

SGI® InfiniteStorage™ NAS 330
Quick Start Guide

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SGI InfiniteStorage NAS 330 Quick Start Guide

This document guides a knowledgeable user through the installation, configuration, and basic setup of an SGI NAS 330 system. If you received your NAS 330 system already racked and cabled you probably do not need the information in this guide. For quick start information for the NAS Manager, see “Software Configuration” on page 22.

For more detailed information on the hardware or software products used in the SGI NAS 330, refer to one of the following guides:

- *SGI Altix 330 System User's Guide* (P/N 007-4790-00x)
- *SGI InfiniteStorage S330 RAID User's Guide* (P/N 007-4798-00x)
- *SGI InfiniteStorage NAS Manager User's Guide* (P/N 007-4699-00x)

These documents are available in PDF format on the CD that comes with your NAS 330 system. Or, they can be accessed and downloaded via internet 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.

This document contains the following major topics:

- “NAS 330 System Hardware Setup” on page 2
- “Cabling Examples” on page 3 through 19
- “Powering On a NAS 330 System” on page 20
- “Software Configuration” on page 22
- “Contacting the SGI Customer Service Center” on page 24

NAS 330 System Hardware Setup

Depending on the system ordered, your SGI NAS 330 has a one- or two-module data manager, a RAID enclosure (housing one or two RAID controllers), and one or two drive expansion enclosures. The system should be mounted in a rack prior to cable installation. The written steps and illustrations in this section describe the positioning and cabling of your NAS 330 system in a variety of configurations.

You may need to refer to the InfiniteStorage RAID installation manual accompanying your controller and expansion enclosures to properly install them in a rack. Place the enclosure(s) in locations within the cabinet (rack) that keep the RAID enclosure and drive enclosures distributed below the data manager(s) as shown in the examples. In addition, you want to keep the majority of the weight in the bottom half of the rack.

Figure 1-1 identifies the ports and indicators on the rear of a RAID controller module. Figure 1-2 shows the ports and indicators on the rear of a data manager module. Note that the two-module data managers are always linked by a NUMALink cable and use a single operating system and system disk, and are not independent units.

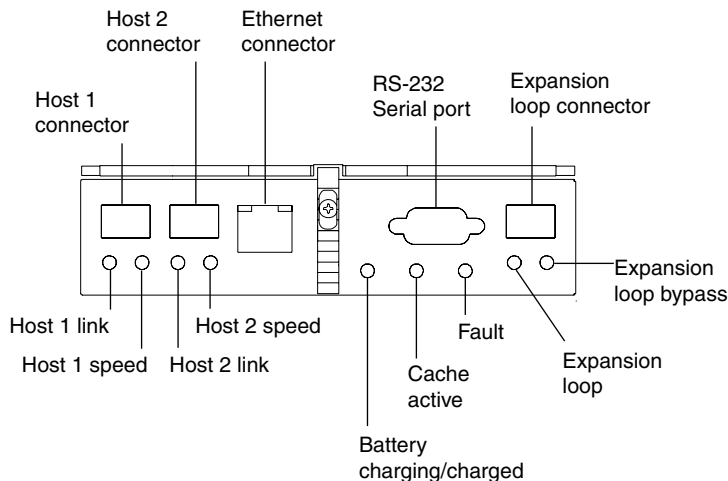


Figure 1-1 Controller Rear Panel Connector Ports

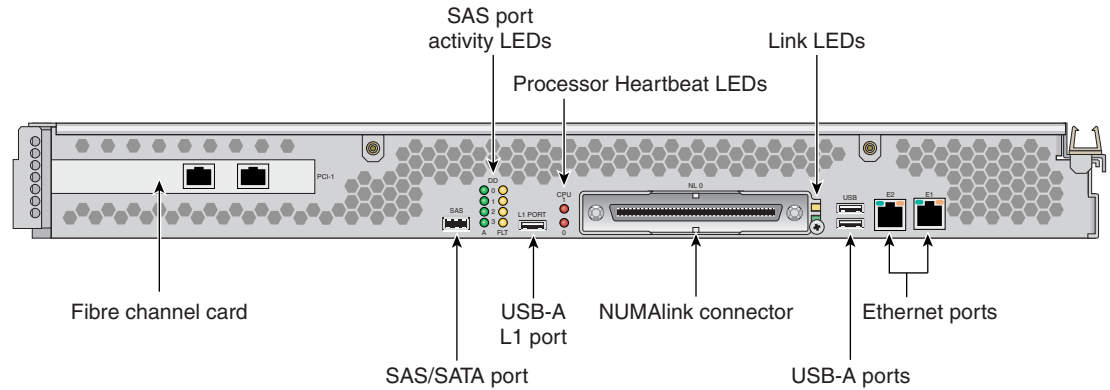


Figure 1-2 Data Manager Rear Panel Connectors

Cabling Examples

To cable one or more enclosures into an appropriate loop, use the descriptions and illustrations in one of the following six subsections.

All NAS 330 systems with two-module data managers must have a NUMAlink cable connecting the primary and secondary (bottom and top) modules.

Note that the principal Fibre Channel connectors and the cables used are tagged with color and number matched labels. For instance, cable 1A is blue and connects between port A on a Fibre Channel card and host port 1 on the left-side RAID controller; (both these ports have blue 1A labels).

One Data Manager and One Controller

Use the following steps and Figure 1-3 to correctly cable a single-module data manager to a dual-controller RAID enclosure.

1. Connect the Data Manager's Fibre Channel PCI card port A (blue label [1A]) to RAID controller A's port 1 (blue label [1A]) on the controller enclosure, see Figure 1-3.
2. Connect the Data Manager's Fibre Channel PCI card port B (red label [1B]) to RAID controller B's port 1 (red label [1B]) on the controller enclosure.

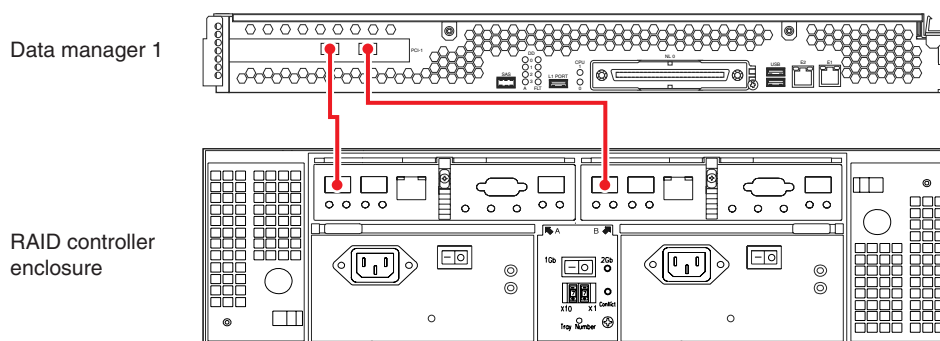


Figure 1-3 One Data Manager One Controller Enclosure Cabling (Dual RAID Controllers)

Use the following steps and Figure 1-4 to cable a one-module data manager to a single-controller RAID enclosure.

1. Connect the Data Manager's Fibre Channel PCI card port A (blue label [1A]) to the RAID controller's host 1 (blue label [1A]) port in the controller enclosure, see Figure 1-4.
2. Connect the Data Manager's Fibre Channel PCI card port B (red label [1B]) to the RAID controller's host 2 port (red label [1B]).

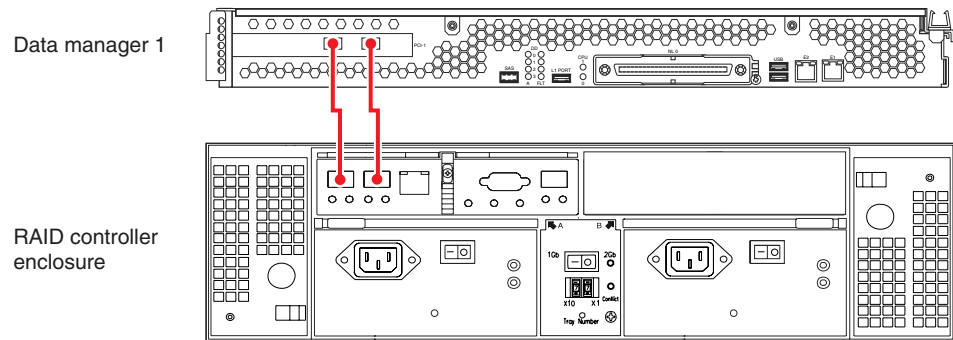


Figure 1-4 One Data Manager One Controller Enclosure (Single RAID Controller)

Two-Module Data Manager and One Controller

Use the following steps and Figure 1-5 to cable a NAS 330 with a two-module data manager and a two-controller RAID enclosure.

1. Connect the first Data Manager's Fibre Channel PCI card port A (blue label [1A]) to RAID controller A's port 1 (blue label [1A]) on the controller enclosure, see Figure 1-5.
2. Connect the first Data Manager's Fibre Channel PCI card port B (red label [1B]) to RAID controller B's port 1 (red label [1B]) on the controller enclosure.

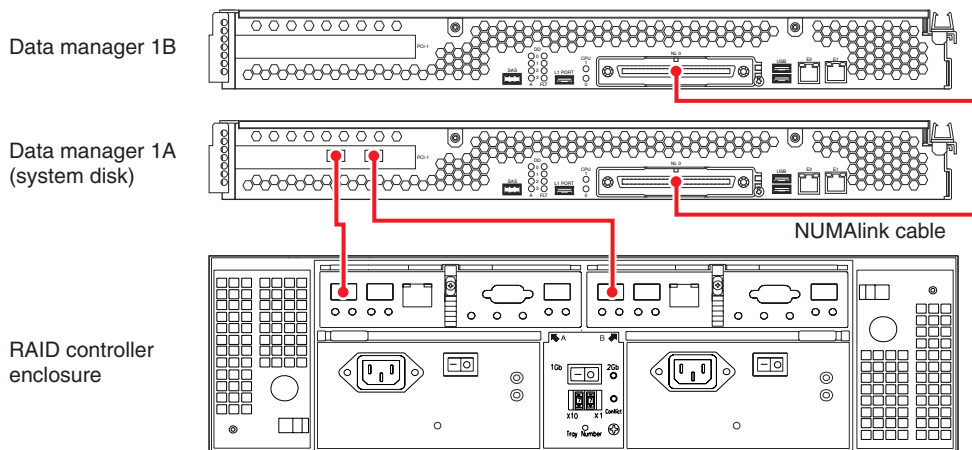


Figure 1-5 Two-Module Data Manager, Dual Controller RAID Enclosure Cabling

Use the following steps and Figure 1-6 to cable a two-module data manager to a single-controller RAID enclosure.

1. Connect Data Manager 1A's Fibre Channel PCI card port A (blue label [1A]) to the RAID controller's port 1 (blue label [1A]), see Figure 1-6.
2. Connect Data Manager 1A's Fibre Channel PCI card port B (red label [1B]) to the RAID controller's port 2 (red label [1B]).

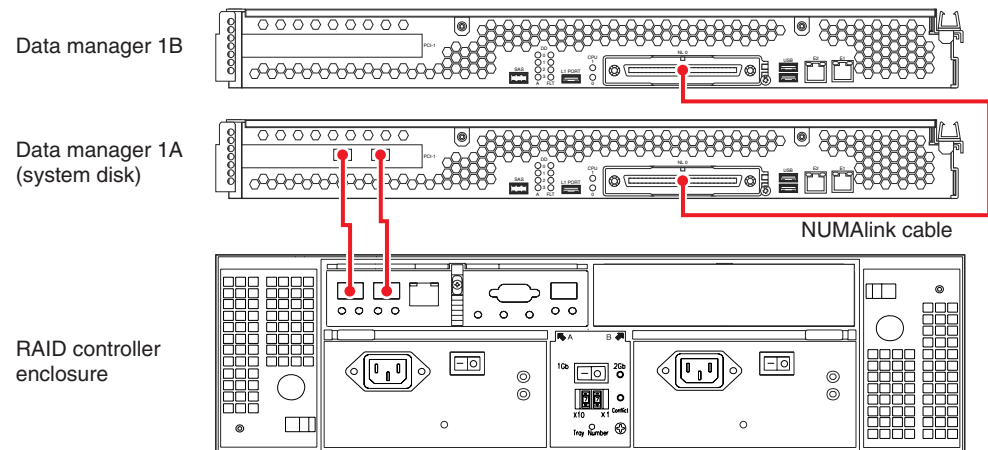


Figure 1-6 Two-Module Data Manager, Single RAID Controller Cabling

One Data Manager One Controller and One Expansion Enclosure

Use the following steps and Figure 1-7 to cable a single-module data manager to a dual-controller RAID enclosure and one drive expansion enclosure.

1. Connect the Data Manager's Fibre Channel PCI card port A (blue label [1A]), to RAID controller A's port 1 (blue label [1A]) on the left side of the controller enclosure, see Figure 1-7.
2. Connect the Data Manager's Fibre Channel PCI card port B (red label [1B]), to RAID controller B's port 1 (red label [1B]) on the right side of the controller enclosure.
3. Connect RAID controller A's expansion loop connector (orange label [2A]), to the (FCAL In) port on ESM A (orange label [2A]) on the left side of the expansion enclosure's rear panel.
4. Connect RAID controller B's expansion loop connector (green label [2B]), to the (FCAL Out) port on ESM B (green label [2B]) on the right side of the drive expansion enclosure's rear panel.

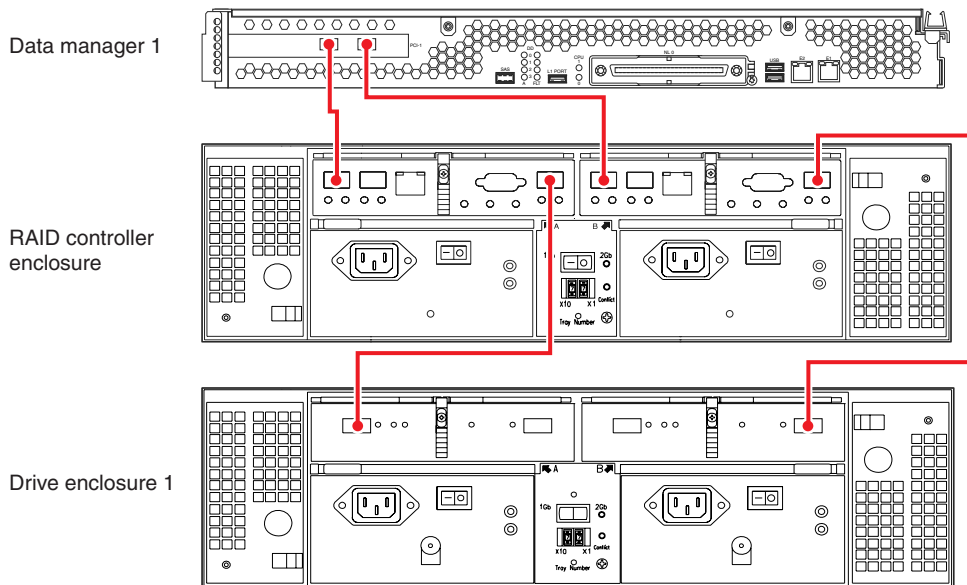


Figure 1-7 Single-module Data Manager, Dual Controller RAID, One Disk Expansion

Use the following steps and Figure 1-8 to connect a single-module data manager to a single-controller RAID enclosure and one drive expansion enclosure.

1. Connect the Data Manager's Fibre Channel PCI card port A (blue label [1A]) to the RAID controller's port 1 (blue label [1A]), see Figure 1-8.
2. Connect the Data Manager's Fibre Channel PCI card port B (red label [1B]) to the RAID controller's port 2 (red label [1B]).
3. Connect the RAID controller's expansion loop connector (orange label [2A]) to the (FCAL In) port on the left side ESM (orange label [2A]) in the drive expansion enclosure.

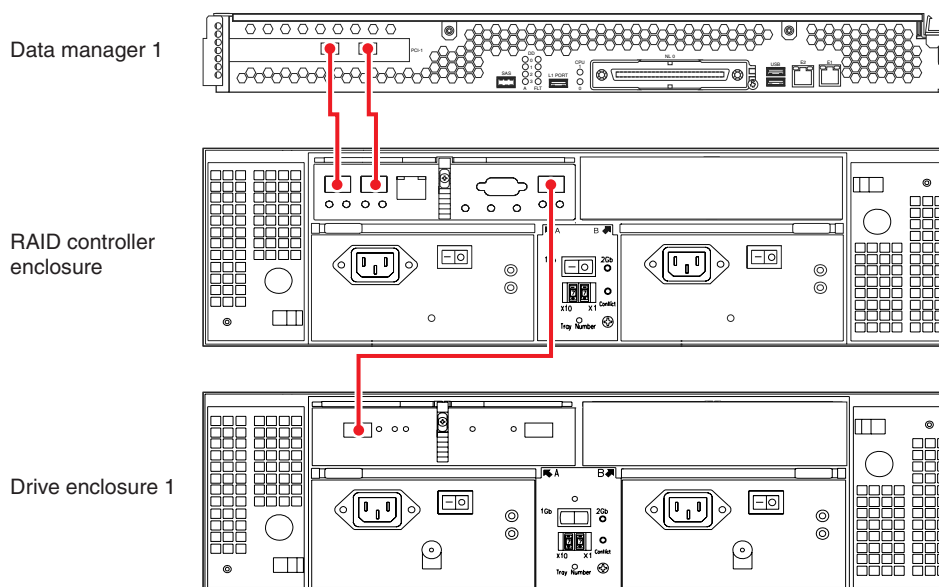


Figure 1-8 Single-Module Data Manager, Single Controller RAID, One Disk Expansion

Two Data Managers One Controller and One Expansion Enclosure

Use the following steps and Figure 1-9 to properly cable a two-module, two-Fibre Channel controller data manager to a dual-controller RAID enclosure with one disk expansion enclosure.

1. Connect Data Manager 1A's Fibre Channel PCI card port A (blue label [1A]) to RAID controller A's host port 2 (blue label [1A]), see Figure 1-9.
2. Connect Data Manager 1A's Fibre Channel PCI card port B (red label [1B]) to RAID controller B's host port 2 (red label [1B]).
3. Connect Data Manager 1B's PCI card port A (orange label [2A]) to RAID controller A's host 1 connector (orange label [2A]).
4. Connect Data Manager 1B's PCI card port B (green label [2B]) to RAID controller B's host 1 port (green label [2B]).
5. Connect RAID controller A's expansion loop connector port (yellow label [3A]) to the drive expansion enclosure's left-side ESM channel A (FCAL In) port (yellow label [3A]).
6. Connect RAID controller B's expansion loop connector port (navy blue label [3B]) to the drive enclosure's right-side ESM channel B (FCAL Out) port (navy blue label [3B]).

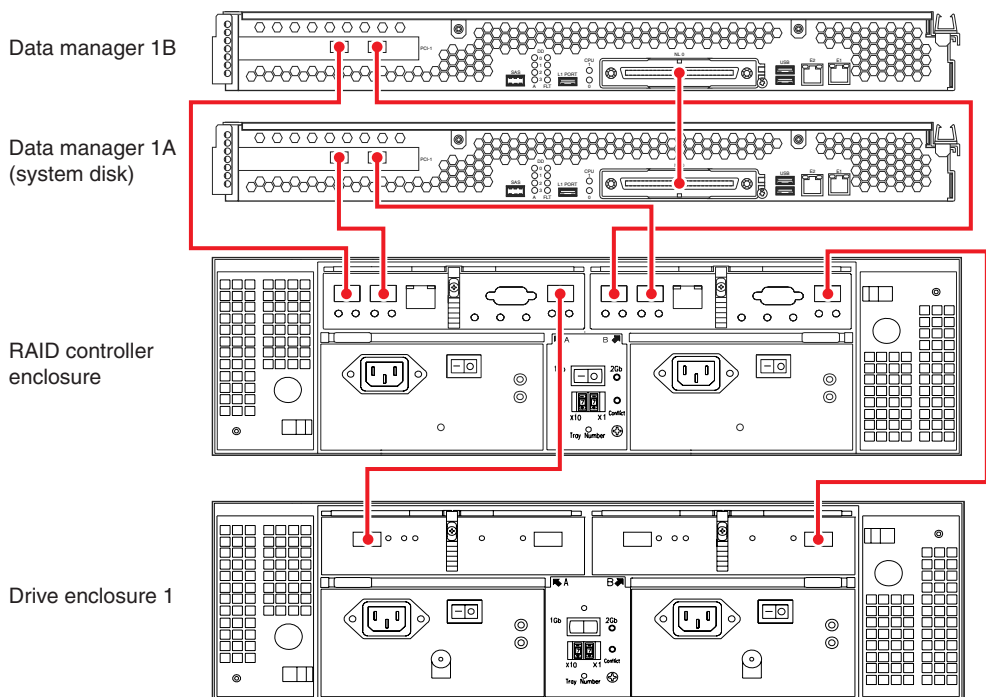


Figure 1-9 Two-Module Data Manager With Two Fibre Channel Cards a Two-Controller RAID Enclosure and One Disk Expansion Enclosure

Use the following steps and Figure 1-10 to cable a two-module single-fibre channel card data manager to a two-controller RAID enclosure and one disk expansion enclosure.

1. Connect Data Manager 1A's Fibre Channel PCI card port A (blue label [1A]) to RAID controller A's port 1 (blue label [1A]), see Figure 1-10.
2. Connect Data Manager 1A's Fibre Channel PCI card port B (red label [1B]) to RAID controller B's port 1 (red label [1B]).
3. Connect the RAID enclosure's controller A expansion loop connector (orange label [2A]) to the (FCAL In) port (orange label [2A]) on the drive enclosure's left-side ESM.
4. Connect the RAID enclosure's controller B expansion loop connector (green label [2B]) to the (FCAL In) port (green label [2B]) to the drive enclosure's right-side ESM.

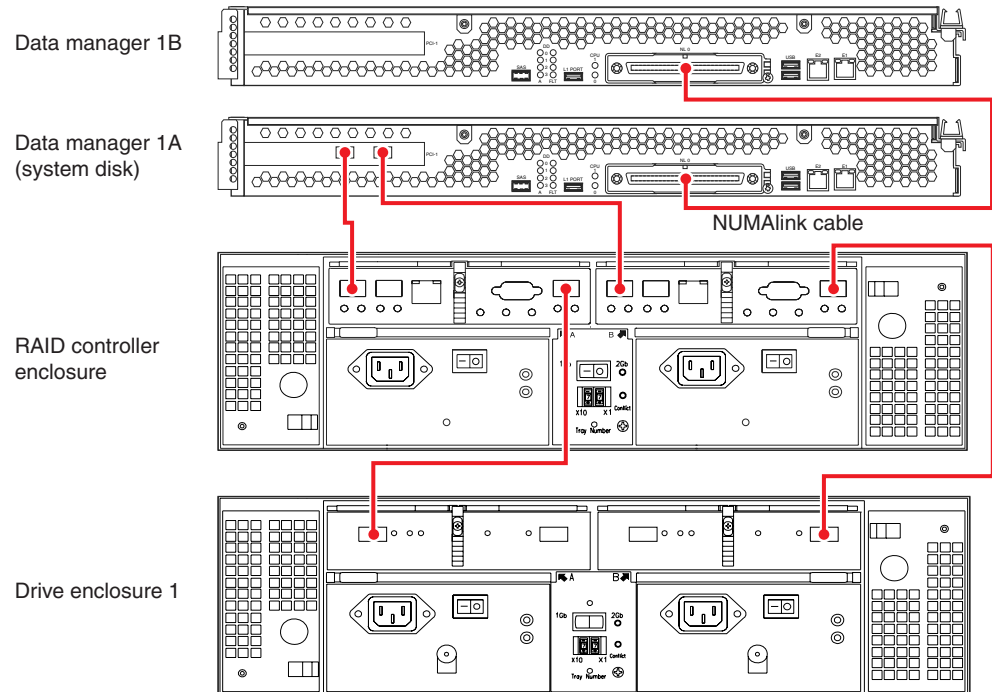


Figure 1-10 Two-Module Data Manager With One Fibre Channel Card a Two-Controller RAID Enclosure and One Disk Expansion Enclosure

Use the following steps and Figure 1-11 to cable a two module data manager with one fibre channel card, a single-controller RAID enclosure and one disk expansion enclosure.

1. Connect Data Manager 1A's Fibre Channel PCI card port A (blue label [1A]) to the RAID controller's port 1 (blue label [1A]), see Figure 1-11.
2. Connect Data Manager 1A's Fibre Channel PCI card port B (red label [1B]) to the RAID controller's port 2 (red label [1B]).
3. Connect the RAID enclosure's controller expansion loop connector (orange label [2A]) to the (FCAL In) port (orange label [2A]) on the drive enclosure's left-side ESM.

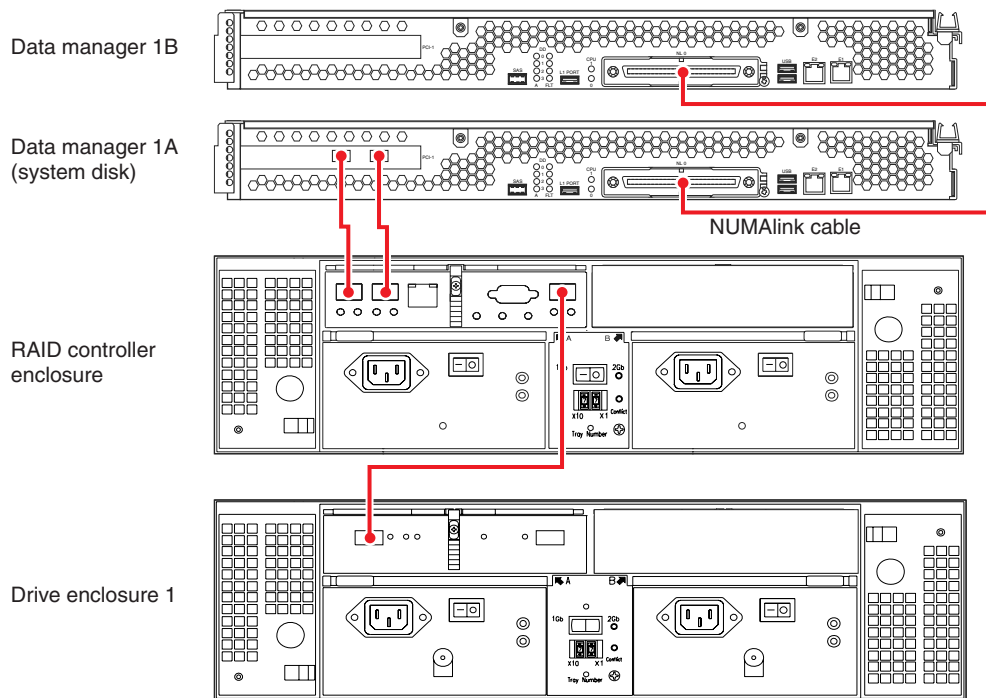


Figure 1-11 Two-Module Data Manager With One Fibre Channel Card a Single-Controller RAID Enclosure and One Drive Enclosure

One Data Manager One Controller and Two Expansion Enclosures

Use the following steps and Figure 1-12 to cable a single-module data manager to a dual controller RAID enclosure and two drive expansion enclosures.

1. Connect the Data Manager's Fibre Channel PCI card port A (blue label [1A]), to controller A's port 1 (blue label [1A]) on the controller enclosure, see Figure 1-12.
2. Connect the Data Manager's Fibre Channel PCI card port B (red label [1B]), to controller B's port 1 (red label [1B]) on the controller enclosure.
3. Connect controller A's expansion loop connector (orange label [2A]), to the (FCAL In) port on ESM A (orange label [2A]) on the first drive enclosure's rear panel.
4. Connect RAID controller B's expansion loop connector (green label [2B]), to the (FCAL Out) port on ESM B (green label [2B]) on the right side of drive enclosure two's rear panel.
5. Connect the (FCAL Out) port on ESM A of drive enclosure 1 (yellow label [3A]) to the (FCAL in) port on ESM A on drive enclosure 2.
6. Connect the (FCAL Out) port on ESM B of drive enclosure 1 (navy blue label [3B]) to the (FCAL in) port on ESM B (navy blue label [3B]) on drive enclosure 2.

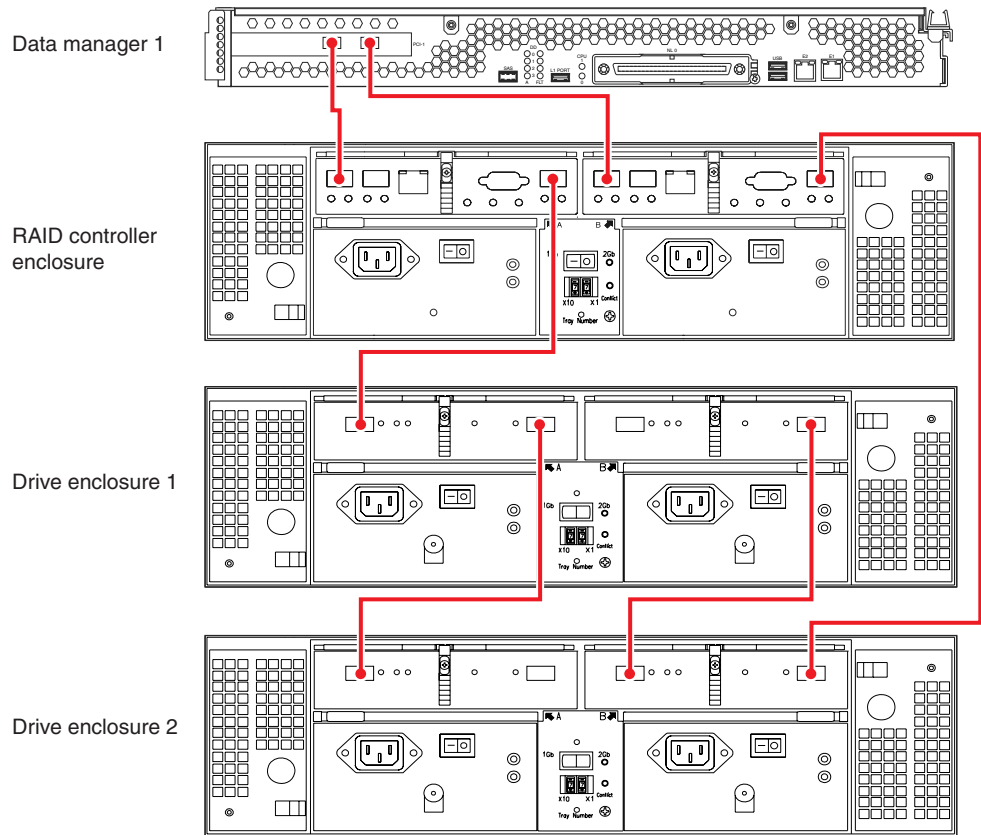


Figure 1-12 One Data Manager, Dual-Controller RAID and Two Expansion Enclosures

Two-Module Data Manager One Controller and Two Expansion Enclosures

Use the following steps and Figure 1-13 to properly cable a two-module, two-Fibre Channel controller data manager to a dual-controller RAID enclosure with two disk expansion enclosures.

1. Connect Data Manager 1A's Fibre Channel PCI card port A (blue label [1A]) to RAID controller B's host port 2 (blue label [1A]), see Figure 1-13.
2. Connect Data Manager 1A's Fibre Channel PCI card port B (red label [1B]) to RAID controller B's host port 2 (red label [1B]).
3. Connect Data Manager 1B's PCI card port A (orange label [2A]) to RAID controller A's host 1 port (orange label [2A]).
4. Connect Data Manager 1B's PCI card port B (green label [2B]) to RAID controller B's host 1 port (green label [2B]).
5. Connect RAID controller A's expansion loop connector port (yellow label [3A]) to drive expansion enclosure 1's left-side ESM channel A (FCAL In) port (yellow label [3A]).
6. Connect RAID controller B's expansion loop connector port (navy blue label [3B]) to the second (bottom) drive expansion enclosure's right-side ESM channel B (FCAL Out) port (navy blue label [3B]).
7. Connect drive enclosure 1's (left-side) channel A (FCAL Out) port (white label [4A]) to drive enclosure 2's left-side channel A (FCAL In) port (white label [4A]).
8. Connect drive enclosure 1's right-side channel B (FCAL Out) port (black label [4B]) to drive enclosure 2's right-side channel B (FCAL In) port (black label [4B]).

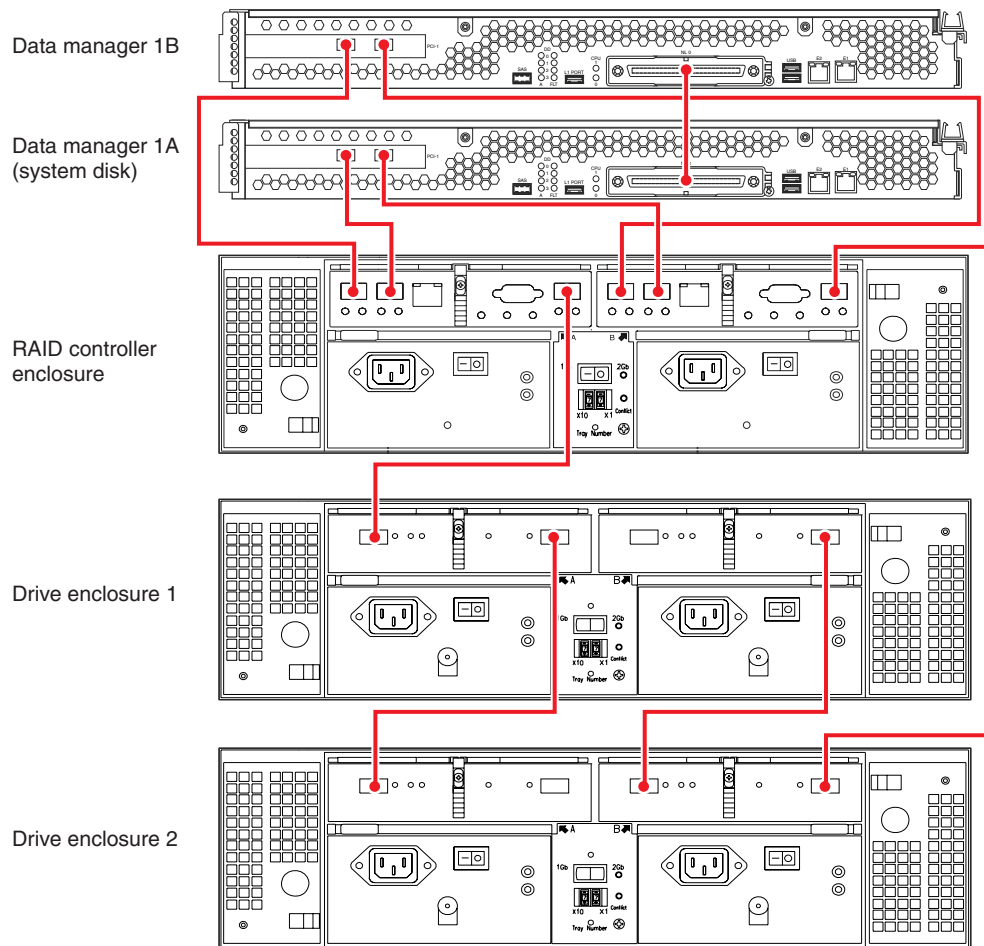


Figure 1-13 Two-Module Data Manager, Two Fibre Channel Cards, Dual-Controller RAID and Two Drive Expansion Enclosures

Use the following steps and Figure 1-14 to cable a two-module single-fibre channel card data manager to a two-controller RAID enclosure and two disk expansion enclosures.

1. Connect Data Manager 1A's Fibre Channel PCI card port A (blue label [1A]) to RAID controller A's port 1 (blue label [1A]) on the left side of the RAID enclosure, see Figure 1-14.
2. Connect Data Manager 1A's Fibre Channel PCI card port B (red label [1B]) to RAID controller B's port 1 (red label [1B]) on the right side of the RAID enclosure.
3. Connect the RAID enclosure's controller A expansion loop connector (orange label [2A]) to the (FCAL In) port (orange label [2A]) on drive enclosure 1's left-side ESM.
4. Connect the RAID enclosure's controller B expansion loop connector (green label [2B]) to the (FCAL Out) port (green label [2B]) on drive enclosure 2's right-side ESM.
5. Connect drive enclosure 1's left-side channel A (FCAL Out) port (yellow label [3A]) to drive enclosure 2's left-side channel A (FCAL In) port (yellow label [3A]).
6. Connect drive enclosure 1's right-side channel B (FCAL Out) port (navy blue label [3B]) to drive enclosure 2's right-side channel B (FCAL In) port (navy blue label [3B]).

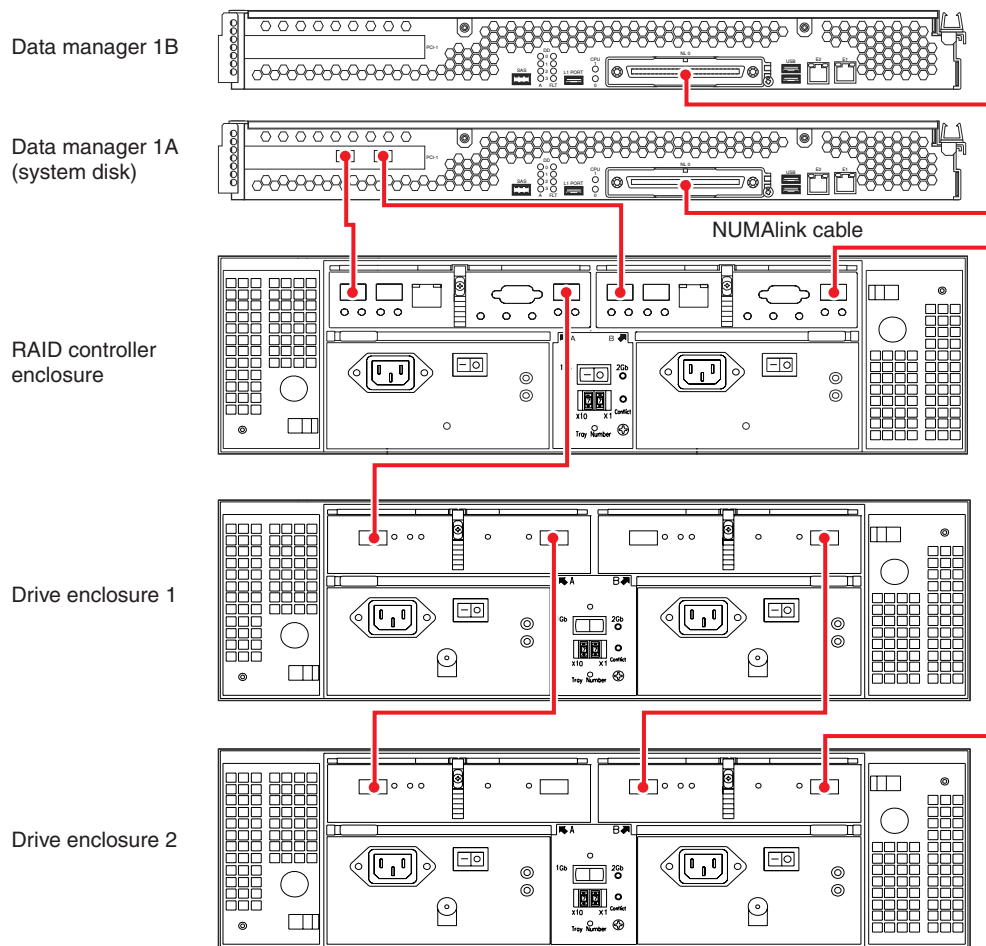


Figure 1-14 Two-Module Data Manager With One Fibre Channel Card, Dual-RAID Controller Enclosure and Two Drive Expansion Enclosures

Use the following steps and Figure 1-15 to cable a two module data manager with one fibre channel card, a single-controller RAID enclosure and two disk expansion enclosures.

1. Connect Data Manager 1A's Fibre Channel PCI card port A (blue label [1A]) to RAID controller A's port 1 (blue label [1A]), see Figure 1-15.
2. Connect Data Manager 1A's Fibre Channel PCI card port B (red label [1B]) to RAID controller A's port 2 (red label [1B]).
3. Connect the RAID enclosure's controller expansion loop connector (orange label [2A]) to the (FCAL In) port (orange label [2A]) on the drive enclosure's left-side ESM.
4. Connect drive enclosure 1's left-side channel A (FCAL Out) port (green label [2B]) to drive enclosure 2's left-side channel A (FCAL In) port (green label [2B]).

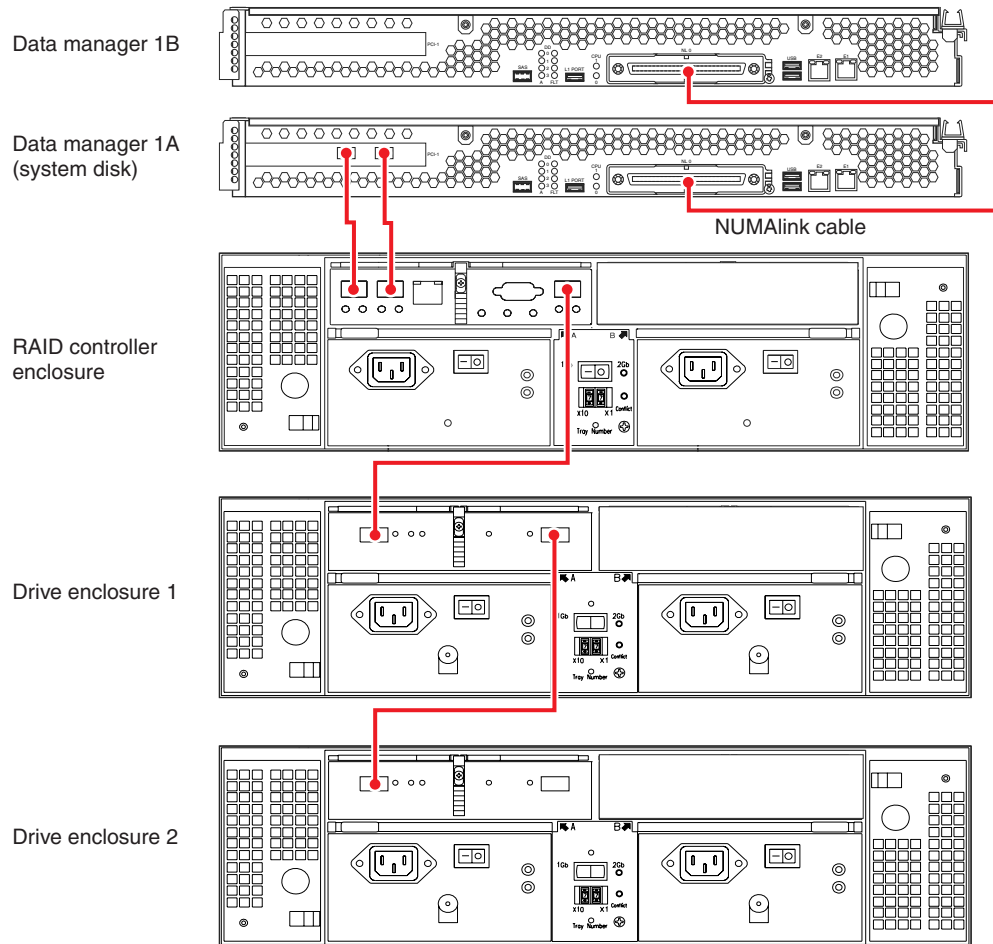


Figure 1-15 Two-Module Data Manager With One Fibre Channel Card, Single-RAID Controller Enclosure and Two Drive Expansion Enclosures

Powering On a NAS 330 System

Plug your NAS 330 system into a suitable power outlet(s), as in the example shown in Figure 1-16 (for racked chassis). Refer to the SGI InfiniteStorage S330 RAID User's Guide for more detailed start-up power requirements.

Turn on the power to all connected drive enclosures before you turn on the controller enclosure or data manager(s). This action ensures that the controllers recognize each attached drive enclosure.

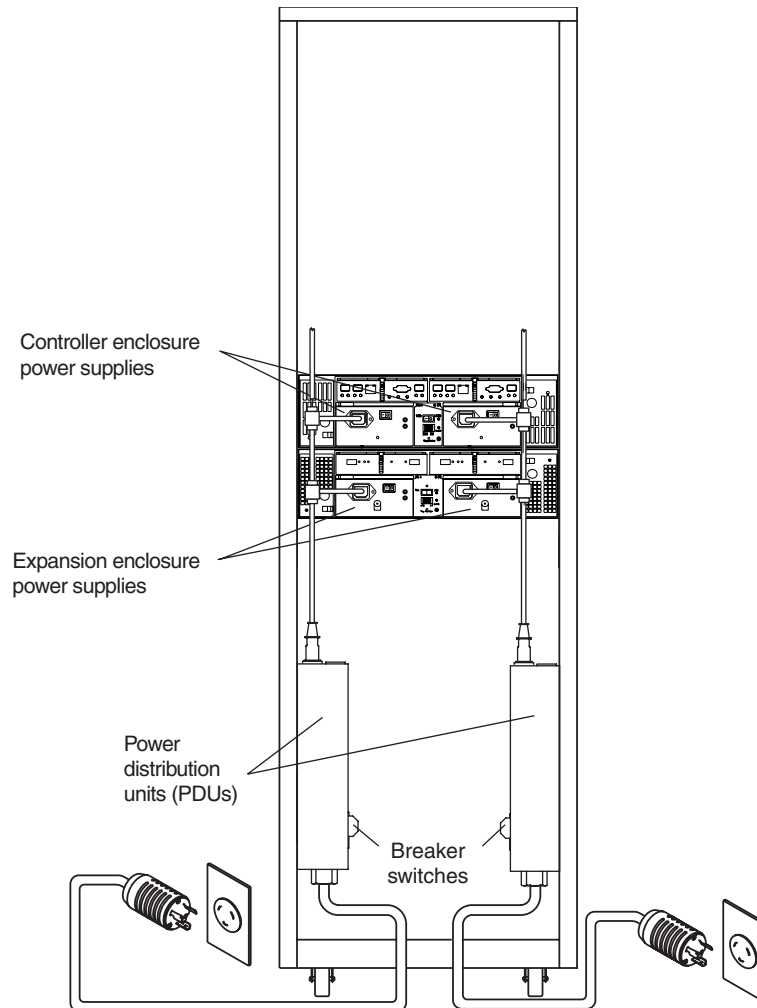


Figure 1-16 Connection Example of a Racked System to Power

Software Configuration

If your NAS system's hardware is configured and powered on, use the SGI InfiniteStorage NAS Manager Setup Wizard to setup the initial software configuration of your SGI NAS Data Manager appliance.

It should only be run after the hardware setup instructions have been completed and verified and the machine has been powered up. To run the wizard, connect a cross-over ethernet cable from a laptop or PC to the primary ethernet port on the Altix 330 NAS Data Manager appliance. The cable plugs into the left-hand port when looking at the rear of the unit, see Figure 1-17.

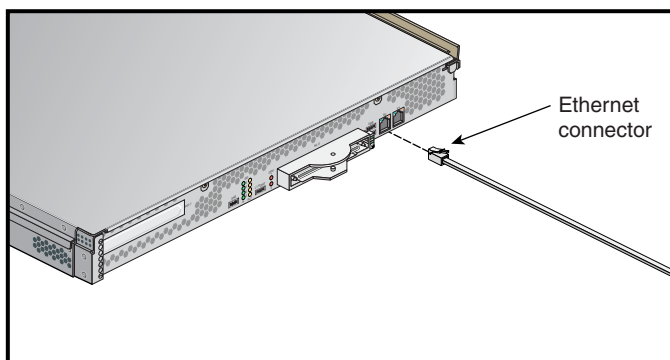


Figure 1-17 Ethernet Connection to Data Manager

Then launch a web browser to the following URL:

`https://192.168.9.9:1178`

Note: You may need to temporarily reset the IP address of the laptop or PC to 192.168.9.1 for this to work correctly.

The setup wizard is intended to be self documenting and easy to use. Once the software setup phase has completed, the SGI NAS Data Manager will require a restart. Afterwards, you should remove the cross-over cable and plug the system into the local network. Note that once the system has been restarted, you can monitor its performance, or change the software configuration by going to <https://your.server:1178/>. Figure 1-18 shows an example start screen.

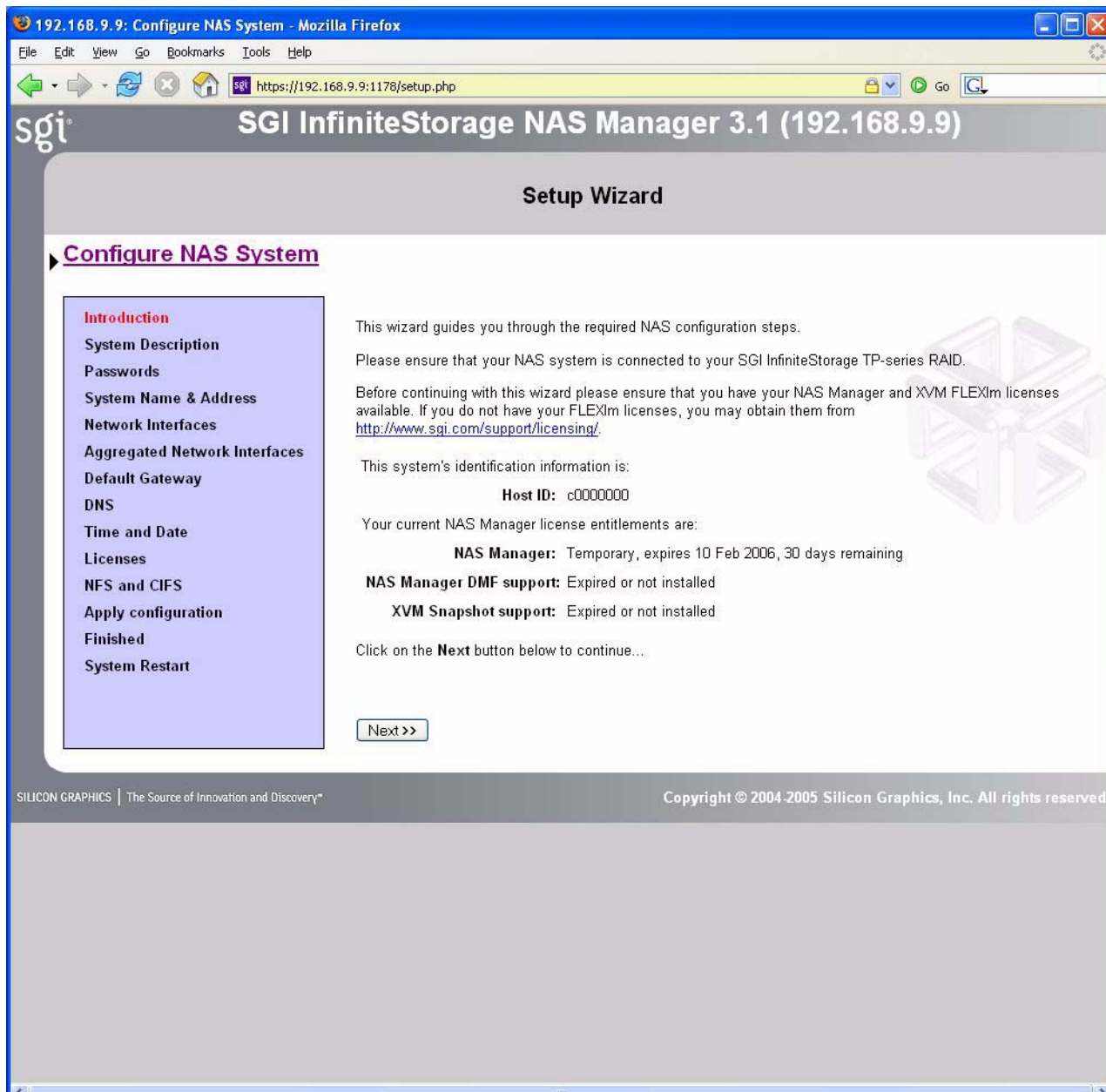


Figure 1-18 NAS Manager Screen Example

Contacting the SGI Customer Service Center

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.