SGI® InfiniteStorage NAS 50/100 Quick Start Guide

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NAS 50/100 Quick Start Guide

This document guides a knowledgeable user through the basic setup of an SGI InfiniteStorage NAS 50/100 system. Unless otherwise negotiated, your network-attached storage (NAS) system comes racked and cabled. You only need to configure the NAS software management services.

Professional assistance with the setup of your new NAS solution is available through SGI Managed Services. If you ordered such service, please contact the SGI Customer Support Center to schedule the on-site visit.

For more information on the hardware/software used with the SGI InfiniteStorage NAS 50/100, see “Documentation” on page 22.

This quick start guide as well as other SGI documents can be accessed and downloaded from the SGI publications library:

http://docs.sgi.com

Various formats are available. This library contains the most recent and most comprehensive set of online books, release notes, man pages, and other information related to SGI products.

This document describes the following topics:

- “Hardware Overview” on page 2
- “Powering On an IS-NAS Server” on page 11
- “Software Configuration” on page 12
- “After Software Configuration” on page 22
- “Contacting SGI” on page 23

Hardware Overview

Your NAS system consists of the following hardware elements:

- A System Management Unit (SMU), either internal or external, depending on system configuration
- SGI InfiniteStorage NAS 50/100 server(s), referred to as *IS-NAS server*(s)
- Storage subsystem, which includes the storage array controllers and/or drive trays populated with disk drives
- Fibre Channel (FC) switch, depending on system configuration
- Private management network
- Public data network

The IS-NAS server is a highly scalable and modular NAS server with multi-gigabit throughput from network to disk.

IS-NAS Server Front Controls and Indicators

Figure 1-1 shows the LEDs on the front of an IS-NAS server. Table 1-1 and Table 1-2 describe the various states of the LEDs.

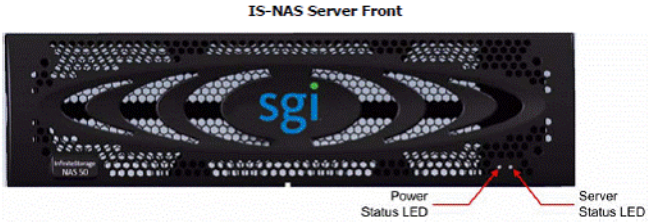


Figure 1-1 IS-NAS Server Front Controls and Indicators

Table 1-1 Power Status LED (Green)

State	Meaning
Green	Normal operation with a single IS-NAS server or an active cluster node in operation.
Slow Flash	The system has been shut down. Flashes once every three seconds.
Medium Flash	The IS-NAS server is available to host file services but it not currently doing so. Flashes once every .8 seconds.
Fast Flash	The IS-NAS server is rebooting. Flashes five times per second.
Off	The IS-NAS server is not powered up.

Table 1-2 Server Status LED (Amber)

State	Meaning
Amber	Critical failure. The IS-NAS server is not operational.
Slow Flash	System shutdown has failed. Flashes once every three seconds.
Medium Flash	The IS-NAS server needs attention; a non-critical failure has been detected. For example, a fan or power supply has failed. Flashes once every .8 seconds.
Off	Normal operation.

IS-NAS Server Rear Panel

Figure 1-2 shows the rear panel components of an IS-NAS server.

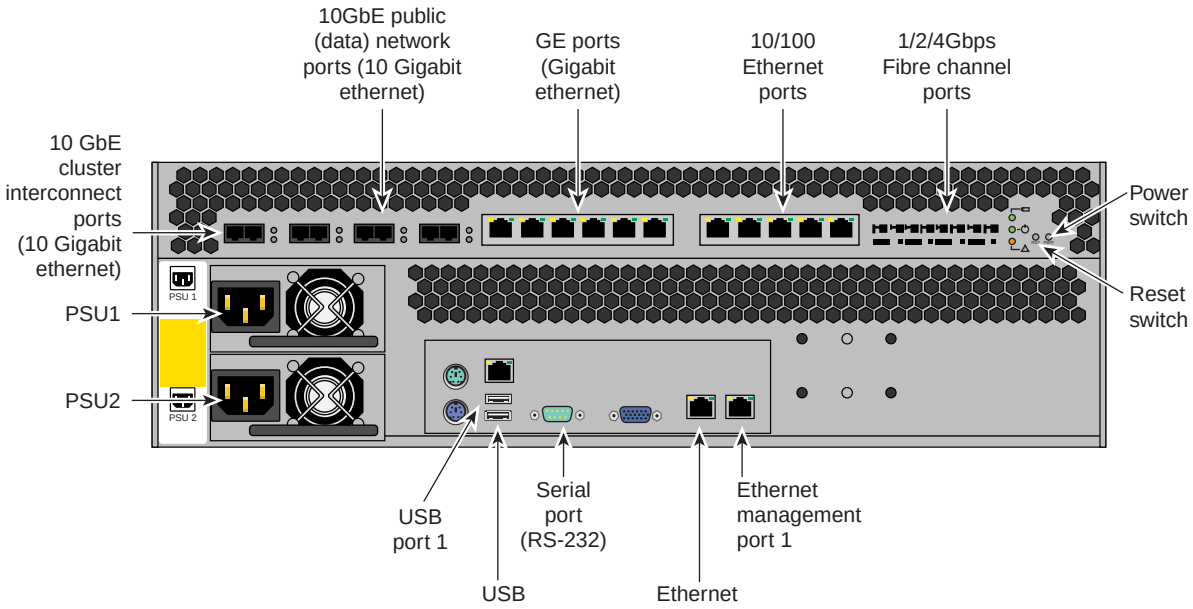


Figure 1-2 IS-NAS Rear Panel Components

IS-NAS Server Rear Panel–LEDs and Buttons

As shown in Figure 1-3, the rear panel of an IS-NAS server contains three status LEDs that indicate server status and two buttons that are used to power up and reset the server.

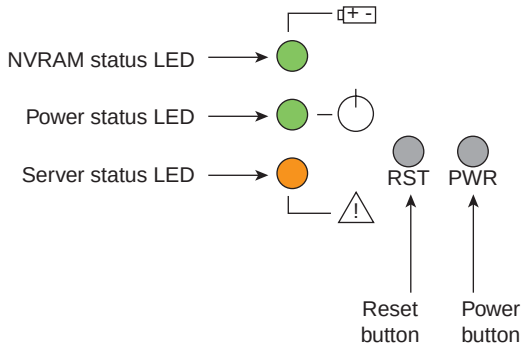


Figure 1-3 Rear Panel LEDs and Buttons

The NVRAM, Power, and Server LEDs indicate if the server is powered on, its operation state, and if the NVRAM is currently being protected by battery backup power. Table 1-3, Table 1-4, and Table 1-5 describe the various states of the LEDs.

Table 1-3 NVRAM Status LED (Green/Amber)

State	Meaning
Solid Green	Normal operation.
Flashing Green	NVRAM contents are protected by battery power.
Solid Amber	Battery pack is faulty or not fitted properly.
Off	Disabled or NVRAM battery power has exhausted.

Table 1-4 Power Status LED (Green)

State	Meaning
Green	Normal operation with a single IS-NAS server or an active cluster node in operation.
Slow Flash	The system has been shut down. Flashes once every three seconds.
Medium Flash	The IS-NAS server is available to host file services but it not currently doing so. Flashes once every .8 seconds.
Fast Flash	The IS-NAS server is rebooting. Flashes five times per second.
Off	The IS-NAS server is not powered up.

Table 1-5 Server Status LED (Amber)

State	Meaning
Amber	Critical failure. The IS-NAS server is not operational.
Slow Flash	System shutdown has failed. Flashes once every three seconds.
Medium Flash	The IS-NAS server needs attention; a non-critical failure has been detected. For example, a fan or power supply has failed. Flashes once every .8 seconds.
Off	Normal operation.

RAID Controller/Drive Enclosure Rear Panel

Note that controller A (left side of enclosure) contains drive channel 1, while controller B (right side of enclosure) contains drive channel 2. Figure 1-4 shows the controller's input/output ports.

1. Connector not used in this configuration
2. Fibre channel server host ports
3. Expansion ports

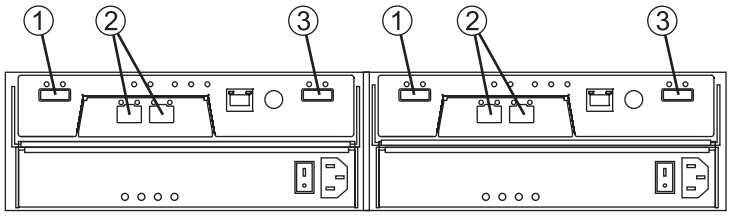


Figure 1-4 RAID Drive Enclosure Rear Panel (SAS Dual-Controller Shown)

Drive Expansion Enclosure Rear Panel

The drive expansion enclosure connects to the RAID expansion enclosure(s) using serial-attached SCSI (SAS) cables (rather than fibre channel). Each RAID controller has one drive expansion connector (located on the far right of the controller). You can connect up to three optional drive expansion enclosures to your RAID controller/drive enclosure. Drive expansion modules (see Figure 1-5) use the following SAS connectors:

1. SAS in connector
2. SAS out connector

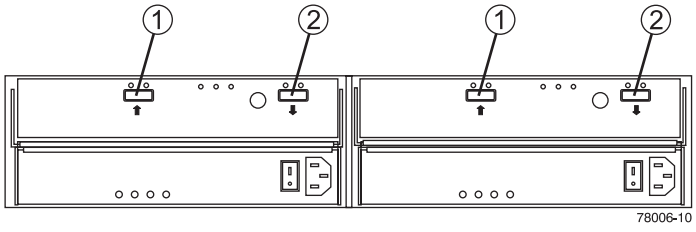
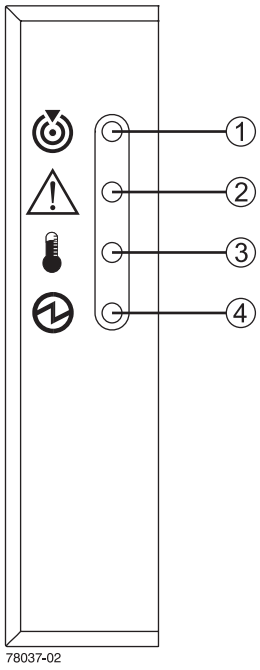


Figure 1-5 Drive Expansion Enclosure Rear Panel

System Indicators

Expansion drive enclosures cable to the primary disk enclosure. The RAID controller/drive enclosure has a set of indicators on the front-left side that help you determine the operational status of the unit, see Figure 1-6.

1. Module locate LED
2. Service required LED
3. Module over temperature LED
4. Power good LED



Left

Figure 1-6 NAS Drive Module Status LEDs

The RAID Controller Module

Figure 1-7 identifies the indicators on the rear of a RAID controller module.

1. Link service action required (fault)
2. Link up
3. Battery service action required (fault)
4. Cache active
5. Service action allowed
6. Service action required
7. Controller power
8. Ethernet activity
9. Ethernet speed
10. Host channel speed
11. Host channel speed
12. Not used in this configuration

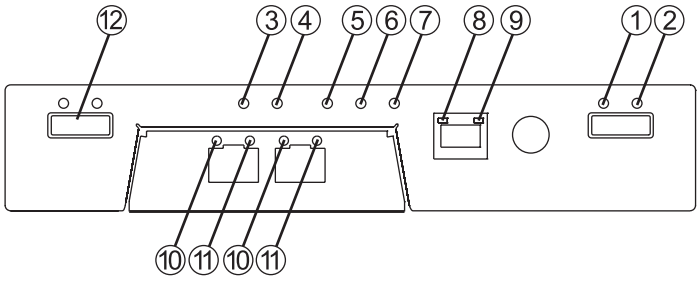


Figure 1-7 RAID Controller Rear Panel Indicators

Drive Locations and Indicators

Each RAID enclosure or drive expansion enclosure holds up to 12 sled-mounted removable hard drives. At least two drives must be installed in the enclosure for it to operate.

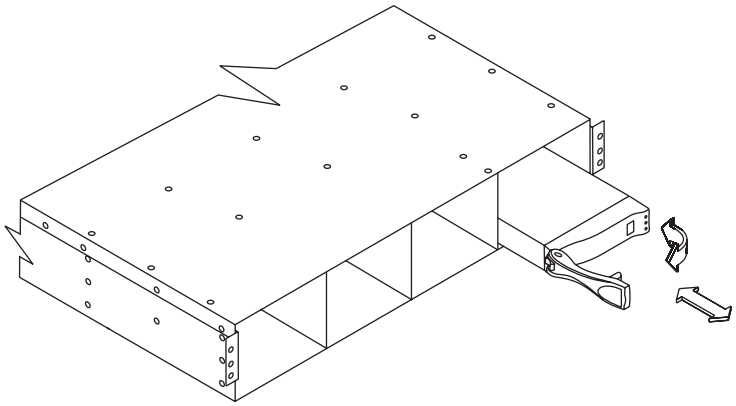


Figure 1-8 Drive Extraction (Front) From the Enclosure

The disk drive indicator LEDs have the following meanings:

1. Service action allowed (blue)
2. Service action required (yellow)
3. Disk drive active (green)

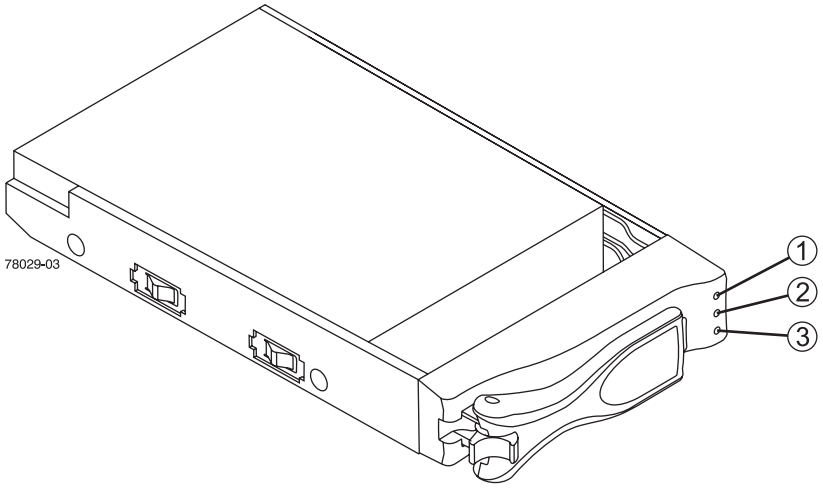


Figure 1-9 Disk Drive Indicator LEDs

Powering On an IS-NAS Server

To power on a server or cluster, do the following:

1. Verify that all servers are switched off.
2. Beginning with expansion enclosures, start all storage subsystems.
3. Wait until the disk LEDs on all of the expansion enclosures have stopped blinking (which indicates that they are spinning up) or two minutes, whichever comes first.
4. Start the storage subsystem RAID controller enclosures.

   The disk drives in some storage enclosures will not spin up until commanded to do so by the RAID controller. Consequently, the LEDs of those drives may continue to blink until after the RAID controller enclosure has sent those commands and the drives have spun up.
5. For a cluster configuration, or when using an external System Management Unit (SMU), start the SMU by depressing the red button located on the right of the unit.
6. Wait one minute to allow the external SMU to start.
7. Power up the IS-NAS server or the first node in the cluster.

   To switch the power on for a server/node:

   - If the power cables are not connected to the PSU, plug in the power cables. If, after 10 seconds, the PSU LEDs are lit but the Power Status LED on the rear panel is not lit, press the PWR button to restore power to the system boards.
   - If the power cables are connected to the PSU, press the PWR button on the rear of the server.

   The power button may be used to restore power to the system when the server is in a standby power state. Normally, when power cables are connected to the PSUs, the server will power up immediately. If, after 10 seconds, the LEDs on the power supplies are lit but the Power Status LED is not lit, press the PWR button to restore power to the system.

   Note: Do not use the PWR button during normal operation of the server. Pressing this button will cause an improper shutdown: it immediately powers down the system, but the PSUs and system fans will continue to run.
8. If you are starting a cluster, wait 5 to 10 seconds before powering on the next node in the cluster.

Software Configuration

After your IS-NAS server is powered on, you can then configure the Software Management Unit (SMU), a web-based GUI to administer your IS-NAS server. This section describes how you access the web manager SMU and the items to be configured.

Accessing the Web Manager SMU

You can use one of the following web browsers to access the web manager SMU:

- Microsoft Internet Explorer 7.0 (or later)
- Mozilla Firefox 1.5 (or later)

Some advanced features of SMU require Sun Microsystem's Java Runtime Environment 5.0 Update 6 or later.

To access the web manager SMU, do the following:

1. Connect a cross-over ethernet cable from a laptop or PC to the primary ethernet port (Port 0) on the IS-NAS server. See Figure 1-10.

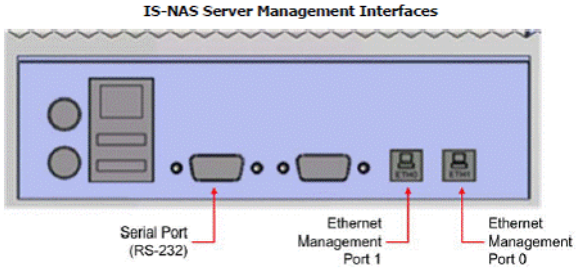


Figure 1-10 Ethernet Connections on the IS-NAS Server

2. Launch a web browser to the following URL:

   https://192.168.31.101

   You may need to temporarily reset the IP address of the laptop or PC to 192.168.31.1 for this to work correctly. Figure 1-11 shows the login screen.

Note: The IS-NAS server may take two to three minutes (after the start of the power-up sequence) to fully come online and be reachable via your browser.

Figure 1-11 Login Screen for SMU

Table 1-6 shows the pertinent default settings.

Table 1-6 Default Settings

Setting	Default
Root password	nasadmin
Manager password	nasadmin
Admin password	nasadmin
Admin EVS private IP address (eth1)	192.0.2.2
Admin EVS public IP address (eth0)	192.168.31.101

After a successful login, the system displays the SMU home page, as shown in Figure 1-12.

Figure 1-12 SMU Home Page

Configuring SMU for Your Environment

This section briefly describes the areas of setup and configuration using the following topics.

- General setup and network settings
- File system configuration
- Serving the file system
- Documentation

The setup wizard is intended to be easy to use and leads you through the initial system configuration steps.

General Setup and Network Settings

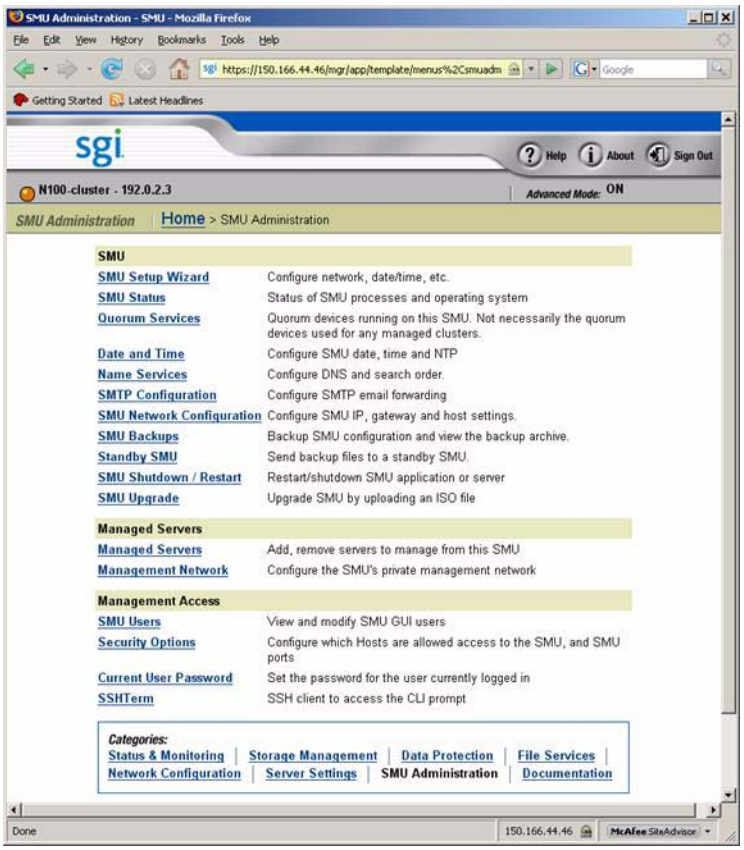


Figure 1-13 SMU Administration Screen

Choose **SMU Administration** from the SMU home page for general SMU setup and network settings. On the **SMU Administration** screen, choose the **SMU Setup Wizard** and **Management Network** links, shown in Figure 1-13.

Setup Wizard

On the Setup Wizard page, you can change the following items:

- Passwords
- DNS server setup
- SMTP relay
- Date and Time
- Private management network

Modifying IP Addresses of Service EVS

Figure 1-14 shows the path to the screen that allows you to change the EVS IP addresses to that of your network enviornment.

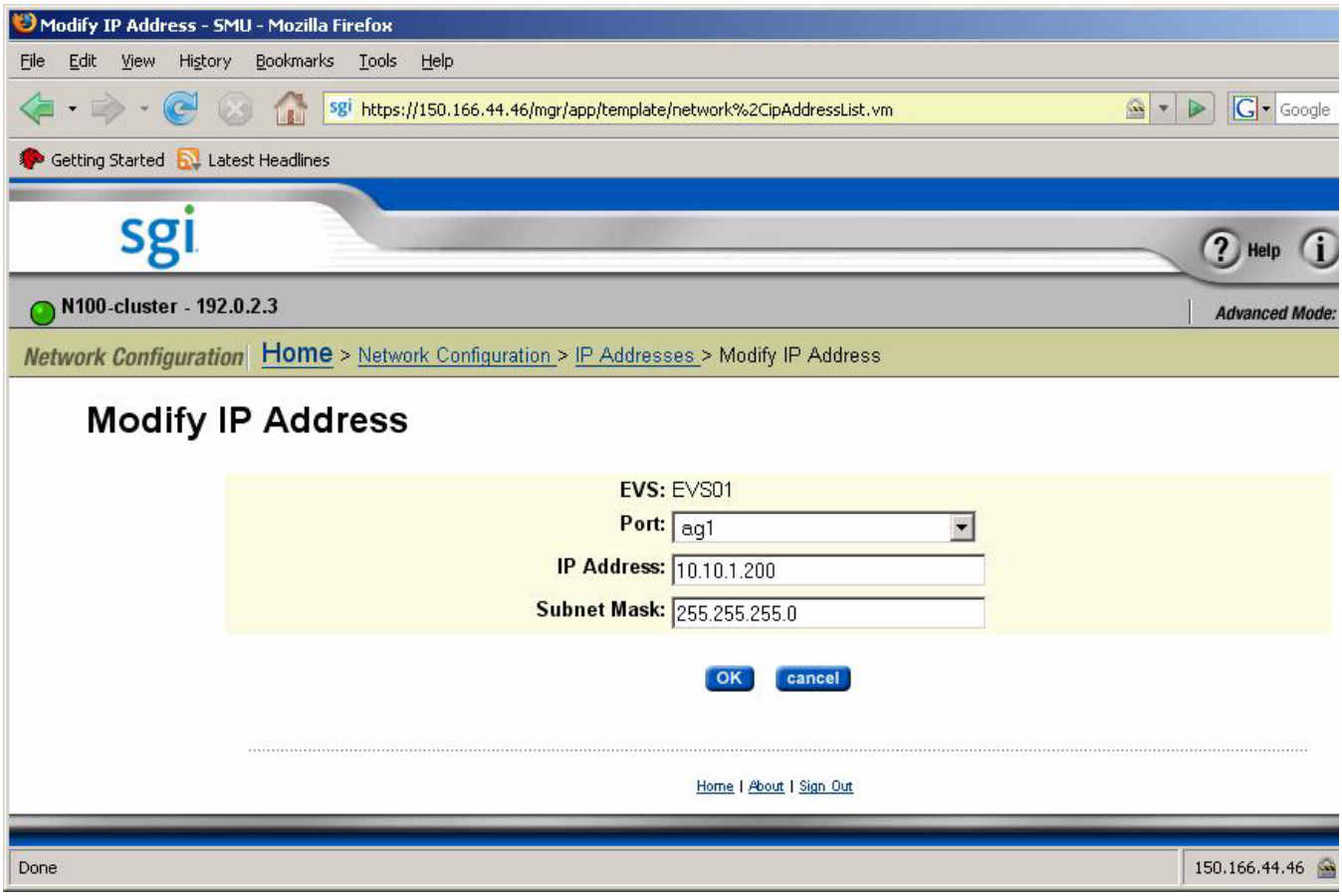


Figure 1-14 Modifying IP Addresses of Service EVS

Email Alerts to SGI Global Services

A special profile, **SupportProfile**, is intended for customer support use and sends email alerts to SGI Global Services. This feature is enabled by default.

To configure your email alerts, use the following path to the **Email Alerts Setup** screen, as shown in Figure 1-15:

Home > **Status & Monitoring** > **Email Alerts Setup**

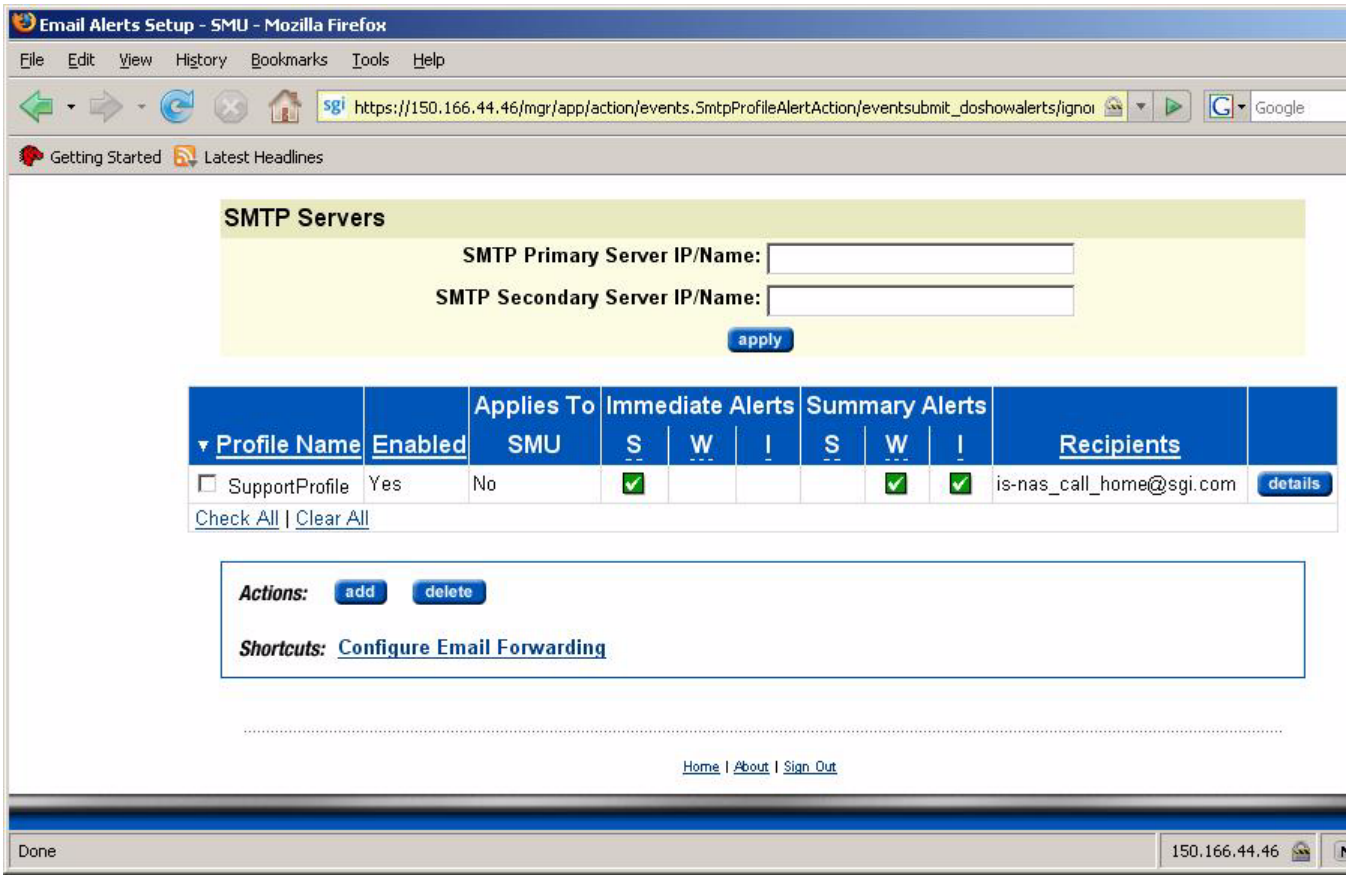


Figure 1-15 Email Alerts Setup Screen

File System Configuration

Per customer order, some NAS systems are shipped with file systems already set up. If your system was not so ordered, you must create your file system. First, create a storage pool and then a file system using the **Storage Management** link from the home page. Figure 1-16 shows the resulting web page.

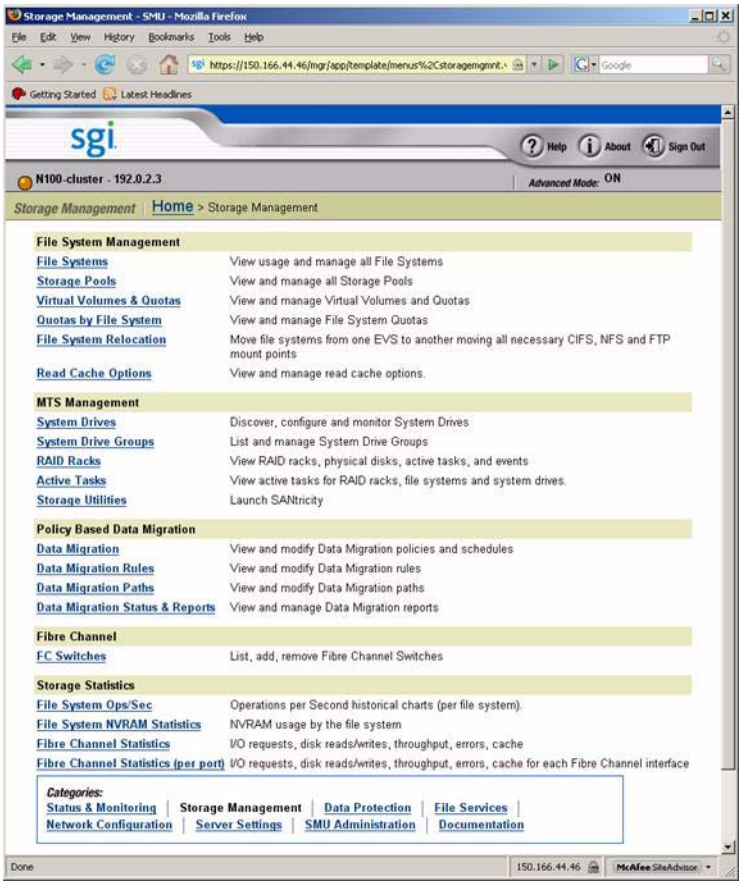


Figure 1-16 SMU Storage Management Screen

Serving the File System

Choose **File Services** from the home page if you need to serve your file system. Figure 1-17 shows the resulting web page.

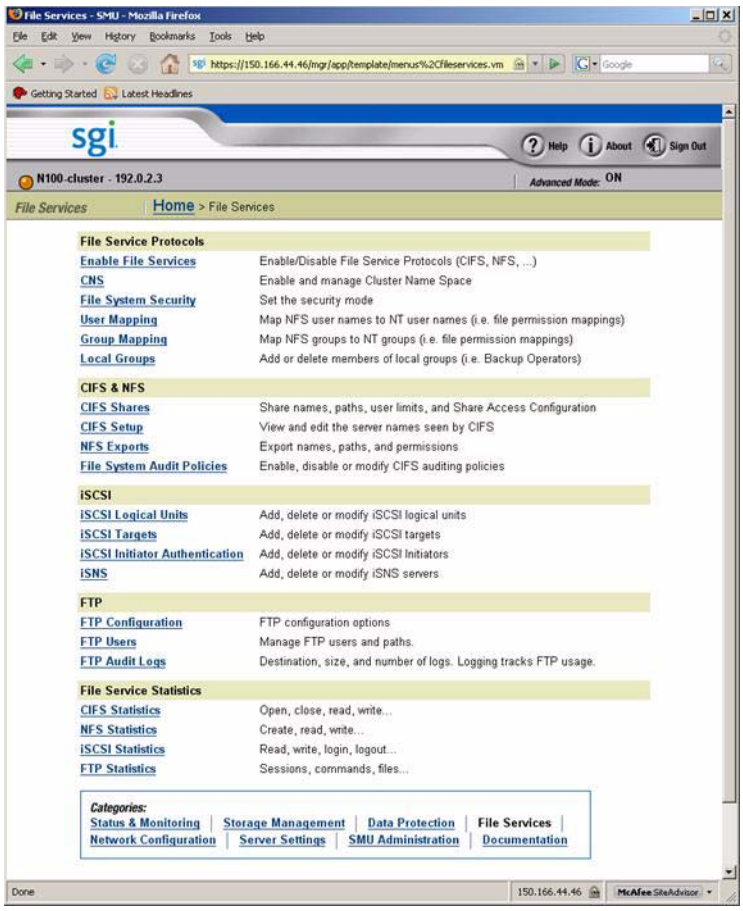


Figure 1-17 SMU File Services Screen

Documentation

For a comprehensive set of documentation of SMU and the IS-NAS server, choose **Documentation** from the home page. Figure 1-18 shows the documents that are available.

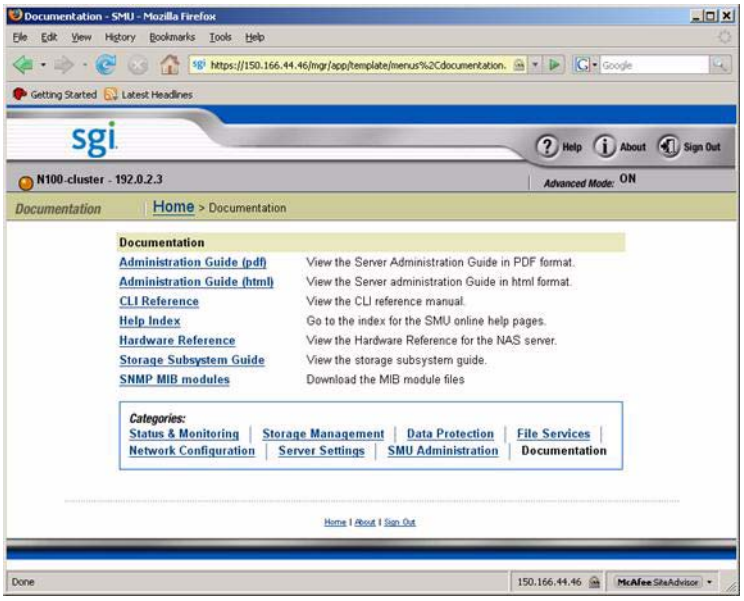


Figure 1-18 SMU Documentation Screen

After Software Configuration

Once you have completed the software configuration, the SMU software will instruct you to reboot the external SMU or the IS-NAS server.

To restart the IS-NAS server, use the following SMU links:

Home –> **Server Settings** –> **Restart, Reboot and Shutdown**

To restart the external SMU, use the following SMU links:

Home –> **Server Settings** –> **SMU Shutdown/Restart**

Contacting SGI

To contact the SGI Customer Service Center, call 1-800-800-4SGI, or visit http://www.sgi.com/support/customerservice.html.

From outside the United States contact your local SGI sales office.

For more information on available SGI storage products, see: http://www.sgi.com/storage

To reach SGI for other purposes, use the following contact information:

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