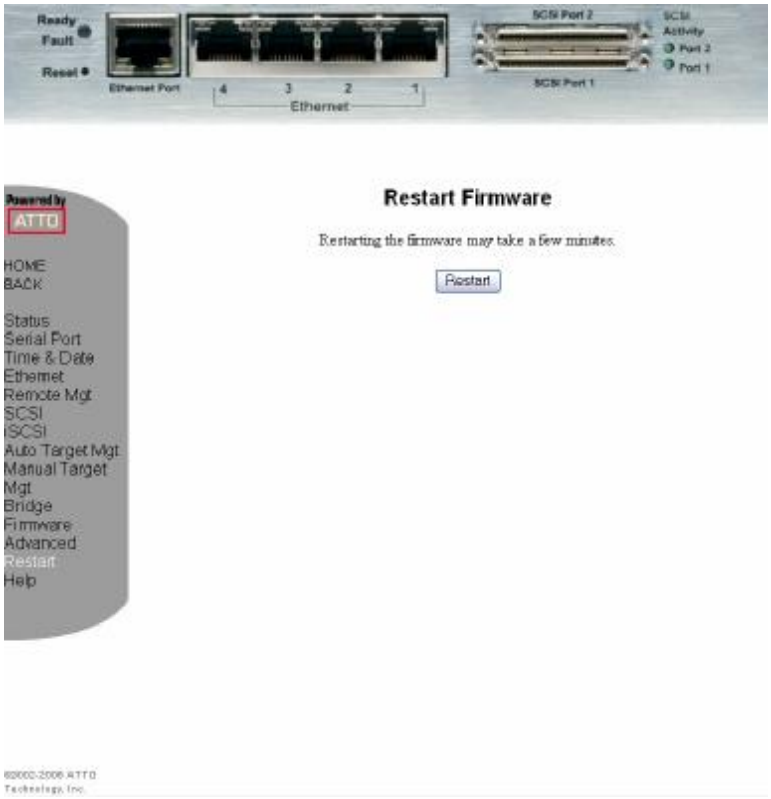
This will bring up the GEOi2 cards Ethernet GUI. Click on the Management Port tab (as shown above circled in read) to select the Management Ports page shown next.

Note – Chapter three will discuss the setting for the GigE Data port values. This section is focused on getting the GEOi2 to be remotely manageable.

Enter the IP address of the Gateway for the GEOi2 cards management port. In this example it is 10.20.8.1. After you have entered the Gateways IP click the [Submit] button. You will then be prompted (as shown above in red) to do a Firmware Restart of the GEOi2 card for the change to take effect.



To accomplish the Firmware restart, navigate to the GUI Restart page by clicking on “Restart” (circled in red) from the gray column to the left as shown. After a few moments the GEOi2 will present the following “Restart” GUI screen.



To force a Firmware Restart of the GEOi2 card click the [Restart] button. It will take about 45-50 seconds for the GEOi2 card to complete its restart and refresh the GUI back to the status screen.

At this point you can remove the crossover cable and connect the GEOi2 card to the management LAN with a standard CAT5 patch cable and use the permanent management station to complete the GEOi2 configuration. See chapter 3 for the remainder of GEOi2 settings.

Verify GEOi2 Availability on the LAN

To test for the GEOi2 on the LAN:

1) Ensure the GEOi2 is connected to the LAN with a non crossover Ethernet cable.

Note – Do not use the Ethernet Crossover cable that was shipped with the GEOi2. It is a cross over type and will not work with a large number of 10/100 hubs and switches. Use a standard CAT5 patch cable.

2) Verify the embedded LINK LED on the RJ 45 connector on the GEOi2 cards management port is on.

3) Ping the IP address of the GEOi2 management port from a command window of the management system you will use for the GEOi2 on the same LAN. If the GEOi2 responds proceed to step 4.

Note - If the GEOi2 does not respond to the ping:

Check and verify there are link lights at both the GEOi2 cards management port and where the cable attaches to the LAN.

Check and ensure the management station you are using can ping the router (if the GEOi2 card is on a different subnet) that you set on the GEOi2 in the previous section.

If necessary reconnect the stand alone laptop to the GEOi2 card using the crossover cable and browse IP address for the GEOi2 and verify through the GUI that Ethernet settings are correct for management LAN.

Check for resolve conflicts with the GEOi2 setting and your network before you continue. Restart the “Verify” procedure at step 1 if needed.

4) Enter the IP address you set for the GEOi2 card’s Management Port into the browser of the management station and press [Enter] or [go] to start the browser. In a few seconds you will see the following screen.

Further information on the GUI interface and to complete the GEOi2 setup can be found in Chapter 3. Details on the CLI command set that can be used during a telnet session are listed in chapter 4.

Final Installation Check

With the NEO powered on check both GEOi2 low level attachments as follows.

SCSI Backend
Verify the SCSI Terminator LED is green on any external SCSI terminators used to terminate the GEOi2 two busses.

Ethernet Management Port
Verify you can ping the IP address of the GEOi2 card from the management station and can open its GUI with the management stations browser through the management port.

The next chapter will cover the final configuration of the GEOi2 card using the GUI interface. These final configuration changes will be discussed on the appropriate GUI pages.

The key configuration still required is:

- SCSI Device Mapping (required)

Other parameters that may need to be changed are:

- GigE Data Port set up
- Date and Time settings
- Remote Management (SNMP) settings

Graphical User Interface (GUI)

Overview

The GEOi2 card supports two different types of software interface for configuration over its 10/100 Base-T Management Port The two types are a browser based GUI (Graphical User Interface) and a CLI interface over a Telnet session.

This chapter describes the configuration of the GEOi2 card using the GUI interface. For information about using the CLI interface refer to Chapter 4 for details.

Graphical User Interface

The GEOi2 card GUI provides a management and configuration interface to the GEOi2 card. It provides a point and click / drag and drop type of user friendly interface. The GUI is browser based. Compatible browsers include:

Internet Explorer 5.5 or later
Netscape 6.2 or later
Mozilla 0.9.2 and later (including variants such as K-Meleon 0.7+, Camino 0.6+, Galeon 1.2+, Mozilla Firefox and Epiphany.
KHTML based browsers (including Konqueror 2.21+ and Safari

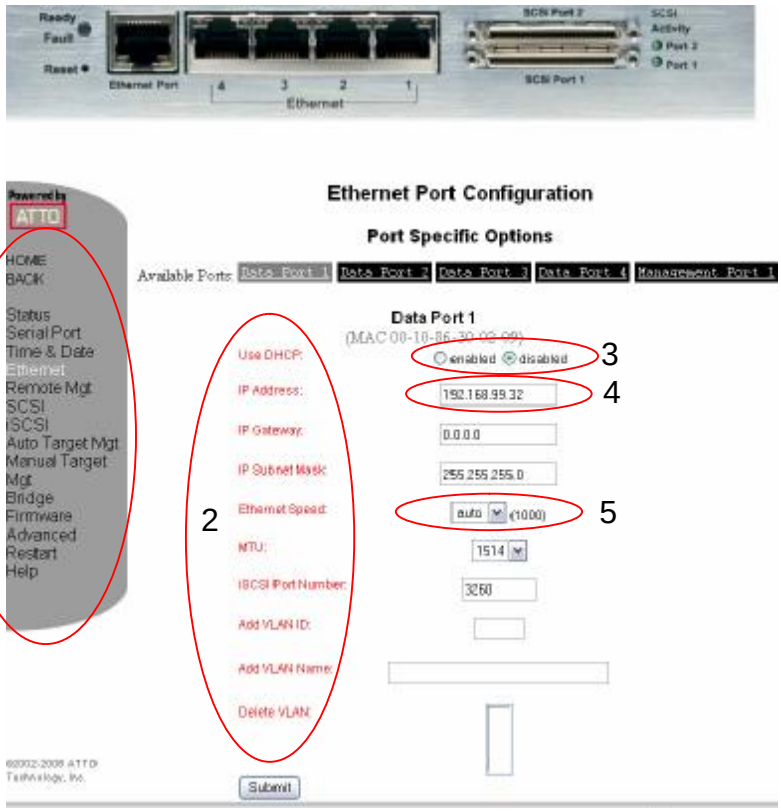
The GUI system uses a welcome / logon screen and 11 primary screens to access and make needed configuration changes to the GEOi2 card. The 13 GUI screens divide the GEOi2 viewable and or settable parameters into functional groups to simplify user interface interaction. The 11 screens / functional groups are as follows:

Status – provides an overall view of GEOi2 operational state
Time and Date – enables the setting of the cards real time clock
Ethernet – enables the setting of the cards Management and four Data Ports
Remote Management – controls the cards SNMP & EMAIL systems
SCSI – provides a means to view and control the cards two SCSI busses
iSCSI – provides control for iSNS, iSCSI Alias, and Speed Write
Auto Target Management – provides automatic mapping of SCSI devices
Manual Target Management – permits manual assignment of SCSI devices
Bridge – enables the setting of card specific values such as users
Firmware – provides a means to locate & upload new firmware to the card
Advanced – provides a means to execute CLI commands through the GUI
Restart – provides a means to restart the card
Help – provides access help information and Overland support information

The next section will discuss using the common features found on all GUI pages. Sections after that will discuss in detail the use of each GUI screen.

Using the GUI System

From any GUI screen (in this example the Ethernet screen) you can access a specific screen by selecting the desired screen from the list in the gray area (labeled as 1 and circled in read) on the left and clicking the screen you wish to go to. This will automatically navigate you to the desired screen.



On Screen Help - Text in red that appears to the right of the gray GUI screen menu (circled in red and labeled 2) can be clicked for online help that will open a window and supply basic information about the field or parameter.

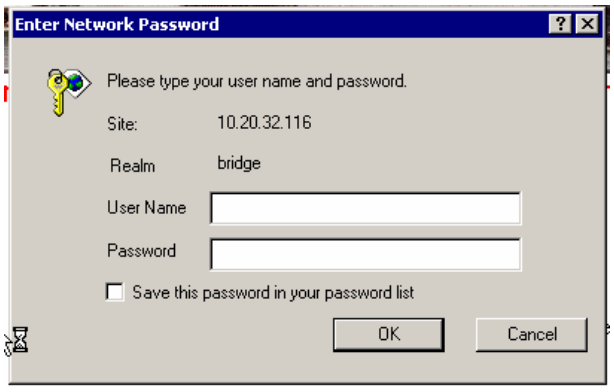
Parameter selection or entry - Some screens use Radio Buttons to enable or disable certain features as in this example with DHCP (circled in red and labeled 3). Other fields that require the administrator to supply unique information provides an Edit Boxes (circled in red and labeled 4) that may be edited with the required information such as an IP Gateway address. Some parameter fields that have a predefined option list use a pull down menu system (circled in red and labeled 5).

Submit Button - All screens that have fields for configuration entry regardless of type will have a Submit button. The submit button is used to save the configuration information you have changed or entered. Most configuration changes will require the GEOi2 be rebooted. You will be prompted when you need to reboot. If you are making multiple changes to several GUI pages you need to only need to reboot once after you have completed all of the needed edits.

Logon Screen

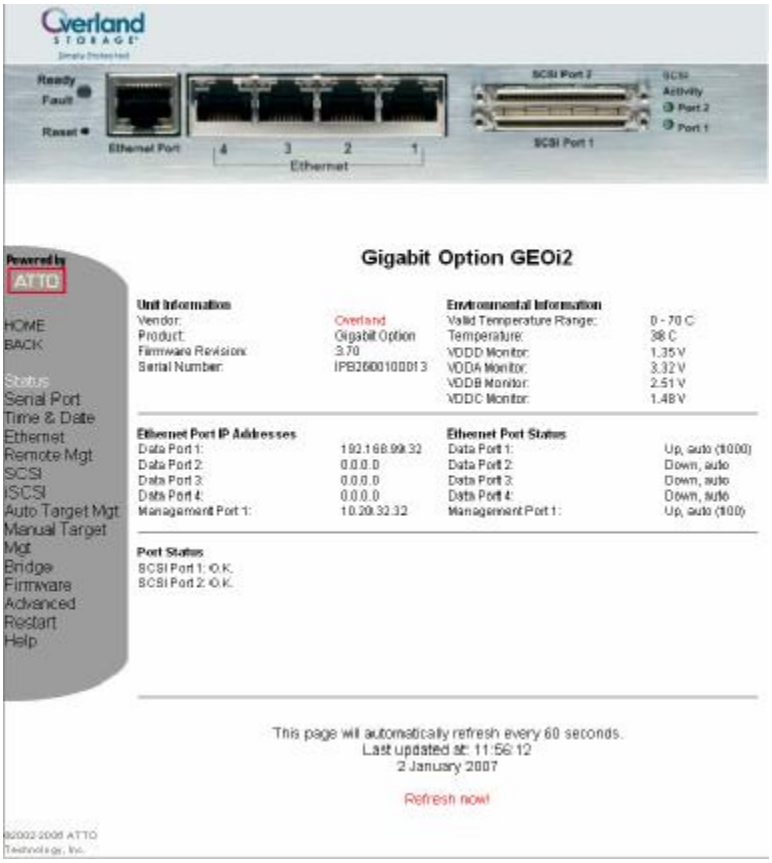
After you have set your browser to the GEOi2's IP address and pressed go or enter you will be presented with the GEOi2 Logon screen. By clicking on the "Enter here" text you will begin to access the GEOi2 GUI system.

You will now be presented with a Login window. You will need to enter the User name and password for the GEOi2 card to continue. The default factory user name is "root", the default password it "Password".



Once you have entered the user name and password click the ok button to continue.

Status Screen



The first screen to appear is the Status GUI screen. The Status screen provides an overview of the environmental and operational environment of the GEOi2 card.

Key operational parameters are presented here. They include:

- Firmware version of GEOi2 card
- Serial number of GEOi2 card
- Current temperature of GEOi2 card
- Current voltages of GEOi2 card
- Current IP address of Ethernet management port
- Current status of all four GigE capable Data ports (1-4)
- Current speed of all four GigE capable Data ports (1-4)
- Current status of SCSI ports

Note - There are no customer selectable fields on the Status screen; it is an information only screen.

Note – a legacy “Serial” GUI screen appears in the GUI screen menu to the left of the screen. When selected it will bring up a GUI page for setting a RS232 port that is not accessible from the GEOi2 card face plate. This screen should be ignored.

Time and Date Screen

The Time and Date screen permits the configuration of the GEOi2s onboard clock. Having the clock set correctly is extremely important for potential debug processes later since the clock is used to time stamp the logs.

Simple Network Time Protocol – SNTP for short when enabled will cause the GEOi2 card to attempt to synchronize its clock with a remote SNTP server at the IP address specified by the “Time Server” field. If SNTP is disabled it permits the Manual entry of Date and Time.

Time Server – this field is used to specify the IP address of the SNTP server the GEOi2 card is to use.

Time Zone – this pull down menu permits the setting of the time zone in which the GEOi2 is located. The options are: EST, CST, MST, PST, and Other.

HH-MM-SS – this field is used when SNTP has been disabled to manually set the time in the Hours – Minutes – Seconds format of the GEOi2 real time clock.

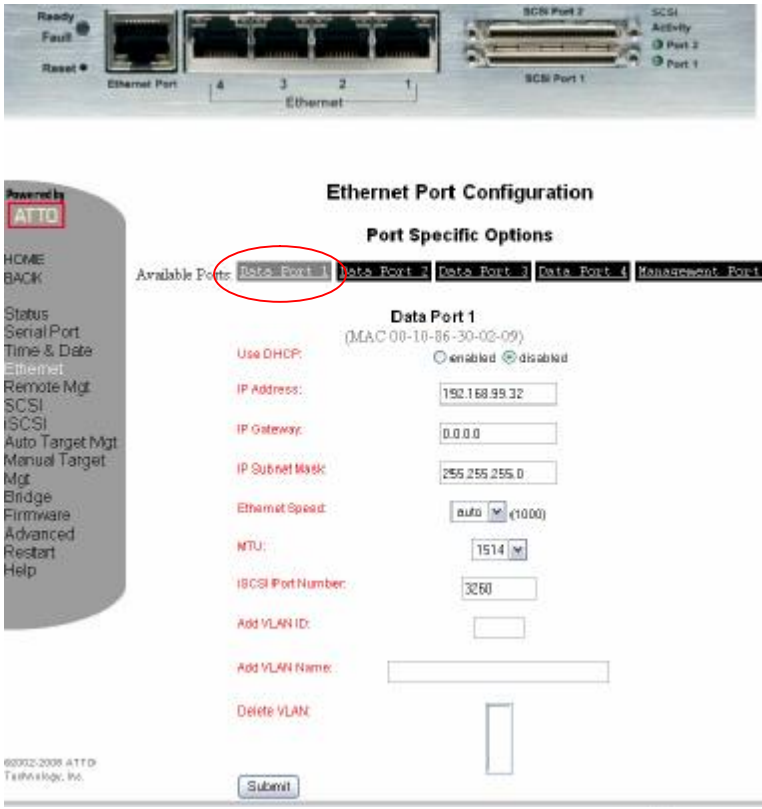
Note – you must first disable SNTP and click the [Submit] for HH-MM-SS and MM/DD/YYYY fields to become edit-able.

MM/DD/YYYY – this field is used when SNTP has been disabled to manually set the date for the GEOi2s real time clock.

Note – Click the [Submit] button after the needed changes are made.

Configuration Note – it is strongly recommended to disable SNTP unless a known SNTP server is available over your network and SNTP is used to set the backup server's clock, otherwise manually set date and time to correlate as close as possible to the backup servers real time clock.

Ethernet Screen



The Ethernet screen provides a method for configuring the five operational parameters of the five on boards Ethernet ports (Data Ports 1-4 and the Management Port).

Each of the five Ethernet port GUI pages can be selected by clicking on the wanted Ethernet port of the Tabbing Bar. In the above example we have selected Data Port 1 as shown circled in red above. When the desired Ethernet ports is selected it will appear grayed out compared to the remaining Port tabs.

Note - Edits applied to this GUI page will only affect the Ethernet Port that has been selected by its Tab. The following is a list of the Ethernet options that are common to all five Ethernet ports and available for editing on a port by port basis.

DHCP – DHCP can either be enabled or disabled by clicking the appropriate radio button. The GEOi2 is shipped with DHCP enabled as default to allow the card to be found on a network running DHCP. It is strongly recommend that DHCP is disabled and a static IP address is set for the card once it is found.

IP Address – with DHCP disabled this field becomes available permitting you to enter a static IP address. In this example Data Port 1s IP address has been set to 192.168.99.210.

IP Gateway – with DHCP disabled this field becomes available permitting the static assignment of an IP address for an Ethernet gateway / router. In this example no gateway IP address has been set since there is no router in the configuration between the Data Port 0 and the Filer it will backup.

IP Subnet Mask – with DHCP disabled this field permits the static assignment of a subnet mask. In this example a subnet mask of 255.255.255.0 was used.

Ethernet Speed – This pull down menu permits the selection of the Ethernet speeds of 10, 100, 1000 or Auto Negotiate (speed). The field just to the right of the pull down menu in parentheses is the current Ethernet speed of the GEOi2 Port selected that is connected to a LAN. In this example the speed is 1000 (GigE).

MTU – Maximum Transfer Unit – This permits the GEOi2 card to use jumbo frames for data transfers over its Data Ports. The pull down menu allows you to select 1514 byte (default) or 9014 byte (jumbo) frames.

Note - Care must be taken to ensure all components the GEOi2 will talk to through this port are capable of JUMBO frames including Switches, Routers and NICs.

Note - A VLAN consists of a network of computers that behave as if connected to the same wire - even though they may actually be physically connected to different segments of a LAN. The use of a VLAN for the GEOi2 is optional and is dependent on your LAN configuration and requirements. Consult with your LAN administrator for further details.

Add VLAN ID – the Add VLAN ID is used in conjunction with the “Add VLAN Name” field permits you to add up to eight VLANs for the GEOn to participate with per port. The VLAN IDs must be sequential starting with “1” and ending with “8”. To Add a VLAN enter the VLAN ID (in the “Add VLAN ID” field) and VLAN Name (in the “Add VLAN Name” field) and click [submit] to add a VLAN.

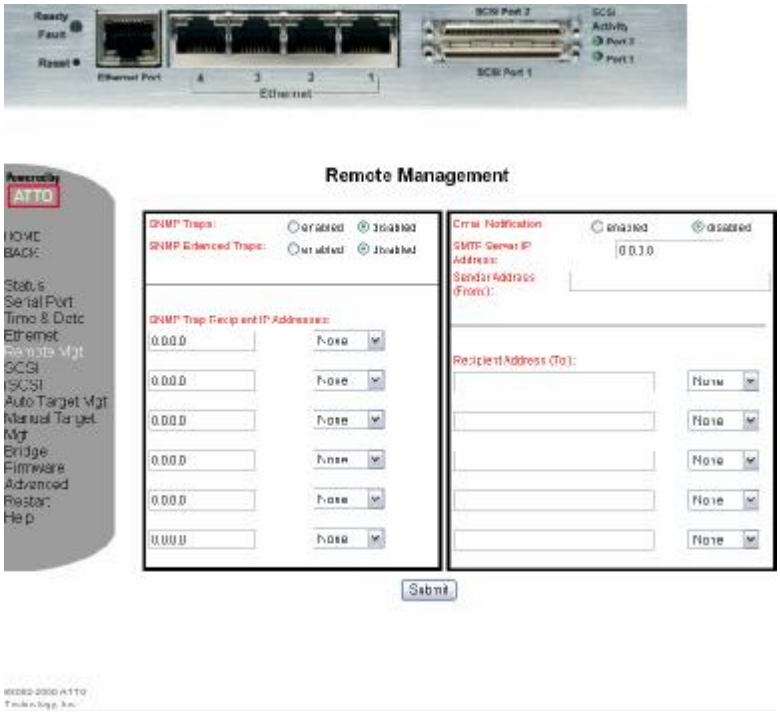
Add VLAN Name – this field is used in conjunction with the “Add VLAN ID” field to add a VLAN to the GEOn card. See “Add VLAN ID” above for details.

Delete VLAN – this field is used to delete a previously added VLAN. This is accomplished by selecting and highlighting the VLAN from the field and clicking the submit field.

Note – Click the [Submit] button after the needed changes are made.

Configuration Note – Ensure all Any Data ports you intend to use are configured with your LAN requirements.

Remote Management Screen



The Remote Management screen controls the behavior of the GEOi2s SNMP (Simple Network Management Protocol) and EMAIL notification system. The Remote Management screen is divided into two regions, one for SNMP control and one for EMAIL notifications control.

SNMP - The SNMP region permits configuration of the SNMP function for systems that support SNMP. The MIB used by the GEOi2 can be retrieved from the GEOi2 through a telnet session by issuing the following CLI command and trapping its output for installation in the MIB management software: "SNMPDumpMIB".

Note – Recipient systems must be running SNMP management software.

SNMP Traps – Enable SNMP Traps by clicking “enabled” radio button. This will enable basic SNMP functionality that will report GEOi2 related information.

SNMP Extended Traps - Enable Extended SNMP Traps by clicking “enabled” radio button for Extended Traps. This will enable SNMP to report device (tape drive and media changer) related information. “Traps” must also be enabled.

Six “Recipient IP Address” fields along with associated pull down menus are provided to set the IP address and “Level” of SNMP trap that will be sent to each recipient. “Level” options include: None, Critical, Warning, and All.

Configuration Note – If you plan to use SNMP you will need to set SNMP recipient addresses to your SNMP management stations and appropriate levels for SNMP traps.

EMAIL Notification – The EMAIL region is used to control the behavior of the GEOi2s EMAIL Notifications system

Note – In order for the GEOi2s EMAIL system to function correctly it must have access to a SMTP (Simple Mail Transfer Protocol) system on the management LAN it is connected to.

Email Notification – Use the Enable or Disable radio buttons of this field to enable or disable the GEOi2s EMAIL Notification system.

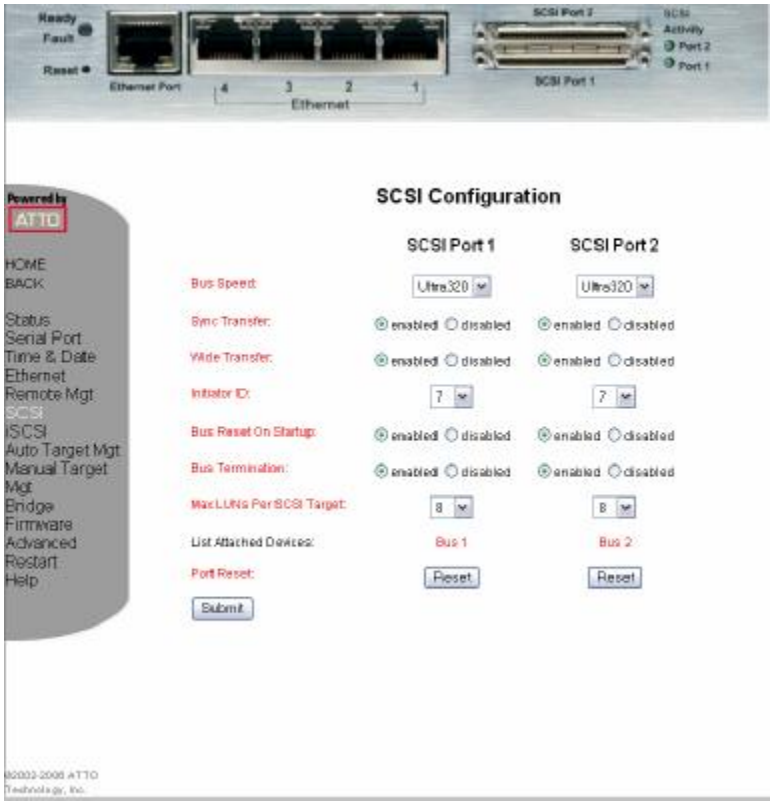
SMTP Server IP Address Field – This field is used to specify the IP address on the SMTP server the GEOi2 card will use when SMTP has been enabled.

Sender Address (from) – this field is provided for you to enter an EMAIL name and address for the GEOi2 card. It must be in the form of a fully qualified Internet email address, and not more than 128 characters.

Recipient Address (to) – these fields along with their associated pull down Level Menus (to the right of each address field) permit you to specify up to 5 EMAIL addresses the GEOi2 card will EMAIL notification to in the case of events. The Level pull down Menu provides a convenient way for you to specify what level of notification each recipient will receive. The levels are None, Critical, Warning and All.

Note – Click the [Submit] button after the needed changes are made.

SCSI Screen



The SCSI screen provides configuration control over the two (SCSI Bus 1 and SCSI Bus 2) onboard SCSI busses of the GEOi2 card.

Bus Speed – Pull down menus permit each bus to be set to a maximum negotiated transfer speed. The Options are: Ultra 320 (4), Ultra 160 (3), Ultra 80 (2), Ultra 40 (1), and FAST. Default is Ultra 320.

Sync Transfer – Radio buttons for each bus permit Sync Transfers to be enabled or disabled. The default is enabled.

Wide Transfer – Radio buttons for each bus permit Wide Transfers to be enabled or disable. The default is enabled.

Initiator ID – Pull down menus permit the setting of the GEOi2 cards ID on each bus. The default is ID 7 for both busses.

Bus Reset On Startup – Radio buttons for each bus enable or disable Bus resets on start up. The default is Reset on start up.

Bus Termination – The GEOi2 cards internal termination for each SCSI bus can be enabled or disabled by the radio buttons in this field. The default is termination for both SCSI busses.

Max LUNs per SCSI Target – Pull down menus for each bus set the maximum number of LUNs the GEOi2 will scan for during a bus scan. The options are 8 or 64. The default is 8.

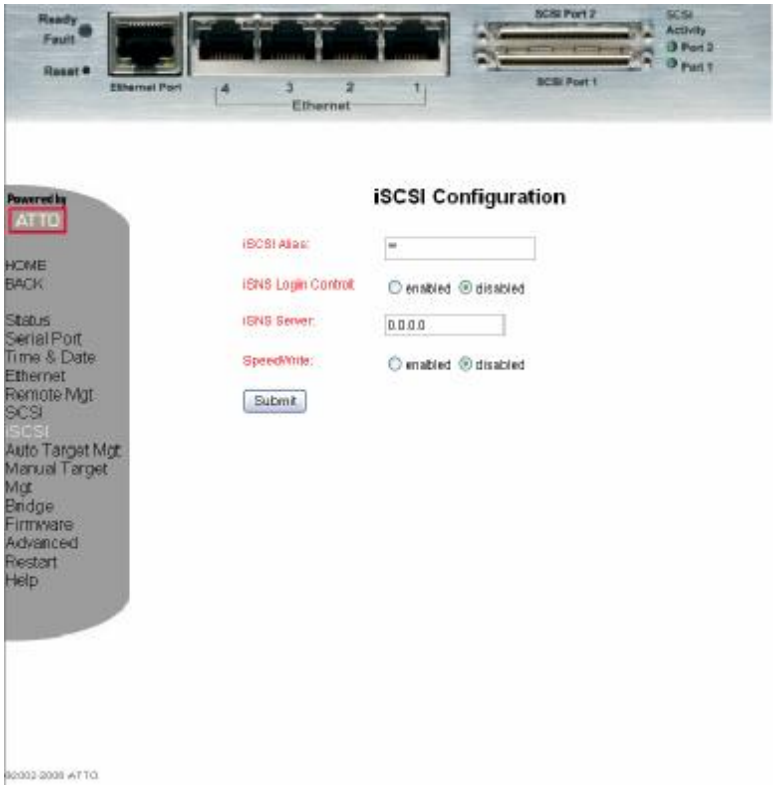
List Attached Devices – clicking either the red "Bus 1" or "Bus 2" will return devices currently connected the that bus in real time.

Port Reset – The Port Reset button for each bus will force a SCSI reset of the bus when clicked in real time.

Note – Click the [Submit] button after the needed changes are made.

Configuration Note – In most systems you do not need to change any values on the SCSI page.

iSCSI Screen



The iSCSI Configuration screen permits you to set certain parameters for the GEOi card operation in an iSCSI environment.

iSCSI Alias – This field permits you to create an iSCSI Alias name for the GEOi2 card.

iSNS Login Control – this radio button is used to enable iSNS login when an iSNS (iSCSI Name Server) is available for authentication.

iSNS Server – this field is used to enter the IP address of the iSNS server that will be used iSNS login when enabled.

SpeedWrite – When this field is enabled it permits the GEOi2 card to use a form of Write Back Cache to enhance write performance. In addition, SpeedWrite must also be enabled at the device level to take effect. The CLI command for enabling Speedwrite at the device level is “set speedwrite SCSI all enabled”.

SCSI Device Mapping and Management Options

The GEOi2 card provides both auto (Auto Target Management) and manual (Manual Target Management) mapping of back-end SCSI devices to iSCSI nodes.

Note – Please review this section in its entirety to determine if ATM or MTM best fits your system needs.

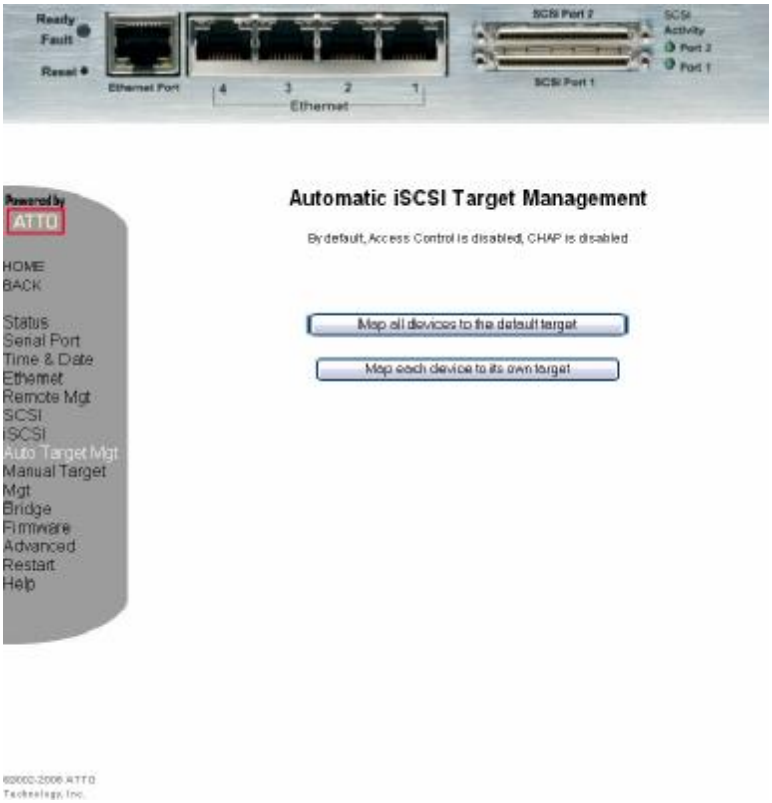
Auto Target Management (ATM) provides a single click means to map all attached SCSI devices to a single iSCSI node (named default). In addition it also provides a means to auto-map each SCSI device to its own iSCSI node.

Note – if you intend to use Access Control Lists (ACL’s) or CHAP you will need to manually modify these values on a target by target basis.

Manual Target Management (MTM) provides a simple GUI interface to create iSCSI nodes and manually map back-end SCSI devices to those iSCSI nodes.

First we will examine ATM and its two mapping options. Then we will explore the mapping options available in the MTM mode of operation.

Auto Target Management Screen



Auto Target Management provides two different mapping schemes for backend SCSI devices:

Map all devices to a Single default target node

Or

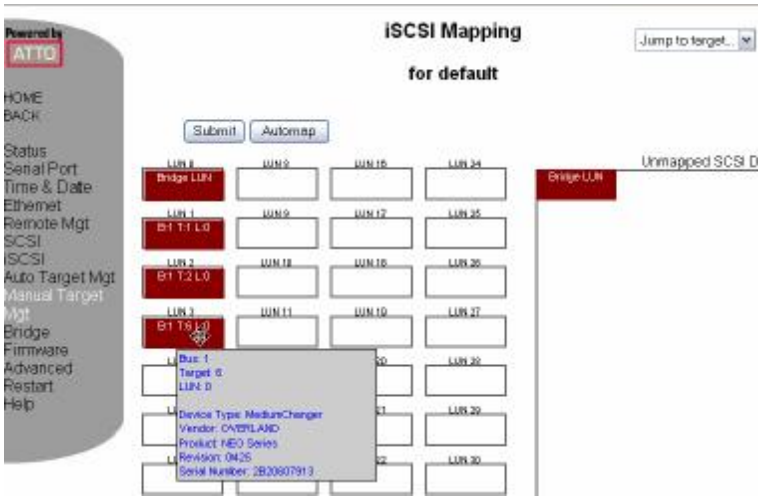
Map each device to it own target node

Note – For purpose of this discussion and demonstration a Neo 2000 library with two SDLT drives will be used.

Map All devices to a Single Default Target - Clicking this button will map all attached SCSI devices to a single iSCSI node. In this mode all SCSI devices are listed as LUNs to the single “default” target node. A few moments after clicking the “Map All devices to a single Default Target” the GUI will respond with the following screen.

By clicking on the “Device Map” as shown above a mapping screen will appear showing what back-end SCSI devices have been mapped to the iSCSI node “default” as shown next.

Note - In addition, other options for the just Auto-Mapped iSCSI node “default” can be checked or modified by clicking on the “Access Control” or “iSCSI CHAP” option tabs



The Mapping page supplies the route information of the SCSI devices that have been mapped to the iSCSI node “default”. By positioning the mouse over device blocks as shown above you can query for device specific information such as device type, manufacturer, product name, revision and serial number.

Note – After any mapping activity (Auto or Manual) it is strongly recommended that mapping screens for all iSCSI nodes be verified for correctness. Navigation to other iSCSI nodes can be accomplished by using the upper right hand pull-down menu to access other iSCSI nodes that exist.

Map each device to Own Target – Clicking this button will map each attached SCSI device to its own iSCSI node. In this mode each SCSI device along with a Bridge LUN are mapped to their own iSCSI node.

A few moments (ten seconds or so) after clicking the “Map each device to its own target” button, a new screen will appear listing the newly created iSCSI target nodes.

To create the new “iSCSI nodes” the GEOi2 card uses a combination of the devices SCSI address (Bus/ Target) value as well as vendor and product information. As an example, the GEOi2 card created an iSCSI node named “b0t01-quantum-superdlt1” for the Quantum SDLT 1 drive that was attached to SCSI bus 0, Target 1.

Note – SCSI Port 1 is identified as bus 0 and SCSI port 2 will be identified as bus 1 for this field.

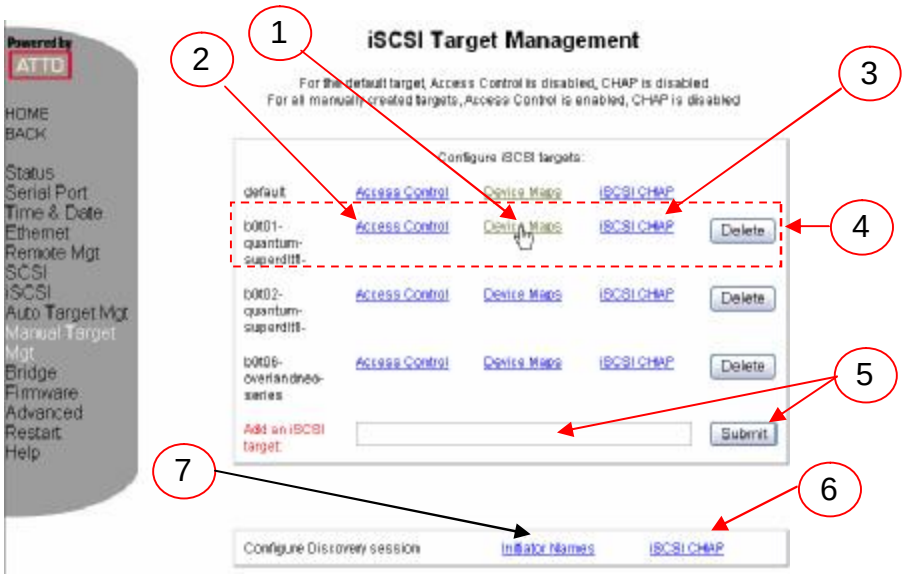
iSCSI Target Manipulation

The screen that next appears is the Manual Target Management screen. This screen now lists the newly created iSCSI target nodes as well as the “default” node. The iSCSI nodes are listed in row format starting with the “default” node followed by the other nodes. Shown below in the red dotted line box are the “b0t01-quantum-superdlt1” iSCSI node and its associated settings.

Seven different operations can be performed on iSCSI nodes starting from this page by clicking on one of the seven buttons or links. A brief description of each button or link including its operation and in some cases its submenu will be covered in order (1-7) next. They are:

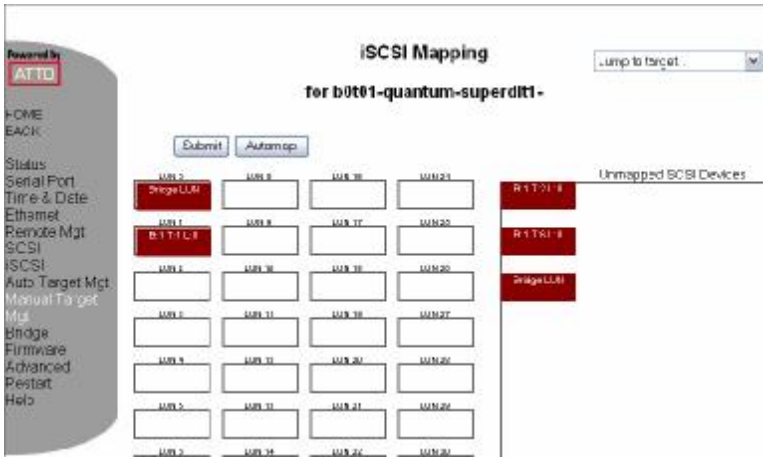
1) View and edit the Device Map on iSCSI target
2) View and edit ACL’s for an iSCSI target

3) View and edit CHAP for an iSCSI target
4) Delete and iSCSI target
5) Create an iSCSI target
6) View and edit CHAP for discovery sessions
7) View and edit ACL's for discovery sessions



Note – the "default" iSCSI node is always listed as shown above but no devices will be auto mapped to it if you choose the "Map each device to its own target" option.

Device Map (1) - Further drill down and device mapping verification can be accomplished by clicking the "Device Map". This will bring up the map for the iSCSI node that was selected as shown next.



The “Map each device to its own target” function will automatically create a Bridge LUN and place it at LUN 0 followed by the actual back-end SCSI device at LUN 1 as shown in the above example.

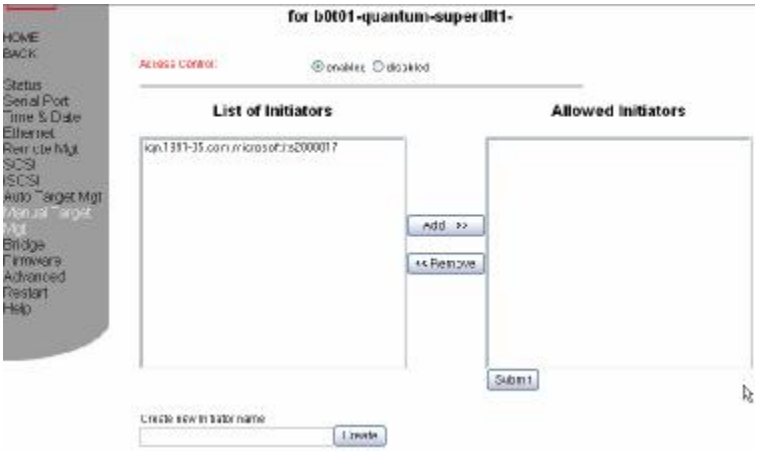
The mouse may be used to manually map SCSI Block devices to iSCSI LUNs of the target by clicking on them, then dragging them to the desired location (a different LUN location or the “Unmapped SCSI Devices” area on the right of the screen.

Note – to eliminate the bridge LUN you may manually map it to the “Unmapped SCSI Devices” area. You will also want to remap the SCSI devices so as to fill iSCSI LUNs starting at zero with no gaps if more than one device is being mapped.

Note - As noted earlier by placing the mouse over the device blocks additional information such as vendor, product, revision level, and serial number can be gleaned.

Note - Verify additional iSCSI node maps by clicking the “Manual Target Mgt.” button in the left hand column and then selecting the desired iSCSI Target row and clicking [Device Map].

Access Control (2) – clicking this button will open the Access Control page for the selected iSCSI node. This page is used to configure the optional Access Control List (ACL) for the node.



Access Control – This radio button is used to enable or disable Access Control on the iSCSI node.

Create New Initiator name – this field and create button are used to add an iSCSI Initiator to the “List of Initiators” field. Type or cut and paste the Initiator name into the field and click [Create] to add an Initiator to the “List of Initiators”.

Add >> - this button is used to move an Initiator from the “List of Initiators” to the “Allowed Initiators” list. This is accomplished by first highlighting the Initiator you want in the “List of Initiator” field and clicking the [ADD >>] button.

Submit – this button submits the list of “Allowed Initiators” to the Access Control logic permitting only Allowed Initiators access to the iSCSI target node.

<< Remove – this button removes a highlighted Initiator from the “Allowed Initiator field placing it back into the “List of Initiators” field.

iSCSI CHAP (3) – Clicking this button will open up the iSCSI CHAP screen for the selected iSCSI node. The CHAP option provides an additional level of “authentication” permitting you to set “In” and “Out” Secrets on an iSCSI Target Node to Initiator pairs.

CHAP specifies the incoming and outgoing Secrets (passwords) for iSCSI CHAP sessions. Secrets are case sensitive, 12 to 32 characters, and cannot contain spaces. 'In' and 'out' secrets must be different for each name. If ‘discovery' is specified, the setting will apply to CHAP during discovery sessions.

iSCSI CHAP – this radio button is used to enable or disable CHAP at an iSCSI node level.

CHAP Out Secret – an 'out' secret is for authentication of the bridge to the server. There is only one 'out' secret per target that cannot be deleted. The account name for the out secret is 'root' by default.

CHAP In Secret - an 'in' secret is for authentication of the server to the bridge. The bridge can store up to 32 'in' secrets, each with a unique Account Name and secret pair.

Delete (4) – this button deletes a previously defined iSCSI target node from the GEOi2.

Add an iSCSI Target (5) – this field and associated button can be used to manually create an iSCSI target node. Type the name of the new iSCSI target node you want to create and click the [Create] button.

iSCSI CHAP - Discovery only (6) – this button will bring up the CHAP menu that will permit you to enable / disable CHAP and set CHAP secrets during the Discovery portion of Log in.

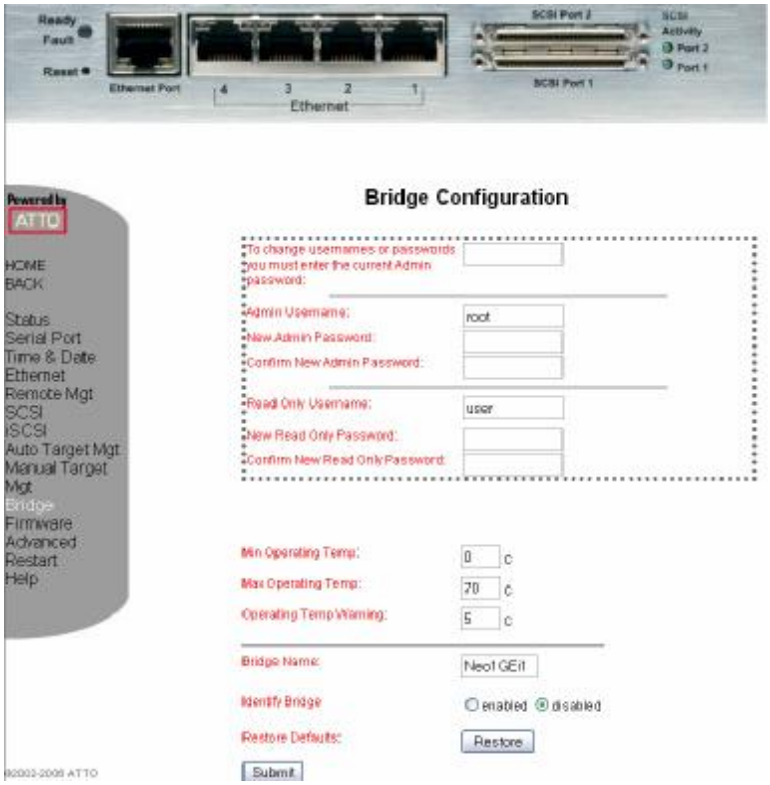
Initiator Names – Discovery only (7) – this button will bring up the ACL (Access Control List) screen permitting you to enable / disable ACL's control during the Discovery portion of the log in. With ACL's enabled, the GEOi2 iSCSI targets are hidden from iSCSI Initiators unless they are on the list of "Allowed Initiators".

iSCSI SAN Configuration Note – by mapping each SCSI device to its own iSCSI node the GEOi2 card provides very strong access control over hosts systems through the use of the GEOi2's ACL (Access Control List) function and CHAP ((Challenge Handshake Authentication Protocol).

Manual Target Management Screen

In the above screen example only the "default" iSCSI target exist (as always, it can not be deleted). Additional iSCSI targets can be created by using this screen. See "iSCSI Target Manipulation" in the previous section for details on using this screen

Bridge Screen



The Bridge screen permits general purpose operational parameters of the bridge to be modified.

Note – to change User names and Passwords you must enter the current Admin password in the first filed of the Bridge Configuration box. The default Admin password is “Password” as shipped by the factory.

Admin Username – this field permits you to change the Admin level user name from its default “root”

New Admin Password – this field permits you to change the Admin level password from its default “Password”

Confirm New Admin Password – if you are changing the Admin level password you need to reconfirm the new pass word in this field.

Read Only Username – this field permits you to change the Read Only level user name from its default “user”

New Read Only Password – this field permits you to change the read only level password from its default of none

Confirm New Read Only Password – if you are changing the read only level password you need to reconfirm the new password in this field.

Min Operating Temp – this field permits modification to the low end operating temperature for the GEOi2 card. This field should not be modified.

Max Operating Temp – this field permits modification to the high end operating temperature for the GEOi2 card. This field should not be modified.

Operating Temp Warnings – this field set the warning thresholds for both the high and the low temperature. This field should not be modified.

Bridge Name – this field permits the GEOi2 to be renamed from its default bridge name of "NEO1FCO1". The bridge name can be used to uniquely identify multiple bridges in the same library or identify multiple Neo libraries with GEOi2 cards or both. Here are a few examples.

Multiple GEOi2 cards – Single Library	Multiple GEOi2 cards – Multiple Libraries
NEO1GEi1	NEO1GEi1
NEO1GEi2	NEO1GEi2
NEO1GEi3	NEO2GEi1
NEO1GEi4	NEO2GEi2

Identify Bridge – when enabled, will cause the Ready / Fault led on the bridge to repeatedly flash amber than green to identify the bridge.

Restore Defaults Button – when click will force all parameters back to factory original defaults.

Note – Click the [Submit] button after the needed changes are made.

Configuration Note – It is strongly recommended that you change the Admin user name and password and make note of it, then secure the note as part of an overall security procedure. If a password is lost, contact Overland Technical support for assistance in regaining access to the GEOi2 card.

Firmware Screen

The Firmware Screen is used to update the firmware of the GEOi2 card. In order to use this screen you must:

- Ensure that the new firmware is downloaded to the management station that is running the GUI session.
- 2 Click the [Browse] button on this screen to open a window permitting you to navigate to where you have stored the firmware update.
- Select the firmware file.
- Click upload to begin the upload process.
- When prompted (after upload completes) go to the Restart GUI screen and restart the firmware.

Note – it is very important that you do not power off the library / GEOi2 during the upload process. This would cause serious damage to the GEOi2 NOVRAM requiring the GEOi2 to be replaced.

Configuration Note – this screen is not used during the normal configuration operations unless the GEOi2 card needs to have a firmware upgrade. Check the Overland support Web site for the current suggested firmware level.

Advanced Screen

The Advanced screen permits the administrator to execute CLI commands through the GUI. This is accomplished by entering the CLI command and any parameters that may be required in the submittal box provided and clicking the [Submit] button to the right of the submittal box.

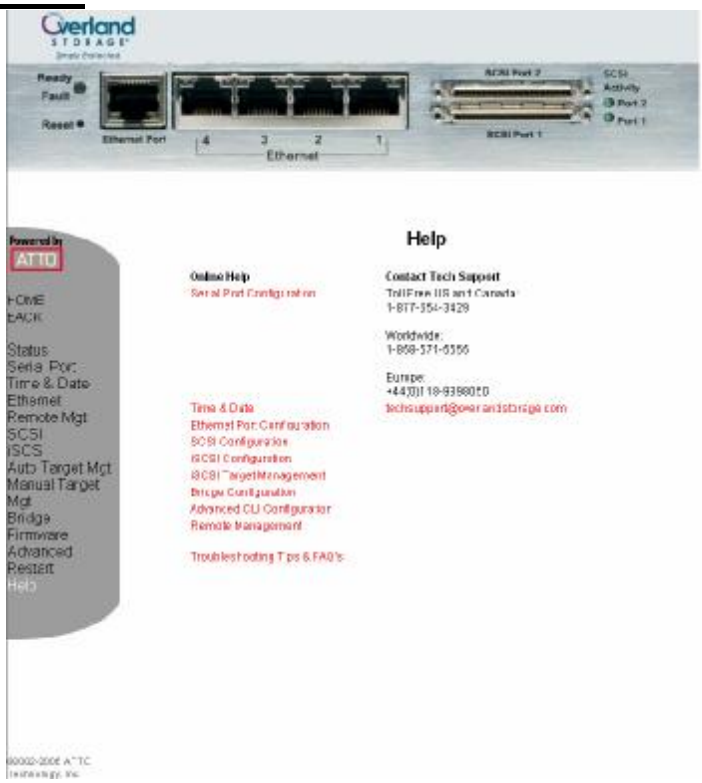
The command is echoed in the message window below the submittal box along with command execution status.

Note – See chapter 4 for details on all CLI commands and supported syntax for the GEOi2 card.

Restart Firmware Screen

The Restart screen is used to force a firmware restart of the GEOi2 card. This is accomplished by clicking the [Restart] button as shown above.

Help Screen



The Help Screen provides online by permitting the administrator to click on one of the topics in red for further details. Those topics include:

Time & Date
Ethernet Port Configuration
SCSI Port Configuration
Bridge Configuration
Advanced CLI Configuration
Remote Management (SNMP & EMAIL) Configuration
Troubleshooting Tips & FAQ's

Overland contact information is also provided along with an auto Email link that will open up your mail client and create an Email addressed to Overland Technical Support.

Command Line interface (CLI)

CLI Overview

The CLI provide a command level interface to the GEOi2 card for advanced users and scripting purposes. All parameter setting and monitoring functions that can be performed through the GUI may also be done through a telnet session using the CLI command set.

CLI Syntax

The CLI commands consist of two syntactical types, Immediate, and Modified.

Immediate types are commands that do not require a preceding command modifier like “Get” or “Set’. An example of an immediate command is “Help” which will display a list of all commands.

Modified commands require a preceding “Get” or “Set command to tell the GEOi2 how to function on the CLI command. An example of a modified command is the “VerboseMode” command. The “Get” version of modified commands returns the current value of the function while the “Set” version of the command cause the functions value to be set to the parameter(s) that follow the CLI command. As an example:

“Get IPAddress mp1”	typed on either the Advanced GUI screen or during a Telnet session will return the current IP address setting for the management port in the following format:

“IPAddress = 10.20.32.116

Ready.”

The returned “Ready” indicates the GEOi2 is ready to accept another command. An example of the “Set” version of the “IPAddress” command is a follows:

“Set IPAddress mp1 10.2.32.115”

“Ready. *”

This will return a “Ready.” But this time it is accompanied with an “*” character indicating that for the parameter change to take effect you will need to issue a “SaveConfiguration” command.

In this particular case since we are changing the IP address of the GEOi2 card the return status from the “SaveConfiguration” will indicate it as shown next.
“SaveConfiguration
Restart is necessary....

Ready.”

At this point you will need to use the Immediate command “FirmwareRestart” for the new IP address to take effect.

Note - If you are making several changes like both the IP address and subnet mask you will need to issue the “SaveConfiguration” command after each CLI commands but you need only do a single Firmware Restart after you have made all your edits.

CLI Command Functional Groups

The CLI commands are roughly group by GUI screen usage. Command functions that appear on more than one GUI screen, as an example “World Wide Port Name” are listed under its main functional group, in case Fibre Channel.

CLI Help Commands

These CLI commands are used to get help when using the CLI interface in a telnet session.

Help

Displays a list of available commands. If command name is specified, displays detailed command-specific information.

Immediate syntax: Help
or
Immediate syntax: Help [command name]

VerboseMode

Specifies the detail of feedback for the command line interface. Disabling this option removes parameter names from action commands and removes descriptions
from information commands. Default: enabled (returns have parameter information)

Set syntax: set VerboseMode [enabled | disabled]
Get syntax: get VerboseMode

Status & information Commands

These commands are used to glean basic information and current status on the GEOi2 card. This information may also be viewed through the Status GUI screen

BridgeModel

Reports model information about the GEOi2.Information only.
Get Syntax: get bridgemodel

(data returned)
"Overland Gigabit Option GEOi2"
(c) 2002 - 2006 ATTO Technology, Incorporated
Firmware version 3.70 release date "Mar 27 2006", 11:20:20 Build 002L
Base version 9.00

BridgeName

Reports or set the Bridge name. The user definable Bridge Name is used to identify the bridge to administrator and will appear in the GUI on the Status screen as well as part of the data returned by the “Info” command. The user definable Bridge Name can be up to eight characters in length. See the GUI screen on Bridge Configurations for recommendations on names. The Default is “NEO1GEn1”.

Set Syntax set BridgeName NEO1GEi2
Get Syntax get BridgeName

(data returned)
BridgeName = "Neo1GEi1"

Info

Displays version numbers and other production information for key components of the GEOi2.

Immediate syntax: Info

(data returned)
info
Device = "Gigabit Option GEOi2"
Serial Number = IPB2600100013
Device Version = 3.70
Build Number = 002L
Build Date = "Mar 27 2006" 11:20:20
Flash Revision = 0
CLI Revision = 1.31

Base version = 9.00
Version Number = 3.70
User-defined name = "Neo1GEi1"
World Wide Name = 20 00 00 10 86 30 02 09
Active Configuration = Overland

SerialNumber

Reports the GEOi2 serial number which is unique for each GEOi2 card. The serial number tracks the board throughout its life.

Get Syntax: get SerialNumber

(data returned)
Part Identifier: IPB2600 Sequence Number: 100013

Temperature

Returns the current internal temperature of the GEOi2 in degrees Celsius. This is an Information only command.

Get syntax: get Temperature

(data returned)
Temperature = 36 C

Voltage

Displays the voltage levels monitored by the GEOi2 Bridge. They are:

Term Name	Nominal Value
VDDD	1.35 V
VDDA	3.3 V
VDDB	2.5 V
VDDC	1.5 V
All	Returns all voltage values

Get syntax: get Voltage < VDDA |VDDB| VDDC | VDDD | ALL>

(data returned for all)
;Voltage Level
;==========
Voltage (VDDD) = 1.33 V
Voltage (VDDA) = 3.32 V
Voltage (VDDB) = 2.52 V
Voltage (VDDC) = 1.48 V

Time & Date commands

These commands are used to control the GEOi2 onboard real time clock.

SNTP

Sets/gets the SNTP setting. When enabled, the GEOi2 will try, at reset and every 12 hours thereafter, to contact a specified SNTP time server to initialize/synchronize the time. This function is enabled by default.

Set syntax: set SNTP [enabled | disabled] < [dp[n]] [VLAN ID] >

Note - Requires a SaveConfiguration command

Get syntax: get SNTP

(data returned)
SNTP = disabled
SNTP VLAN IDs
DP1: disabled
DP2: disabled
DP3: disabled
DP4: disabled

SNTPServer

Sets or gets the IP address of the SNTP time server. If the GEOi2 is unable to contact the specified SNTP timeserver within 30 seconds, the GEOi2 will try to contact the first auxiliary SNTP time server. If not successful, the GEOi2 will try to contact the second auxiliary server. If not successful, the GEOi2 will continue to keep time based on the most recent SNTP time server, physical RTC or manual initialization or synchronization. Auxiliary time servers included:

129.6.15.28 (time-a.nist.gov)
132.163.4.101 (time-a.timefreq.blrdoc.gov)

The default time server is: 192.43.244.18 (time.nist.gov)

Set syntax: set SNTPServer xxx.xxx.xxx.xxx

Note - Requires a SaveConfiguration command

Get syntax: get SNTPServer

(data returned)
5
;SNTP Server IP Addresses
;=======================
192.43.244.18
129.6.15.28 AUX

132.163.4.101 AUX

Date

Sets/displays the date. The range is 01/01/2000 to 12/31/2099. For all models except the GEOi2 2350, the date will be reset to the default after the GEOi2 is reset or power-cycled. The date is persistent in the GEOi2 because it has a battery backup. The
Default date is 01/01/2000.

Set syntax: set Date [MM] / [DD] / [YYYY]

Note - Requires a SaveConfiguration command

Get syntax: get Date

(data returned)
Date = 10/31/2006

Time

Sets/displays the time in a 24-hour format. The default time is 00:00:00 and is accurate through the GEOi2 is reset or power-cycled. The default: 0:00:00.

Set syntax: set Time [HH] : [MM] : [SS]

Note - Requires a SaveConfiguration command

Get syntax: get Time

(data returned)
Time = 19:37:07

TimeZone

Sets/displays the time zone if SNTP is disabled. Setting may be EST, CST, MST PST or a numerical offset from GMT in the format +/- HH:MM. When SNTP is enabled, applies the time zone setting to the time retrieved from a specified SNTP time server to determine local time. The default time zone is EST (EASTERN).

Set syntax: set TimeZone [EST | CST | MST | PST |[+ / - HH : MM]]

Note - Requires a SaveConfiguration command

Get syntax: get TimeZone

(data returned)
TimeZone = PST

Ethernet configuration commands

The Ethernet configuration commands configure the Ethernet and TCP/IP parameters.

DPMTU

The Data Port Maximum Transfer unit is used to set the Frame size for transfers on the four GEOi2 Data ports. The default frame size is 1514. Data Ports can beset to also support a 9014 (Jumbo) Frame size.

Set syntax: set DPMTU [dp[n] | all] [1514 | 9014]

Note – Requires a SaveConfiguration command

Get syntax: get DPMTU [dp[n] | all]

(data returned)
6
; Port MTU
;==========
DP1 1514
DP2 1514
DP3 1514
DP4 1514

Note – ensure all components of the Ethernet link are set to support Jumbo frames.

EthernetSpeed

Sets or displays the current speed for the Management port (mp1) or a Data port (dp[n]) or all ports.. Choices are 10, 100, 1000 and Auto. The default is auto.

Note - the Management Port (mp1) does not support 1000.

Set syntax: set EthernetSpeed [dp[n]mp1 | all] [10 | 100 | 1000 | Auto]

Note – Requires a SaveConfiguration command

Get syntax: get EthernetSpeed [dp[n] | mp1 | all] **Note** - If auto enabled,
value in parentheses
indicates current speed
(data returned for “all”)
7


```
; Port      Speed
;=========================
  DP1      auto
  DP2      auto
  DP3      auto
  DP4      auto
  MP1      auto (100)
```

Exit

Exits the current Ethernet telnet CLI session.

Immediate syntax Exit

IPAddress

Sets or displays the current GEOi2 IP address for the Management port (mp1) or a Data port (dp[n]) or all ports.. If IPDHCP is enabled (see below), get command reports current IP address assigned by DHCP server. Setting this value always modifies the internal NVRAM value of the IP Address, whether or not a SaveConfiguration is performed. The default IP address is 0.0.0.0

Set syntax: set IPAddress [dp[n] | mp1| all] xxx.xxx.xxx.xxx

Note - Requires a SaveConfiguration command

Get syntax: get IPAddress [dp[n] |mp1 all]

(data returned for “all”)

```
7
; Port      Address
;================================
  DP1      192.168.99.210
  DP2      192.168.99.211
  DP3      0.0.0.0   DHCP
  DP4      192.168.99.213
  MP1      10.20.32.210
```

IPDHCP

Sets or displays the DHCP setting for the Management port (mp1) or a Data port (dp[n]) or all ports. When enabled allows the GEOi2 port to request an IP address from the network. The network must have at least one DHCP server. The default is enabled.

Note – it is not recommended to use DHCP for any of GEOi2 ports.

Set syntax: set IPDHCP [dp[n] |mp1 | all] [enabled | disabled]

Note - Requires a SaveConfiguration command

Get syntax: get IPDHCP [dp[n] | mp1 | all]

(data returned for “all”)
7
; Port DHCP
;==========
DP1 disabled
DP2 disabled
DP3 enabled
DP4 disabled
MP1 disabled

IPGateway

Sets or displays the current gateway for the Management port (mp1) or a Data port (dp[n]) or all ports.. If IPDHCP is enabled (see above), get command reports current IP gateway assigned by DHCP server. Setting this value always modifies the internal NVRAM value of the IP Gateway, whether or not a SaveConfiguration is performed. The IP gateway address will be rejected if the GEOi2 IP address is not in the same subnet as the gateway. The default IP address for all gateways on all ports is 0.0.0.0.

Set syntax: set IPGateway [dp[n] |mp1 | all] xxx.xxx.xxx.xxx

Note - Requires a SaveConfiguration command

Get syntax: get IPGateway [dp[n] | mp1| all]

(data returned for “all”)
7
; Port Gateway
;==========
DP1 0.0.0.0
DP2 0.0.0.0
DP3 0.0.0.0 DHCP
DP4 0.0.0.0
MP1 10.20.8.1

IPSubnetMask

Sets or displays the current subnet mask for the Management port (mp1) or a Data port (dp[n]) or all ports. If IPDHCP is enabled (see above), get command

reports current subnet mask assigned by DHCP server. The default is 255.255.0.0.

Set syntax: set IPSubnetMask [dp[n] | mp1 | all} xxx.xxx.xxx.xxx

Note - Requires a SaveConfiguration command

Get syntax: get IPSubnetMask [dp[n] | mp1 | all]

(data returned for “all”)
7
; Port SubnetMask
;==========
DP1 255.255.255.0
DP2 255.255.255.0
DP3 255.255.255.255 DHCP
DP4 255.255.255.0
MP1 255.255.0.0

EthernetMDIX

Permits the Management port (MP1) to be set to support a standard Ethernet cable or a Crossover Ethernet cable or set to “Auto Sense” the cable type. Once you have used QuickNav to disable DHCP and set IP address the default becomes “MDI”, standard patch cable.

Set syntax: [set EthernetMDIX mp1 [MDI | MDIX | auto]

Get syntax: get ethernetmdix mp1
(data returned)
EthernetMDIX = MDI

VLAN

This command is used to configure VLANs for the GEOi2 card.
[set | get] VLAN [dp[n]] [[VLAN ID] [VLAN Name] <delete> | [all] [delete]]

Remote Management Configuration (SNMP) commands

The following commands are provided for controlling the SNMP Alert system built into the GEOi2 card.

SNMPDumpMIB

Dumps the contents of the GEOi2 private SNMP MIB to the current CLI session. Consult your network administrator for further assistance with SNMP.

Immediate: SNMPDumpMIB

Note - See Appendix C for a complete listing og the GEOi2 MIB.

SNMPTraps

Enables or disables SNMP trap functions as well as views current status of the SNMP Alert system. Consult your network administrator for further assistance with SNMP. The default is disabled.

Set syntax: set SNMPTraps [enabled | disabled]

Get syntax: get SNMPTraps

(data returned)
SNMPTraps = disabled
SNMP VLAN IDs
DP1: disabled
DP2: disabled
DP3: disabled
DP4: disabled

SNMPExtendedTraps

Controls Extended SNMP map functioning such as device transition and device error. Consult your network administrator for further assistance with SNMP.

Set syntax: set SNMPExtendedTraps [enabled | disabled]

Get syntax: get SNMPExtendedTraps

(data returned)
SNMPExtendedTraps = disabled

Note - SNMP Traps must be enabled to use the Extended Trap function.

SNMPTrapAddress

Sets/displays the IP trap addresses and levels. SNMP traps can be sent to up to six recipients. Consult your network administrator for further assistance with SNMP.

Set syntax: set SNMPTrapAddress [Index] [IPAddress] [level]

SNMP Trap Address Filed meanings

Index Value	Index value between 1 and 6 – to select recipient
IP Address	Standard IP address to send the trap
Level to send to specified IP address	None (default) All Informational Warning Critical

Get syntax: get SNMPTrapAddress

(data returned)

```
  7
;           Index IP Address  Trap Level
SNMPTrapAddress   1 0.0.0.0    none
SNMPTrapAddress   2 0.0.0.0    none
SNMPTrapAddress   3 0.0.0.0    none
SNMPTrapAddress   4 0.0.0.0    none
SNMPTrapAddress   5 0.0.0.0    none
SNMPTrapAddress   6 0.0.0.0    none
```

Remote Management Configuration (EMAIL) commands

EmailFromAddress

Configures the E-mail address that the GEOi2 uses to talk to the E-mail server. The E-mail address must be a fully qualified Internet E-mail address, not more than 128 characters long.

Set syntax: Set EmailFromAddress [full email address]

Get syntax: Get EmailFromAddress

(data returned)
EmailFromAddress = [the Email address you set with the “set EmailFromAddress” Cmd]

EmailNotify

Turns email notification on or off. Default: disabled.

Set syntax: set EmailNotify [enabled | disabled]

Get syntax: get EmailNotify

(data returned)
EmailNotify = disabled
Email VLAN IDs
DP1: disabled
DP2: disabled
DP3: disabled
DP4: disabled

EmailNotifyAddress

Configures notification Email addresses. Index is a number between 1 and 5 used to select the Email recipients. Each recipient must have a fully qualified Internet E-mail address, not more than 128 characters long. Warning level can be All, Warning, Critical or None. None means no E-mails are sent; Critical means only critical severity events prompt an E-mail; Warning means only warnings and critical events precipitate E-mail, and All means all warnings, critical events and informational messages warrant an E-mail.

Set syntax: set EmailNotifyAddress [index] [full email address] [warning level]

Get syntax:get EmailNotifyAddress < index | all >

(data retuned for “all” with Email addresses set)
7
;Idx Email Address Level
;----------
1 none
2 none
3 none
4 none
5 none

EmailPassword

Configures the password used to authenticate the login to the SMTP email server. The password must not be more than 64 characters. A password is not required if the email server does not require authentication.

Set syntax: set EmailPassword [SMTP Email server password (if required)]

EmailServerAddress

Configures the address of the server that theGEOi2 must contact in order to send out E-mail notifications.

Set syntax: set emailserveraddress [IP address]

Set syntax: get emailserveraddress

(data returned with no Email server address sent)
EmailServerAddress = 0.0.0.0

EmailUsername

Configures the username used to authenticate the login to the SMTP email server. The username must not be more than 128 characters. A username is not required if the email server does not require authentication.

Set syntax: set EmailUsername [username]

Get syntax: get EmailUsername

(data returned when no user name is set
EmailUsername =

SCSI configuration commands

The SCSI ports are configured with default settings but may be customized to your specifications using the CLI commands in this section.

SCSITargets

Returns a list of SCSI devices operational on the referenced SCSI port with SCSI target number, SCSI LUN number, device type, vendor ID, product ID, revision and serial number. Also for all models except the GEOi2 2400, updates the status of any 'online' maps/routes to 'unavailable' if a device is not found or 'online' if a device is found.

Immediate Syntax: SCSITargets [sb] **Note** – SCSI Bus [sb] values for the GEOi2 are 1 & 2
(data returned with no devices attached)
1
; sb st sl Device Type Vendor ID Product ID Rev. Serial Number

SCSIiIntID

Specifies or reports the SCSI initiator ID on the specified SCSI port as found in NVRAM. All maps coinciding with the user-specified SCSIInitID will be destroyed after the
command is issued The default is 7.

Set syntax: set SCSIInitID [sb [0-15]]

Get syntax: get SCSIInitID [sb]

(data returned for SCSI bus 1)
Port 1 ScsiInitId = 7

SCSIPortBusSpeed

Controls the transfer rate at which the GEOi2 will attempt to negotiate with its SCSI devices. Valid options are Fast SCSI, Ultra SCSI, Ultra 2 SCSI, Ultra 3 SCSI and Ultra 4 SCSI. Ultra2 and Ultra 3 are valid only if GEOi2 has LVD-capable SCSI ports. The default is ultra4 (ultra 320).

Set syntax: set SCSIPortBusSpeed [sb] [fast |ultra | ultra2 | ultra3 | ultra4]

Note - Requires a SaveConfiguration command.

Get syntax: get SCSIPortBusSpeed [sb]

(data returned for sb = 1)
Port 1 ScsiPortBusSpeed = Ultra320

SCSIPortList

Returns a list of available SCSI ports and their current status. Valid status values are OK and Failed.

Immediate syntax: SCSIPortList

(data returned)
4
;SCSI Port Port Status
;=======================
 1 O.K.
 2 O.K.

SCSIPortReset

Resets the specified SCSI bus.

Immediate syntax: SCSIPortReset [sb]

(data returned for sb = 1)
Resetting Port Number 1

SCSIPortResetOnStartup

Specifies if the selected SCSI port should be reset on power-up. The default for this function is enabled.

Set syntax: set SCSIPortResetOnStartup [sb] [enabled |disabled]

Note - Requires a SaveConfiguration command

Get syntax: get SCSIPortResetOnStartup [sb]

(data returned for sb = 1)
Port 1 ScsiPortResetOnStartup = enabled

SCSIPortSelTimeout

ScsiPortSelTimeout lists the time in milliseconds to wait for a response from a device on the specified SCSI port after a selection request. The default is 256 milliseconds.

Get syntax: get SCSIPortSelTimeout [sb]

(data returned for sb=1)
Port 1 ScsiPortSelTimeout = 256

SCSIPortSyncTransfer

Specifies whether synchronous SCSI transfers should be negotiated with devices on the specified SCSI port. The default for this function is enabled.

Set syntax: set SCSIPortSyncTransfer [[sb [enabled |disabled]] **Note** - Requires a SaveConfiguration command

Get syntax: get SCSIPortSyncTransfer [sb]

(data returned for sb = 1)
Port 1 ScsiPortSyncTransfer = enabled

SCSIPortTermination

Configures/reports the SCSI internal termination of the SCSI port identified on the GEOi2. The default is enabled.

Set syntax: set SCSIPortTermination [sb] [enabled |disabled] **Note** - Requires a SaveConfiguration command

Get syntax: get SCSIPortTermination [sb]

(data returned for sb = 1)
Port 1 ScsiPortTermination = enabled

SCSIPortWideTransfer

Specifies whether wide SCSI transfers should be negotiated. Enabled allows wide transfer negotiation. The default is enabled.

Set syntax: set SCSIPortWideTransfer [sb [enabled |disabled]]

Note - Requires a SaveConfiguration command

Get syntax: get SCSIPortWideTransfer [sb]

(data returned for sb=1)
Port 1 ScsiPortWideTransfer = enabled

SCSITargetLUNs

Sets the maximum number of SCSI LUNs per target the GEOi2 will attempt to query during a SCSI bus scan. The default is 8.

Set syntax: set SCSITargetLUNs [sb] [8 | 64]

Note - Requires a SaveConfiguration command

Get syntax: get SCSITargetLUNs [sb]

(data returned for sb=1)
Port 1 SCSITargetLUNs = 8

VirtualDriveResponse

Virtual Drive Response allows the GEOi2 to provide proxy responses to SCSI INQUIRY and TEST UNIT READY commands if a SCSI device is in a timeout or busy. Host systems may then assign devices consistently despite the device's state during execution of the SCSI commands. The default for this function is disabled.

Set syntax: set VirtualDriveResponse [enabled | disabled]

Note - Requires a SaveConfiguration command

Get syntax: get VirtualDriveResponse

(data returned)
VirtualDriveResponse = disabled

SpeedWrite Commands

The two SpeedWrite commands are used to enable / disable and control the Write Back Cache function of the GEOi2.

SpeedWriteDefault

The SpeedWriteDefault command is used to globally enable or disable the Write Back Cache function on the GEOi2 card.

Set Syntax: set SpeedWriteDefault [enabled | disabled]

Get Syntax: get SpeedWriteDefault

(Return data)
SpeedWriteDefault = enabled

SpeedWrite

This command is used to enable or disable SpeedWrite at the SCSI device level.

Set Syntax: set SpeedWrite scsi [sb st sl | all] [enabled | disabled]

Get Syntax: get SpeedWrite scsi [sb st sl | all]

Note – SpeedWrite may be enabled for the Library Controller without issue.

iSCSI Commands

iSCSIAlias

Provides a human-readable assigned to the GEOi2. Aliases may be from 1 to 64 characters long and may contain spaces if the spaces are enclosed in quotation marks. Issuing a “set iSCSIAlias” command with no alias will cause any existing alias to be cleared. The default iSCSI Alias is none.

Set Syntax: set ISCSIAlias [Alias]
Get Syntax: get iSCSIAlias

iSCSIChap

Controls if Challenge Handshake Authentication Protocol (CHAP) is used for iSCSI operations by the GEOi2 card. CHAP is used to provide a means of iSCSI initiator to iSCSI Target authentication through the use of CHAP “secrets” that are maintained by both the iSCSI Initiator and the iSCSI Target. CHAP may also be used during the “discovery” process by specifying it.

Set Syntax: set iSCSICHAP [default | Target Name | discovery] [enabled | disabled]

Get Syntax: get iSCSICHAP [default | Target Name | discovery]

iSCSIChapSecret

This command specifies the CHAP Secrets for the iSCSI CHAP sessions. Secrets are case sensitive and are from 12 to 32 characters in length(16 characters for Microsoft) and can not contain spaces. With CHAP you have “In” secrets for authentication of the server to the bridge as well as “Out” secrets for authentication of the bridge to the server. The In and Out secrets must be different.

The GEOi2 can store up to 32 “In” secrets. There is only one “out” per target that cannot be deleted. The account name for the “out” secret is “root”

Set Syntax:
set iSCSICHAPSecret [default | Target Name | discovery] [in [Account Name | all]] <Secret>

Get Syntax:
Get iSCSICHAOPSecret [default | Target Name | discovery] [in [Account Name | all] | out [root]]

iSCSIInitiators

Displays a list of current and previous iSCSI Initiators that have successfully logged onto the GEOi2 card. The list is gleaned from the Event log. The list is cleared if the Event Log is cleared. Initiators that were added manually since the last reboot will appear.

Immediate Syntax: iSCSIInitiators

iSCSIPortNumber

Specifies the port number the GEOi2 will listen to for iSCSI connections. The port number must be between 1024 and 65535 except for port 860. The default is 3260.

Set Syntax: set iSCSIPortNumber [dp[n] | all] [portnumber]

Get Syntax: get iSCSIPortNumber [dp[n] | all]

iSCSIWANIPAddress

Sets the IP address reported from the host. Setting the address to 0.0.0.0 causes the GEOi2 to report the LAN IP address.

Set Syntax: set iSCSIWANIPAddress [dp[n] | all [xxx.xxx.xxx.xxx]

Get Syntax: get iSCSIWANIPAddress [dp[n] | all]

(example return data)


```
7
; Port      WAN IP Address
;================================
  DP1       0.0.0.0
  DP2       0.0.0.0
  DP3       0.0.0.0
  DP4       0.0.0.0
```

iSNSLoginControl

This command specifies if an iSNS (iSCSI Name Server) will be accessed for GEOi2 access authorization. The default is disabled in which case the GEOi2 may uses it's own CHAP for access authorization.

Set Syntax: set iSNSLoginControl [enabled | disabled]

Get Syntax: get iSNSLoginControl

iSNSServer

Specifies the IP address to use for the iSCSI Name Sever to use when iSCSILoginControl is enabled. Default is 0.0.0.0.

Set Syntax: set iSNSServer [xxx.xxx.xxx.xxx]

Get Syntax: get iSNSServer

(example data returned with iSNSServer = 0.0.0.0
iSNSServer = 0.0.0.0
iSNS VLAN IDs
DP1: disabled
DP2: disabled
DP3: disabled
DP4: disabled

Mapping commands

Access to back-end SCSI devices is by mapping SCSI devices to iSCSI Target devices. The following CLI commands are used to modify the mapping and access permissions for those maps.

AccessControl

Enables or disables the use of a Access Control List of iSCSI Initiators. When Enabled, an iSCSI initiator must be on the list to be granted access to the GEOi2 card and it's SCSI resources.

Note – The AccessControl can not be used with iSNS (iSCSI Name Server).

Set Syntax: set AccessControl [default | TargetName] [enabled | disabled]

Get Syntax: get AccessControl [default | TargetName]

AccessEntry

This command permits the addition or deletion of Initiator entries from the Access Control List (ACL) of the default or specific iSCSI Target. The name is case sensitive and cannot be “all”.

Set Syntax:
set AccessEntry [default | Target Name | discovery] [Initiator Name | all [delete]

Get Syntax: get AccessEntry [default | Target Name | discovery]

AutoMap

Automatically assigns iSCSI LUNs to a set of target destination SCSI devices attached to the GEOi2 card. An Automap command with no arguments maps all attached SCSI devices to the default iSCSI target. By specifying an iSCSI Target name the AutoMap command will map all SCSI devices the that target name. By specifying a “*” , AutoMap will map each SCSI device to it’s own auto-named iSCSI Target.

In the following example a two drive SDLT library is AutoMapped using the three different syntaxes of the AutoMap command.

Note – the AutoMap command must be followed with a “SaveConfiguration” command

Immediate syntax 1: **Automap** (map all SCSI devices to default)

(resultant map from the “RouteDisplay” command)

```
6
;Target Name          Lun    SB  ST  SL
;=======================================
 default              0    Bridge
 default              1      1   1   0
 default              2      1   2   0
 default              3      1   6   0
```

Immediate syntax 2: **Automap testname** (map all SCSI devices to “testname” target)

(resultant map from the “RouteDisplay” command)
9
```
;Target Name      Lun    SB  ST  SL
;=======================================
 default           0    Bridge
 default           2      1   1   0
 default           3      1   2   0
 testname          0    Bridge
 testname          1      1   1   0
 testname          2      1   2   0
 testname          3      1   6   0
```

Immediate syntax 3: **Automap *** (auto name and map each SCSI device to it’s own iSCSI target along with bridge LUN)

(resultant map from the “RouteDisplay” command)
8
```
;Target Name                Lun    SB  ST  SL
;=======================================
 b0t01-quantum-superdlt1-  0    Bridge
 b0t01-quantum-superdlt1-  1      1   1   0
 b0t02-quantum-superdlt1-  0    Bridge
 b0t02-quantum-superdlt1-  1      1   2   0
 b0t06-overlandneo-series  0    Bridge
 b0t06-overlandneo-series  1      1   6   0
```

AutoMapOnBoot

Controls automatic device detection and mapping during GEOi2 boot process.

Set syntax: set AutoMapOnBoot [enabled | disabled]

Get syntax: get AutoMapOnBoot

(data returned)
AutoMapOnBoot = "disabled"

DeleteAllMaps

Removes all mapped devices from the map table. If you do not create other mapping before the next firmware restart all SCSI devices will be mapped to “default”.

Immediate syntax: DeleteAllMaps

iSCSITarget

This command is used to create or delete iSCSI target names. The created Target Name acts as a suffix to the GEOi2’s fully qualified iSCSI name. iSCSI

Target names may not exceed 24 characters. A newly created iSCSI Target has only one LUN, the Bridge LUN at LUN 0.

Imdediate Syntax: iSCSITarget [Target Name]

A iSCSI target can be deleted by adding the word "delete" following the Target Name in the previous command.

Note – use the "Route" command to add or modify SCSI devices to an iSCSI Target name. See Route command in the chapter for details.

iSCSITargetNameDisplay

This command is used to show all the iSCSI target nodes that exist on a GEOi2 card.

Immediate Syntax: iSCSITargetNameDisplay

(example return data for a GEOi2 bridge with two iSCSI targets is:)
3
;iSCSI Target Names
iqn.1995-12.com.attotech:ipbridge:sn-ipb2600100013default
iqn.1995-12.com.attotech:ipbridge:sn-ipb2600100013testnode1

Route

Assigns a protocol path (address) to a back end SCSI target device. Using the "Delete" identifier instead of a SCSI identifier will remove the map from its table.

Immediate syntax:

Route iSCSI [default | Target Name] [LUN] [SCSI <bb tt ll> | Bridge | delete]

RouteDisplay iSCSI

Displays the currently mapped backend SCSI devices to their associated iSCSI Target path names.

Immediate syntax: RouteDisplay iSCSI

(data returned when two tape drives and one media changer are mapped as separate iSCSI nodes each with a bridge LUN in addition to the SCSI device)
8
;Target Name Lun SB ST SL
;==========
b0t01-quantum-superdlt1- 0 Bridge
b0t01-quantum-superdlt1- 1 1 1 0
b0t02-quantum-superdlt1- 0 Bridge

b0t02-quantum-superdlt1-	1	1	2	0
b0t06-overlandneo-series	0	Bridge		
b0t06-overlandneo-series	1	1	6	0

Bridge Commands

Bridge commands are used to configure operational parameters general to the bridge.

BridgeName

Specifies the eight-character name assigned to the GEOi2 used to identify individual GEOi2 units. It is not the World Wide Name. The string is alphanumeric, eight characters long, The Default is "Neo1FCO1 "

Set syntax: set BridgeName [value] **Note -** Requires a SaveConfiguration command to take effect.
Get syntax: get BridgeName
(data retuned)

IdentifyBridge

Enabling this option causes the Ready LED on the front bezel of the GEOi2 card to blink until the parameter is disabled.

Set syntax: set IdentifyBridge [enabled | disabled]

Get syntax: get IdentifyBridge

RestoreConfiguration

Restores configuration to either the default configuration or the configuration last saved into non-volatile memory. The saved option will undo any changes made since the last save. Default will force the card back to the initial state it was when shipped from the factory.

Immediate: RestoreConfiguration [Default | Saved] **Note** - Requires a SaveConfiguration command

Note – a RestoreConfguration default command will cause theGEOi2 to reset is IP addresses and subnet mask to use DHCP.

Username

Specifies username for all Telnet, ftp, and ExpressNAV user management console sessions. Username is case insensitive, 1-32 characters, no spaces. The default is root.

Set syntax: set Username [username]

Note - Requires a SaveConfiguration command

Get syntax: get Username

(data returned)
Username = "root"

Password

Specifies a password for Telnet, ftp, and ExpressNAV, user management console. You will be prompted for the current password to enter the new password, and to confirm the new password. If local Echo is enabled, password will echo all “*” characters in verbose mode only.

When the password is all 0s, Telnet and ftp do not validate the password and MD5 authentication is disabled. Passwords are case sensitive and can be 1-32 characters long with no spaces. The default password is Password.

Set syntax: set Password

Note - Requires a SaveConfiguration command.

(data returned)
Old Password: (enter current password)
New Password:(enter new password)
Confirm New Password:(re-enter new password)
Your password has been changed.

ReadOnlyUsername

Specifies username for all Telnet, and ExpressNAV user management console sessions. Username is case insensitive, 1-32 characters, no spaces. The default is user.

Set syntax: set ReadOnlyUsername [username]

Note - Requires a SaveConfiguration command

Get syntax: get ReadOnlyUsername

(data returned)
Username = "user"

ReadOnlyPassword

Specifies password for Telnet, and ExpressNAV user management console. An empty password can be configured by not specifying one. The default is Password.

Set syntax: set ReadOnlyPassword **Note** - Requires a SaveConfiguration command
(data returned)
New Password:(enter new password)
Your password has been changed.

MaxOpTemp

Sets/displays the maximum enclosure temperature alarm of the unit in degrees Celsius. If the temperature of the GEOi2 rises above the maximum MaxOpTemp, thermal control event handling occurs.Valid entries are between 55 and 70 degrees. The Default is 70 degrees.

Set syntax: set MaxOpTemp [55-70] **Note** - Requires a SaveConfiguration command
Get syntax: get MaxOpTemp
(data retuned)
MaxOpTemp = 70 C

MinOpTemp

Sets/displays the minimum enclosure temperature alarm of the unit in degrees Celsius. If the temperature of the GEOi2 falls below the minimum MinOpTemp, thermal control event handling occurs. Valid entries are between 0 and 15 degrees. The default is 0 degrees.

Set syntax: set MinOpTemp [0-15] **Note** - Requires a SaveConfiguration command
Get syntax: get MinOpTemp
(data retuned)
MinOpTemp = 0 C

OpTempWarn

Sets/displays the number of degrees in Celsius before a thermal control event handling occurs. Warnings will be made via system log entries. Valid entries are between 0 and 15 degrees. The default is 5 degrees.

Set syntax: set OpTempWarn [0-15]

Note - Requires a SaveConfiguration command

Get syntax: get OpTempWarn
(data retuned)
OpTempWarn = 5 C

Maintenance Commands

The CLI commands outlined in this chapter may be used to get information or perform functions which are used in a variety of situations with the GEOi2.

IsReserved

Displays the reservation status of the current GEOi2 session/interface.

Immediate syntax: IsReserved

(data returned)
Reserve Flag "NOT set"

Reserve

Prevents other CLI sessions from modifying the GEOi2 card. When the GEOi2 services interface is reserved, set commands are unavailable but get commands are available. At least one service interface always has access to the GEOi2 at all times. This interface always reports **RELEASED** status, since it may issue set commands. Reservation of the GEOi2 is implicit: if the configuration is changed by any user of CLI sessions, the GEOi2 becomes **RESERVED**. Executing a **SaveConfiguration** command. A **RestoreConfiguration** or **FirmwareRestart forced** releases the GEOi2 so that other sessions may modify it.

Immediate syntax: Reserve

SaveConfiguration

Many commands require a **SaveConfiguration** command to be executed. This will be indicated by the return **Ready. ***. When you invoke a **SaveConfiguration** command, the current configuration is permanently saved in the GEOi2 and the new configuration becomes the active configuration. If a firmware restart is required to make the requested change permanent, you are asked to confirm the restart. You can override this request by indicating the override value on the command line. You may make several changes through commands before implementing the restart, but once you have restarted the GEOi2, all the command changes created before the restart and save will be implemented. If you select the restart option, the GEOi2 will execute its complete start up cycle.

Immediate: SaveConfiguration <Restart | NoRestart>

RestoreConfiguration

Restores configuration to either the default configuration or the configuration last saved into non-volatile memory. The saved option will undo any changes made since the last save.

Immediate syntax: RestoreConfiguration [Default | Saved]

FirmwareRestart

Causes the GEOi2 to reboot, then re-initialize its firmware. Use the forced option to override any CLI reservation held by other sessions.

Immediate syntax: FirmwareRestart <forced>

Diagnostic Commands

The GEOi2 provides four diagnostic commands DumpConfiguration, Ping, and ScsiDomainValidation. These commands in conjunction with the three logging type functions (Event Log, Trace Log and ROMN) supported by the GEOi2 can be used to diagnose and isolate system faults.

DumpConfiguration

This immediate command causes the GEOi2 card to list all currently set values for all parameters.
Immediate syntax: DumpConfiguration
See appendix

Ping

This command sends an ICMP echo request to the specified host from the specified port of the GEOi2 card.

Immediate syntax: ping [dp[n] | mp1] [xxx.xxx.xxx.xxx] <count <size>>

(data returned from mp1 with a count of 5)
PING: size=32; num=5; net=MP1; addr=10.20.32.3
Reply from 10.20.32.3: [1] bytes=32 time<10 ms
Reply from 10.20.32.3: [2] bytes=32 time<10 ms
Reply from 10.20.32.3: [3] bytes=32 time<10 ms
Reply from 10.20.32.3: [4] bytes=32 time<10 ms
Reply from 10.20.32.3: [5] bytes=32 time<10 ms

ScsiDomainValidation

This command tests the SCSI capability to reliably transmit data using a technique called Domain Validation.

Immediate syntax: ScsiDomainValidation

(example data returned – 3 drives two with media and a media changer attached)
Basic SCSI test passed on bus 1 target 1
Enhanced SCSI test passed on bus 1 target 1

Basic SCSI test passed on bus 1 target 3
Device has no media on bus 1 target 3
Please insert media and rerun test

Basic SCSI test passed on bus 2 target 2
Enhanced SCSI test passed on bus 2 target 2

Basic SCSI test passed on bus 2 target 6
Enhanced SCSI test passed on bus 2 target 6

All Tests Completed Successfully.

Logging Commands

The following commands are used to manipulate the Event Log, Trace Log, and RMON functions of the GEOi2 card.

EventLog

Controls the GEOi2s event logging behavior. When enabled, records various system events to the event log. Default: enabled

Set syntax: set EventLog [enabled | disabled]

Get syntax: get EventLog

(data returned)
EventLog = enabled

EventLogFilter

Filters the logging of data for specific subsystems when in the Event Log is enabled. To display all values, type **all all** as parameters. The default: all all enabled.

Event Log Filters

Subsystem Filters	Log Level

Subsystem Entries filters	When set, suppresses capture of:
ECC	ECC Events
ENET	Ethernet Events
GEN	General Events
HTTP	HTTP Events
SCSI	SCSI Events
NVRAM	NVRAM Events
PERF	Performance Events
iSCSI	iSCSI Events
ALL	All Events

Log level Entries filters	When set, suppresses capture of:
INFO	Information Events
WARN	Warning Events
CRIT	Critical Events
FAIL	Failure Events
ALL	All level Events

Set syntax: set EventLogFilter [subsystem | all] [level | all] [none | all]

Note – “none” is used to disable filter, “all” is used to enable filter is the “set” syntax of this command.

Get syntax: get EventLogFilter [subsystem | all] [level | all]

(data returned for “get eventlogfilter all all”)

```
 34
;Subsystem   Level     Capture
;============================
 ECC           INFO          all
 ECC          WARN         all
 ECC          CRIT         all
 ECC          FAIL         all
 ENET         INFO         all
 ENET         WARN         all
 ENET         CRIT         all
 ENET         FAIL         all
 GEN          INFO         all
 GEN          WARN         all
 GEN          CRIT         all
 GEN          FAIL         all
 HTTP         INFO         all
 HTTP         WARN         all
 HTTP         CRIT         all
 HTTP         FAIL         all
 NVRAM      INFO         all
 NVRAM      WARN         all
 NVRAM      CRIT         all
 NVRAM      FAIL         all
 PERF        INFO         all
```


PERF	WARN		all
PERF	CRIT		all
PERF	FAIL	all	
SCSI	INFO		all
SCSI	WARN		all
SCSI	CRIT		all
SCSI	FAIL	all	
INFO	INFO		all
INFO	WARN		all
INFO	CRIT		all
INFO	FAIL	all	

DisplayEventLog

Displays the most recent page of event log entries. Typing a +, - or = causes the next, previous or same page of event log entries to be displayed. No events will be recorded
until the command has been completed. Type **q** to disable the command, begin new log entries, and return to CLI.

Immediate syntax: DisplayEventLog < + | - | = | q >

(data returned)
0351 03/14/2007 13:38:58 iSCSI login successful: 192.168.99.101 to DP1
0352 03/14/2007 13:38:58 iqn.1991-05.com.microsoft:its2000017
0353 03/14/2007 13:38:58 iSCSI logout: 192.168.99.101 from CID 1, port DP1
0354 03/14/2007 13:38:58 iSCSI login successful: 192.168.99.101 to DP1
0355 03/14/2007 13:38:58 iqn.1991-05.com.microsoft:its2000017
0356 03/29/2007 15:41:13 Boot/reset occurred. (002L)
0357 03/29/2007 15:41:16 Ethernet Link Down on DP1
0358 03/29/2007 15:41:21 Ethernet Link Up on DP1

DisplayEventLog [+ | - | = | <ESC>] >>

Note – an <ESC><ESC> sequence may be required to halt the DisplayEventlog command.

DisplayEventLogFilter

Filters the display of data for specified subsystems and levels when in DisplayEventLog mode. Default is “all” “all” enabled.

Display Event Log Filters

Subsystem Filters		Log Level	
Subsystem Entries filters	When set, suppresses display	Log level Entries filters	When set, suppresses display

	of:
ECC	ECC Events
ENET	Ethernet Events
GEN	General Events
HTTP	HTTP Events
SCSI	SCSI Events
INFO	Informational Events
iSCSI	iSCSI Events
NVRAM	NVRAM Events
PERF	Performance Events
ALL	All Events

	of:
INFO	Information Events
WARN	Warning Events
CRIT	Critical Events
FAIL	Failure Events
ALL	All level Events

Set syntax: set DisplayEventLogFilter [subsystem] [level] [enabled | disabled]

Get syntax: get DisplayEventLogFilter [subsystem] [level]

(data returned for “get displayeventlogfilter all all”

```
 34
;Subsystem          Level          Display
;============================
 ECC            INFO        all
 ECC            WARN        all
 ECC           CRIT         all
 ECC           FAIL         all
 ENET          INFO         all
 ENET          WARN         all
 ENET          CRIT         all
 ENET          FAIL         all
 GEN           INFO         all
 GEN           WARN         all
 GEN           CRIT         all
 GEN           FAIL         all
 HTTP          INFO         all
 HTTP          WARN         all
 HTTP          CRIT         all
 HTTP          FAIL         all
 NVRAM         INFO         all
 NVRAM         WARN         all
 NVRAM         CRIT         all
 NVRAM         FAIL         all
 PERF          INFO         all
 PERF          WARN         all
 PERF          CRIT         all
 PERF          FAIL         all
 SCSI          INFO         all
 SCSI          WARN         all
```


SCSI	CRIT	all
SCSI	FAIL	all
INFO	INFO	all
INFO	WARN	all
INFO	CRIT	all
INFO	FAIL	all

DumpEventLog

Dumps the contents of the entire event log to the current CLI session without impact on the log itself (the log is not cleared). No events will be recorded until the command has been completed.

Immediate syntax: DumpEventLog

(data returned)

```
Overland NEO GEOi2  Event Log W

 1857 01/26/2007 01:43:30 Gigabit Ethernet Option2 (GEO2) login
successful:
                          192.168.99.5
 1858 01/26/2007 01:44:31 Gigabit Ethernet Option2 (GEO2) login
successful:
                          192.168.99.5
 1859 01/26/2007 01:44:31 Gigabit Ethernet Option2 (GEO2) login
successful:
                          192.168.99.5
 1860 01/26/2007 01:45:31 Gigabit Ethernet Option2 (GEO2) login
successful:
                          192.168.99.5
 1861 01/26/2007 01:45:31 Gigabit Ethernet Option2 (GEO2) login
successful:
```

Note – this is only a small portion of the Event log

TailEventLog

Displays new events to the terminal during a serial or Telnet session. Press <ESC> to exit tail mode.

Immediate Syntax: TailEventLog

WrapEventLog

When enabled, the GEOi2 will log up to 2,048 event entries before wrapping (overwriting the first entries). If disabled, the GEOi2 stops logging event entries when the buffer is full. The default for this command is enabled.

Set syntax: set WrapEventLog [enabled | disabled]

Get syntax: get WrapEventLog

ClearEventLog

Clears the contents of the event log. No new entries will be recorded until ClearEventLog has completed.

Immediate syntax: ClearEventLog

TraceLog

When enabled, records various system events to the trace log. The Trace Log is disabled by default for performance reasons.

Set syntax: set TraceLog [enabled | disabled]

Get syntax: get TraceLog

TraceLogFilter

Filters the display of data for specific GEOi2 bridge when in **TraceLog** mode. This command is by default is disabled.

Set syntax: set TraceLogFilter [FC | SCSI | ALL] [fp | sb | ALL] [ChkCond | ALL] [enabled | disabled]

Get syntax: get TraceLogFilter [FC | SCSI | ALL] [fp | sb | ALL] [ChkCond | ALL]

DisplayTraceLog

Displays the most recent page of trace log entries. Typing a **+, -** or **=** causes the next, previous or same page of trace log entries to be displayed. No events will be recorded
until the command has been completed. Type **q** to disable the command, begin new log entries, and return to CLI.

Immediate syntax: DisplayTraceLog < + | - | = | q >

DisplayTraceLogFilter

Filters the display of data in the trace log. when in **DisplayTraceLog** mode. To display all values, type **all all** as parameters. Default: “all” “all” enabled

Set syntax: set DisplayTraceLogFilter [FC | SCSI | ALL] [fp | sb | ALL] [ChkCond | ALL] [enabled | disabled]

Get syntax: get DisplayTraceLogFilter [FC | SCSI | ALL] [fp | sb | ALL] [ChkCond | ALL]

DumpTraceLog

Dumps the contents of the entire trace log to a Telnet session over Ethernet without impact on the log itself. (the log is not cleared). No events will be recorded until the command has been completed.

Immediate syntax: DumpTraceLog

WrapTraceLog

When enabled, the GEOi2 will log up to 2,048 trace entries before wrapping (overwriting the first entries). If disabled, the GEOi2 stops logging trace entries when the buffer is full. The default for this command is enabled.

Set syntax: set WrapTraceLog [enabled | disabled]

Get syntax: get WrapTraceLog

ClearTraceLog

Clears the contents of the trace log. No events will be recorded until the command has been completed.

Immediate syntax: ClearTraceLog

RMON

Get Syntaxes:

get RMON EthernetStat

(data returned)
22

```
Idx DataSrc                DropEvts  Octets      Packets     BcastPkt  McastPkt
=============================================================================
==========
001 43.6.1.2.1.2.2.1.1.1 00000000 00000000 00000000 00000000 00000000
002 43.6.1.2.1.2.2.1.1.2 00000000 00000000 00000000 00000000 00000000
003 43.6.1.2.1.2.2.1.1.3 00000000 00000000 00000000 00000000 00000000
004 43.6.1.2.1.2.2.1.1.4 00000000 00000000 00000000 00000000 00000000


Index       CRCErrs   Undersiz  Oversiz     Frags       Jabbers     Colls
64Octets
=============================================================================
==========
```


00000001 00000000 00000000 00000000 00000000 00000000 00000000
00000000
00000002 00000000 00000000 00000000 00000000 00000000 00000000
00000000
00000003 00000000 00000000 00000000 00000000 00000000 00000000
00000000
00000004 00000000 00000000 00000000 00000000 00000000 00000000
00000000

Index 127Octs 255Octs 511Octs 1023Octs 1518Octs Owner Status
==========
========
00000001 00000000 00000000 00000000 00000000 00000000 monitor 1
00000002 00000000 00000000 00000000 00000000 00000000 monitor 1
00000003 00000000 00000000 00000000 00000000 00000000 monitor 1
00000004 00000000 00000000 00000000 00000000 00000000 monitor 1

get RMON historyControl
(data returned)
10
Idx DataSrc BktReq BktGrant Interval Owner Status
==========
=======
001 43.6.1.2.1.2.2.1.1.1 00000032 00000032 0000001e monitor 00000004
002 43.6.1.2.1.2.2.1.1.1 00000032 00000032 00000708 monitor 00000004
003 43.6.1.2.1.2.2.1.1.2 00000032 00000032 0000001e monitor 00000004
004 43.6.1.2.1.2.2.1.1.2 00000032 00000032 00000708 monitor 00000004
005 43.6.1.2.1.2.2.1.1.3 00000032 00000032 0000001e monitor 00000004
006 43.6.1.2.1.2.2.1.1.3 00000032 00000032 00000708 monitor 00000004
007 43.6.1.2.1.2.2.1.1.4 00000000 00000000 00000000 monitor 00000000
008 43.6.1.2.1.2.2.1.1.4 00000000 00000000 00000000 monitor 00000000

Appendix A – SNMP MIB Use and Listing

The MIB that is supplied by the GEOi2 card can be dumped from the card and added to a SNMP monitoring station running SNMP software.

The following is a listing of the SNMP MIB that is dumped from the GEOi2 card when a SNMPDumpMIB command is executed.

```
--------------------------------------------------------------------------
--------
--
--   FILE         ATTO Bridge Private SNMP MIB
--
--   DESCRIPTION  Bridge SNMP Management Information Base
--
--   THIS PROGRAM AND THE INFORMATION CONTAINED HEREIN IS THE PROPERTY
OF
--   ATTO TECHNOLOGY, INC. AND SHALL NOT BE REPRODUCED, COPIED, OR USED
IN
--   WHOLE OR IN PART OTHER THAN AS PROVIDED FOR IN THE LICENSE
AGREEMENT
--   PURSUANT TO WHICH IT WAS FURNISHED.
--
--   COPYRIGHT (c) ATTO TECHNOLOGY, INC. 1996 - 2005
--   ALL RIGHTS RESERVED.
--
--------------------------------------------------------------------------
--------

--------------------------------------------------------------------------
--------
-- Standard version
--------------------------------------------------------------------------
--------
ATTOBRIDGE-MIB DEFINITIONS ::= BEGIN
    IMPORTS
        IpAddress, experimental, enterprises
            FROM RFC1155-SMI
        ifIndex, DisplayString
            FROM RFC1213-MIB
        NOTIFICATION-TYPE
            FROM SNMPv2-SMI;

--
-- According to ftp://ftp.isi.edu/in-notes/iana/assignments/enterprise-
numbers,
-- ATTO's enterprise number is registered as being 4597.
--
attotech               OBJECT IDENTIFIER ::= { enterprises 4547 }
products               OBJECT IDENTIFIER ::= { attotech 1 }

bridge             MODULE-IDENTITY
    LAST-UPDATED "200509200000Z"    -- 20 Sep, 2005
```



```
    ORGANIZATION "ATTO Technology, Inc."
    CONTACT-INFO
        "ATTO"
    DESCRIPTION
        "Bridge Custom MIB"
  ::= { products 2 }

bridgeConfig            OBJECT IDENTIFIER ::= { bridge 1 }
bridgeStatus            OBJECT IDENTIFIER ::= { bridge 2 }
bridgeTrapInfo          OBJECT IDENTIFIER ::= { bridge 3 }
--bridgeTraps           OBJECT IDENTIFIER ::= { bridge 4 }

-------------------------------------------------------------------------
--------
-- OBJECT DEFINITIONS
-------------------------------------------------------------------------
--------
trapsEnabled OBJECT-TYPE
    SYNTAX      INTEGER { disabled(1), enabled(2) }
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Indicates whether traps are enabled or disabled."
    ::= { bridgeConfig 1 }

snmpUpdatesEnabled OBJECT-TYPE
    SYNTAX      INTEGER { disabled(1), enabled(2) }
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Indicates whether SNMP updates are enabled or
disabled."
    ::= { bridgeConfig 2 }

snmpExtendedEnabled OBJECT-TYPE
    SYNTAX      INTEGER { disabled(1), enabled(2) }
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Indicates whether extended SNMP is enabled or
disabled."
    ::= { bridgeConfig 3 }

-------------------------------------------------------------------------
--------
-- OBJECT TABLE DEFINITIONS
-------------------------------------------------------------------------
--------

--
--
-- Temperature Sensor Table
--
tempSensorTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF TempSensorEntry
    ACCESS      not-accessible
    STATUS      mandatory
    DESCRIPTION "The temperature sensor table stores information about
                 the bridge temperature sensor."
    ::= { bridgeStatus 1 }
```



```
tempSensorEntry OBJECT-TYPE
    SYNTAX      TempSensorEntry
    ACCESS      not-accessible
    STATUS      mandatory
    DESCRIPTION "The temperature sensor table stores information about
                 the bridge temperature sensor."
    INDEX       { tempSensorIndex }
    ::= { tempSensorTable 1 }

TempSensorEntry ::= SEQUENCE {
                             tempSensorIndex   INTEGER,
                             tempSensorStatus  INTEGER,
                             temperature       INTEGER
                            }

tempSensorIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..3)
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Used to index the sensor in the temperature
                 sensor table."
    ::= { tempSensorEntry 1 }

tempSensorStatus OBJECT-TYPE
    SYNTAX      INTEGER { normal(1), warning(2), critical(3),
unknown(4) }
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "The current status of the sensor (normal, warning or
critical)."
    ::= { tempSensorEntry 2 }

temperature OBJECT-TYPE
    SYNTAX      INTEGER
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "The current temperature of the sensor."
    ::= { tempSensorEntry 3 }

--
--
-- Voltage Sensor Table
--
voltageSensorTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF VoltageSensorEntry
    ACCESS      not-accessible
    STATUS      mandatory
    DESCRIPTION "The voltage sensor table stores information about
                 the bridge voltage sensor."
    ::= { bridgeStatus 2 }

voltageSensorEntry OBJECT-TYPE
    SYNTAX      VoltageSensorEntry
    ACCESS      not-accessible
    STATUS      mandatory
    DESCRIPTION "The voltage sensor table stores information about
```



```
                the bridge voltage sensor."
    INDEX       { voltageSensorIndex }
    ::= { voltageSensorTable 1 }

VoltageSensorEntry ::= SEQUENCE {
                            voltageSensorIndex   INTEGER,
                            voltageSensorStatus  INTEGER,
                            voltage       INTEGER
                           }

voltageSensorIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..3)
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Used to index the sensor in the voltage
                 sensor table."
    ::= { voltageSensorEntry 1 }

voltageSensorStatus OBJECT-TYPE
    SYNTAX      INTEGER { normal(1), warning(2), critical(3),
unknown(4) }
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "The current status of the sensor (normal, warning or
critical)."
    ::= { voltageSensorEntry 2 }

voltage OBJECT-TYPE
    SYNTAX      INTEGER
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "The current voltage of the sensor."
    ::= { voltageSensorEntry 3 }

--
--
-- Device Table
--
deviceCount OBJECT-TYPE
    SYNTAX      Counter
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Number of devices present."
    ::= { bridgeStatus 4 }

deviceCacheTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF DeviceEntry
    ACCESS      not-accessible
    STATUS      mandatory
    DESCRIPTION "The device table stores information about the devices
                 attached to the bridge."
    ::= { bridgeStatus 5 }

deviceEntry OBJECT-TYPE
    SYNTAX      DeviceEntry
    ACCESS      not-accessible
    STATUS      mandatory
```



```
    DESCRIPTION "The device table stores information about the devices
                 attached to the bridge."
    INDEX       { deviceCacheIndex }
    ::= { deviceCacheTable 1 }

DeviceEntry ::= SEQUENCE {
                              deviceCacheIndex  INTEGER,
                              deviceSource      DisplayString,
                              deviceDestination DisplayString,
                              deviceType        DisplayString,
                              deviceVendor      DisplayString,
                              deviceProduct     DisplayString,
                              deviceRevision    DisplayString,
                              deviceState       INTEGER
                             }

deviceCacheIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..64)
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Used to index the device table."
    ::= { deviceEntry 1 }

deviceSource OBJECT-TYPE
    SYNTAX      DisplayString (SIZE (0..79))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "A string representing the source interface, meaning
the
                 interface exposed to the host."
    ::= { deviceEntry 2 }

deviceDestination OBJECT-TYPE
    SYNTAX      DisplayString (SIZE (0..79))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "A string representing the destination interface,
meaning
                 the interface of the target device."
    ::= { deviceEntry 3 }

deviceType OBJECT-TYPE
    SYNTAX DisplayString (SIZE (0..16))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Device type (i.e. DISK, TAPE, etc.) of attached
device."
    ::= { deviceEntry 4 }

deviceVendor OBJECT-TYPE
    SYNTAX DisplayString (SIZE (0..8))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Vendor name of attached device, from inquiry data."
    ::= { deviceEntry 5 }

deviceProduct OBJECT-TYPE
```



```
    SYNTAX DisplayString (SIZE (0..16))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Product name of attached device, from inquiry data."
    ::= { deviceEntry 6 }

deviceRevision OBJECT-TYPE
    SYNTAX DisplayString (SIZE (0..4))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Revision of attached device, from inquiry data."
    ::= { deviceEntry 7 }

deviceState OBJECT-TYPE
    SYNTAX      INTEGER { offline(0), online(1) }
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "The current state of the device (online, offline, or
unknown)."
    ::= { deviceEntry 8 }


--
--
-- Error Table
--
errorCount OBJECT-TYPE
    SYNTAX      Counter
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Number of errors that have occured since last bridge
                 power-on or reset."
    ::= { bridgeStatus 6 }

errorsSinceUpdate OBJECT-TYPE
    SYNTAX      Counter
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Number of errors that have occured since last MIB
scan,
                 which is approximately every 15sec."
    ::= { bridgeStatus 7 }

errorTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF ErrorEntry
    ACCESS      not-accessible
    STATUS      mandatory
    DESCRIPTION "The Device Error table stores information about errors
that
                 have occurred with the devices attached to the
bridge."
    ::= { bridgeStatus 8 }

errorEntry OBJECT-TYPE
    SYNTAX      ErrorEntry
    ACCESS      not-accessible
    STATUS      mandatory
```



```
    DESCRIPTION "The Device Error table stores information about errors
that
                 have occurred with the devices attached to the
bridge."
    INDEX       { errorIndex }
    ::= { errorTable 1 }

ErrorEntry ::= SEQUENCE {
                              errorIndex       INTEGER,
                              errorDateStamp   DisplayString,
                              errorTimeStamp   DisplayString,
                              errorInitiator   DisplayString,
                              errorSource      DisplayString,
                              errorOpCode      INTEGER,
                              errorSenseKey    INTEGER,
                              errorASC         INTEGER,
                              errorASCQ        INTEGER,
                              errorLogSense    OCTET STRING
                             }

errorIndex OBJECT-TYPE
    SYNTAX      INTEGER
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Used to index the error device table."
    ::= { errorEntry 1 }

errorDateStamp OBJECT-TYPE
    SYNTAX      DisplayString (SIZE (0..11))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Date at which the error occurred."
    ::= { errorEntry 2 }

errorTimeStamp OBJECT-TYPE
    SYNTAX      DisplayString (SIZE (0..9))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Time at which the error occurred."
    ::= { errorEntry 3 }

errorInitiator OBJECT-TYPE
    SYNTAX      DisplayString (SIZE (0..79))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "A string representing the initiator which issued the
                 failed command."
    ::= { errorEntry 4 }

errorSource OBJECT-TYPE
    SYNTAX      DisplayString (SIZE (0..79))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "A string representing the source interface, meaning
the
                 interface exposed to the host, which is associated
with
```



```
                the error."
    ::= { errorEntry 5 }

errorOpCode OBJECT-TYPE
    SYNTAX      INTEGER
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "OpCode of the command which failed."
    ::= { errorEntry 6 }

errorSenseKey OBJECT-TYPE
    SYNTAX      INTEGER
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Sense Key returned as a result of the failed command."
    ::= { errorEntry 7 }

errorASC OBJECT-TYPE
    SYNTAX      INTEGER
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "ASC returned as a result of the failed command."
    ::= { errorEntry 8 }

errorASCQ OBJECT-TYPE
    SYNTAX      INTEGER
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "ASCQ returned as a result of the failed command."
    ::= { errorEntry 9 }

errorLogSense OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(64))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Log Sense returned as a result of the failed command."
    ::= { errorEntry 10 }

-------------------------------------------------------------------------
--------
-- TRAP DEFINITIONS
-------------------------------------------------------------------------
--------
trapMaxClients OBJECT-TYPE
    SYNTAX      INTEGER
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "The maximum number of SNMP trap recipients supported
by the
                unit."
    ::= { bridgeTrapInfo 1 }

--
-- Currently not supported
--
--trapClientCount OBJECT-TYPE
--    SYNTAX      INTEGER
```



```
--    ACCESS      not-accessible
--    STATUS      mandatory
--    DESCRIPTION "The current number of rows in the trap table."
--    ::= { bridgeTrapInfo 2 }

--
-- Trap table definition
--
trapClientTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF TrapClientEntry
    ACCESS      not-accessible
    STATUS      mandatory
    DESCRIPTION "A table containing a row for each IP address/port
number that
                 traps will be sent to."
    ::= { bridgeTrapInfo 3 }

trapClientEntry OBJECT-TYPE
    SYNTAX      TrapClientEntry
    ACCESS      not-accessible
    STATUS      mandatory
    DESCRIPTION "Ip/Port pair for a specific client."
    INDEX       { trapClientIndex }
    ::= { trapClientTable 1 }

TrapClientEntry ::= SEQUENCE {
                        trapClientIndex       INTEGER,
                        trapClientIpAddress   IpAddress,
                        trapClientPort        INTEGER,
                        trapClientFilter      INTEGER,
                        trapClientRowState    INTEGER
                       }

trapClientIndex OBJECT-TYPE
    SYNTAX      INTEGER
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "Used to index a trap client in the trapClientTable."
    ::= { trapClientEntry 1 }

trapClientIpAddress OBJECT-TYPE
    SYNTAX      IpAddress
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "The IP address of a client registered for traps in
                 dotted notation."
    ::= { trapClientEntry 2 }

trapClientPort OBJECT-TYPE
    SYNTAX      INTEGER (1..2147483647)
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "The UDP port to send traps for this host.  Normally
this would
                 be the standard trap port (162).  This object is an
index and
                 must be specified to create a row in this table."
```



```
    ::= { trapClientEntry 3 }

trapClientFilter OBJECT-TYPE
    SYNTAX      INTEGER {
                         none          (1),
                         critical      (2),
                         warning       (3),
                         informational (4),
                         all           (5)
                        }
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION "This value defines the trap severity filter for this
trap
                 host.  The unit will send traps to this host that have
a
                 severity level less than or equal to this value.  The
                 default value of this object is 'warning'."
    ::= { trapClientEntry 4 }

trapClientRowState OBJECT-TYPE
    SYNTAX      INTEGER {
                         rowDestroy(1),  -- Remove row from table
                         rowInactive(2), -- Row exists, but Traps
disabled
                         rowActive(3)    -- Row exists and is enabled
for
                                         -- sending traps
                        }
    ACCESS      read-write
    STATUS      mandatory
    DESCRIPTION "Specifies the state of the row.
                    rowDestroy
                        READ  : Can never happen
                        WRITE : Remove this row from the table.
                    rowInactive
                        READ  : Indicates that this row does not exist,
but
                                that traps are not enabled to be sent
to the
                                target.
                        WRITE : If the row does not exist, and the
agent allows
                                writes to the trap table, then a new
row is
                                created.  The values of the optional
columns
                                will be set to default values.  Traps
are not
                                enabled to be sent to the target.  If
the row
                                already existed, then traps are
disabled from
                                being sent to the target.
                    rowActive
                        READ  : Indicates that this row exists, and
that traps
```



```
                                are enabled to be sent to the target.
                        WRITE : If the row does not exist, and the
agent allows
                                writes to the trap table, then a new
row is
                                created.  The values of the optional
columns
                                will be set to default traps.  If the
row
                                already exists then traps are enabled
to be
                                sent to the target.

                A value of rowActive or rowInactive must be specified
to create
                a row in the table."
    ::= { trapClientEntry 5 }

--
-- Bridge specific traps
--
bridgeTempStatusChanged TRAP-TYPE
    ENTERPRISE  attotech
    VARIABLES   { tempSensorIndex, tempSensorStatus, temperature }
    DESCRIPTION "The bridgeTempStatusChanged trap supports notification
of
                 temperature status changes in the bridge.

                 The following information is returned:
                    tempSensorIndex  - the sensor of concern
                    tempSensorStatus - the current status of the sensor
                                       (normal, warning, critical)
                    temperature      - current temperature of the
sensor

                 Recommended severity level (for filtering): warning"
    ::= 1

bridgeVoltageStatusChanged TRAP-TYPE
    ENTERPRISE  attotech
    VARIABLES   { voltageSensorIndex, voltageSensorStatus, voltage }
    DESCRIPTION "The bridgeVoltageStatusChanged trap supports
notification of
                 temperature status changes in the bridge.

                 The following information is returned:
                    voltageSensorIndex  - the sensor of concern
                    voltageSensorStatus - the current status of the
sensor
                                          (normal, warning, critical)
                    voltage              - current temperature of the
sensor

                 Recommended severity level (for filtering): warning"
    ::= 2

bridgeDeviceTransition TRAP-TYPE
```



```
    ENTERPRISE  attotech
    VARIABLES   { deviceCacheIndex, deviceSource, deviceState }
    DESCRIPTION "The bridgeDeviceTransition trap supports notification
of
                 device online/offline status changes in the bridge.

                 The following information is returned:
                    deviceCacheIndex - the device of concern
                    deviceSource     - the description of the source
device
                              deviceState      - the current state of
the device

                 Recommended severity level (for filtering):
informational"
    ::= 4

bridgeDeviceError TRAP-TYPE
    ENTERPRISE  attotech
    VARIABLES   { errorSource, errorOpCode, errorSenseKey,
                  errorASC, errorASCQ, errorsSinceUpdate }
    DESCRIPTION "The bridgeDeviceTransition trap supports notification
of
                 device online/offline status changes in the bridge.

                 The following information is returned:
                    errorSource       - the description of the source
device
                            errorOpCode       - the offending command
                              errorSenseKey     - the sense key
returned by the device
                              errorASC          - the ASC returned by
the device
                              errorASCQ         - the ASCQ returned by
the device
                              errorsSinceUpdate - the number of errors
in the past 15sec

                 Recommended severity level (for filtering):
informational"
    ::= 5

END

--------------------------------------------------------------------
--------


Ready.
```


Appendix B – DumpConfiguration Command - Return Data Listing

This is an example of data returned by the “DumpConfiguration” command from a GEOi2 card that has it’s Data Port 1 connected to a GigE switch, it’s Management port connected to a 100 base T port and 2 SDLT1 drives and a media changer attached across it’s SCSI busses 1.

```
dumpconfiguration

==================================
get VerboseMode

VerboseMode = enabled

Ready.
==================================
set VerboseMode enabled


Ready.
==================================
info

Device                = "NEO GEOi2  "
Serial Number         = IPB2600100013
Device Version        = 3.70
Build Number          = 002L
Build Date            = "Mar 27 2006" 11:20:20
Flash Revision        = 0
CLI Revision          = 1.31
Base version          = 9.00
Version Number        = 3.70
User-defined name     = "Neo1GEi1"
World Wide Name       = 20 00 00 10 86 30 02 09
Active Configuration  = Overland


Ready.
==================================
get BridgeModel

"Overland NEO GEOi2  "
(c) 2002 - 2006 ATTO Technology, Incorporated
Firmware version 3.70 release date "Mar 27 2006", 11:20:20 Build 002L
Base version    9.00

Ready.
==================================
get BridgeName

BridgeName = "Neo1GEi1"
```



```
Ready.
==================================
get DataMode

DataMode = iSCSI
Ready.
==================================
IsReserved

Reserve Flag "NOT set"

Ready.
==================================
get OEMConfigFile

OEMConfigFile = Overland


Ready.
==================================
get Date

Date = 03/31/2007

Ready.
==================================
get Time

Time = 17:13:00

Ready.
==================================
get SNTP

SNTP = enabled
SNTP VLAN IDs
DP1: disabled
DP2: disabled
DP3: disabled
DP4: disabled

Ready.
==================================
get SNTPServer

5
;SNTP Server IP Addresses
;=======================
192.43.244.18
129.6.15.28          AUX
132.163.4.101        AUX

Ready.
==================================
get Timezone
```



```
TimeZone = EST

Ready.
==================================
get MaxOpTemp

MaxOpTemp = 70 C

Ready.
==================================
get MinOpTemp

MinOpTemp = 0 C

Ready.
==================================
get OpTempWarn

OpTempWarn = 5 C

Ready.
==================================
get Temperature

Temperature = 41 C

Ready.
==================================
get Voltage

6
;Voltage          Level
;======================
 Voltage (VDDD)  = 1.34 V
 Voltage (VDDA)  = 3.31 V
 Voltage (VDDB)  = 2.52 V
 Voltage (VDDC)  = 1.48 V

Ready.
==================================
get Username

Username = "root"

Ready.
==================================
get ReadOnlyUsername

Username = "user"

Ready.
==================================
get SerialPortBaudRate

SerialPortBaudRate = 115200

Ready.
```



```
====================================
get SerialPortEcho

SerialPortEcho = enabled

Ready.
====================================
get Eventlog

EventLog = enabled

Ready.
====================================
get WrapEventLog

WrapEventLog = enabled

Ready.
====================================
get DisplayEventLogFilter all all

 30
;Subsystem   Level     Display
;==============================
 ECC         INFO      all
 ECC         WARN      all
 ECC         CRIT      all
 ECC         FAIL      all
 ENET        INFO      all
 ENET        WARN      all
 ENET        CRIT      all
 ENET        FAIL      all
 GEN         INFO      all
 GEN         WARN      all
 GEN         CRIT      all
 GEN         FAIL      all
 HTTP        INFO      all
 HTTP        WARN      all
 HTTP        CRIT      all
 HTTP        FAIL      all
 NVRAM       INFO      all
 NVRAM       WARN      all
 NVRAM       CRIT      all
 NVRAM       FAIL      all
 PERF        INFO      all
 PERF        WARN      all
 PERF        CRIT      all
 PERF        FAIL      all
 SCSI        INFO      all
 SCSI        WARN      all
 SCSI        CRIT      all
 SCSI        FAIL      all


Ready.
====================================
get EventLogFilter all all
```



```
 30
;Subsystem   Level     Capture
;============================
 ECC         INFO      all
 ECC         WARN      all
 ECC         CRIT      all
 ECC         FAIL      all
 ENET        INFO      all
 ENET        WARN      all
 ENET        CRIT      all
 ENET        FAIL      all
 GEN         INFO      all
 GEN         WARN      all
 GEN         CRIT      all
 GEN         FAIL      all
 HTTP        INFO      all
 HTTP        WARN      all
 HTTP        CRIT      all
 HTTP        FAIL      all
 NVRAM       INFO      all
 NVRAM       WARN      all
 NVRAM       CRIT      all
 NVRAM       FAIL      all
 PERF        INFO      all
 PERF        WARN      all
 PERF        CRIT      all
 PERF        FAIL      all
 SCSI        INFO      all
 SCSI        WARN      all
 SCSI        CRIT      all
 SCSI        FAIL      all


Ready.
==================================
set DisplayEventLogFilter all all disabled
saveconfiguration


ERROR  Wrong/Missing Parameters
Usage:
[set | get] DisplayEventLogFilter [subsys | all] [level | all] [all |
none]

Ready.
==================================
DumpEventLog


 Overland NEO GEOi2  Event Log

                          10.20.32.7 to
 0019 03/01/2007 13:15:23 Ethernet Link Down on DP1
 0020 03/01/2007 13:16:23 Ethernet Link Up on DP1
 0021 03/01/2007 13:16:36 Ethernet Link Down on DP1
 0022 03/01/2007 13:31:54 Ethernet Link Up on DP1
```



```
 0023 03/01/2007 13:31:56 iSCSI login successful: 192.168.8.249 to DP1
 0024 03/01/2007 13:31:56 iqn.1991-05.com.microsoft:its2000017
 0025 03/01/2007 13:31:56 iSCSI logout: 192.168.8.249 from CID 1, port
                          DP1
 0026 03/01/2007 13:31:56 iSCSI login successful: 192.168.8.249 to DP1
 0027 03/01/2007 13:31:56 iqn.1991-05.com.microsoft:its2000017
 0028 03/01/2007 13:34:34 iSCSI login successful: 192.168.8.249 to DP1
 0029 03/01/2007 13:34:34 iqn.1991-05.com.microsoft:its2000017
 0030 03/01/2007 13:34:34 iSCSI logout: 192.168.8.249 from CID 0, port
                          DP1
 0031 03/01/2007 13:34:34 iSCSI logout: 192.168.8.249 from CID 0, port
                          DP1
 0032 03/01/2007 13:34:34 iSCSI login successful: 192.168.8.249 to DP1
 0033 03/01/2007 13:34:34 iqn.1991-05.com.microsoft:its2000017
 0034 03/01/2007 13:34:34 iSCSI logout: 192.168.8.249 from CID 0
 0035 03/01/2007 13:42:10 Gigabit Ethernet Option2 (GEO2) login
successful:
                          10.20.32.7 to

Ready.
==================================
get TraceLog

TraceLog = enabled

Ready.
==================================
get WrapTraceLog

WrapTraceLog = enabled

Ready.
==================================
get DisplayTraceLogFilter all all

 4
;Port Type  Port Number  Display
;===============================
 SCSI       1            all
 SCSI       2            all


Ready.
==================================
get TraceLogFilter all all

 4
;Port Type  Port Number  Capture
;===============================
 SCSI       1            all
 SCSI       2            all


Ready.
==================================
set DisplayTraceLogFilter all all disabled
```



```
ERROR  Wrong/Missing Parameters
Usage:
[set | get] DisplayTraceLogFilter [scsi | all] [sb | all] [none |
chkcond | all]

Ready.
==================================
saveconfiguration


Ready.
==================================
DumpTracelog


 Overland NEO GEOi2  Trace Log


Ready.
==================================
get Rmon ethernetStat

22
Idx DataSrc               DropEvts Octets   Packets  BcastPkt McastPkt
=============================================================================
001 43.6.1.2.1.2.2.1.1.1 0000386f 00125dea 00003873 00003873 00000000
002 43.6.1.2.1.2.2.1.1.2 00000000 00000000 00000000 00000000 00000000
003 43.6.1.2.1.2.2.1.1.3 00000000 00000000 00000000 00000000 00000000
004 43.6.1.2.1.2.2.1.1.4 00000000 00000000 00000000 00000000 00000000


Index    CRCErrs  Undersiz Oversiz  Frags    Jabbers  Colls    64Octets
=============================================================================
00000001 00000000 00000000 00000000 00000000 00000000 00000000 000029f4
00000002 00000000 00000000 00000000 00000000 00000000 00000000 00000000
00000003 00000000 00000000 00000000 00000000 00000000 00000000 00000000
00000004 00000000 00000000 00000000 00000000 00000000 00000000 00000000


Index    127Octs  255Octs  511Octs  1023Octs 1518Octs Owner    Status
=============================================================================
00000001 00000bb0 000002ab 00000010 00000014 00000000 monitor  1
00000002 00000000 00000000 00000000 00000000 00000000 monitor  1
00000003 00000000 00000000 00000000 00000000 00000000 monitor  1
00000004 00000000 00000000 00000000 00000000 00000000 monitor  1

Ready.
==================================
get Rmon historyControl

10
Idx DataSrc              BktReq   BktGrant Interval Owner   Status
=============================================================================
001 43.6.1.2.1.2.2.1.1.1 00000032 00000032 0000001e monitor 00000004
002 43.6.1.2.1.2.2.1.1.1 00000032 00000032 00000708 monitor 00000004
003 43.6.1.2.1.2.2.1.1.2 00000032 00000032 0000001e monitor 00000004
```

```
004 43.6.1.2.1.2.2.1.1.2 00000032 00000032 00000708 monitor 00000004
005 43.6.1.2.1.2.2.1.1.3 00000032 00000032 0000001e monitor 00000004
006 43.6.1.2.1.2.2.1.1.3 00000032 00000032 00000708 monitor 00000004
007 43.6.1.2.1.2.2.1.1.4 00000000 00000000 00000000 monitor 00000000
008 43.6.1.2.1.2.2.1.1.4 00000000 00000000 00000000 monitor 00000000

Ready.
==================================
get IPAddress all

7
; Port      Address
;================================
   DP1      192.168.99.218
   DP2      192.168.99.219
   DP3      192.168.99.220
   DP4      192.168.99.221
   MP1      10.20.32.218


Ready.
==================================
get IPSubnetMask all

7
; Port      SubnetMask
;================================
   DP1      255.255.255.0
   DP2      255.255.255.0
   DP3      255.255.255.0
   DP4      255.255.255.0
   MP1      255.255.0.0


Ready.
==================================
get EthernetSpeed all

7
; Port      Speed
;=========================
   DP1      auto (1000)
   DP2      auto
   DP3      auto
   DP4      auto
   MP1      auto (100)


Ready.
==================================
get DPMTU all

6
; Port      MTU
;=========================
   DP1      1514
   DP2      1514
```



```
   DP3      1514
   DP4      1514


Ready.
==================================
get IPDHCP all

7
; Port      DHCP
;==========================
   DP1      disabled
   DP2      disabled
   DP3      disabled
   DP4      disabled
   MP1      disabled


Ready.
==================================
get IPGateway all

7
; Port      Gateway
;================================
   DP1      0.0.0.0
   DP2      0.0.0.0
   DP3      0.0.0.0
   DP4      0.0.0.0
   MP1      10.20.8.1


Ready.
==================================
ScsiPortList

4
;SCSI Port    Port Status
;=======================
  1           O.K.
  2           O.K.

Ready.
==================================
get ScsiInitId 1

Port 1 ScsiInitId = 7

Ready.
==================================
get ScsiInitId 2

Port 2 ScsiInitId = 7

Ready.
==================================
get ScsiPortBusSpeed 1
```



```
Port 1 ScsiPortBusSpeed = Ultra320

Ready.
==================================
get ScsiPortBusSpeed 2

Port 2 ScsiPortBusSpeed = Ultra320

Ready.
==================================
get ScsiPortResetOnStartup 1

Port 1 ScsiPortResetOnStartup = enabled

Ready.
==================================
get ScsiPortResetOnStartup 2

Port 2 ScsiPortResetOnStartup = enabled

Ready.
==================================
get ScsiPortSelTimeout 1

Port 1 ScsiPortSelTimeout = 256

Ready.
==================================
get ScsiPortSelTimeout 2

Port 2 ScsiPortSelTimeout = 256

Ready.
==================================
get ScsiPortSyncTransfer 1

Port 1 ScsiPortSyncTransfer = enabled

Ready.
==================================
get ScsiPortSyncTransfer 2

Port 2 ScsiPortSyncTransfer = enabled

Ready.
==================================
get ScsiPortTermination 1

Port 1 ScsiPortTermination = enabled

Ready.
==================================
get ScsiPortTermination 2

Port 2 ScsiPortTermination = enabled
```



```
Ready.
==================================
get ScsiPortWideTransfer 1

Port 1 ScsiPortWideTransfer = enabled

Ready.
==================================
get ScsiPortWideTransfer 2

Port 2 ScsiPortWideTransfer = enabled

Ready.
==================================
get SpeedWrite scsi all

4
;sb  st  sl  SpeedWrite State
   1   1   0 enabled
   1   2   0 enabled
   1   6   0 enabled

Ready.
==================================
get SpeedWriteDefault

SpeedWriteDefault = enabled

Ready.
==================================
get VirtualDriveResponse

VirtualDriveResponse = disabled

Ready.
==================================
get iSCSIAlias

iSCSIAlias = ""

Ready.
==================================
get iSCSIPortNumber DP1

iSCSIPortNumber = 3260

Ready.
==================================
get iSCSIPortNumber DP2

iSCSIPortNumber = 3260

Ready.
==================================
get iSCSIPortNumber DP3

iSCSIPortNumber = 3260
```



```
Ready.
==================================
get iSCSIPortNumber DP4

iSCSIPortNumber = 3260

Ready.
==================================
iSCSITargetNameDisplay

5
;iSCSI Target Names
iqn.1995-12.com.attotech:ipbridge:sn-ipb2600100013default
iqn.1995-12.com.attotech:ipbridge:sn-ipb2600100013b0t01-quantum-
superdlt1-
iqn.1995-12.com.attotech:ipbridge:sn-ipb2600100013b0t02-quantum-
superdlt1-
iqn.1995-12.com.attotech:ipbridge:sn-ipb2600100013b0t06-overlandneo-
series

Ready.
==================================
get iSNSLoginControl

iSNSLoginControl = disabled

Ready.
==================================
routedisplay iscsi

8
;Target Name              Lun    SB  ST  SL
;=======================================
 b0t01-quantum-superdlt1-  0     Bridge
 b0t01-quantum-superdlt1-  1        1   1   0
 b0t02-quantum-superdlt1-  0     Bridge
 b0t02-quantum-superdlt1-  1        1   2   0
 b0t06-overlandneo-series  0     Bridge
 b0t06-overlandneo-series  1        1   6   0
```

