



# Hitachi AMS 2100/2300

## Getting Started Guide

### FASTFIND LINKS

Getting Started Guide



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# Hitachi AMS 2100/2300 Getting Started Guide

**Congratulations on purchasing the Hitachi Adaptable Modular Storage (AMS) 2100 or AMS 2300 storage system.**

Before using your storage system, some steps are required to install and configure it and prepare your host server. The instructions in this guide are designed to get your storage system up and running quickly. If you prefer detailed instructions, please refer to the following:

- *AMS 2100/2300 Storage System Hardware Guide* (MK-97DF8010) on the CD supplied with the storage system.
  - *Storage Navigator Modular User's Guide* (MK-97DF8008) on the CD supplied with the storage system.
  - Storage Navigator Modular 2 storage management software (hereinafter referred to as Navigator 2). To access the help, either:
    - Install the Navigator 2 software using the instructions in this guide, then click **Help** on the current screen being viewed
- OR
- Click **Help > Help** in the main menu

# Installation & configuration checklist

The following checklist identifies the steps for getting your AMS 2100 or 2300 storage system up and running. Please check each step as you complete it and record your settings on [page 49](#).

## Preparing for the installation

- 1. [Unpack items \(page 3\)](#)
- 2. [User-supplied items \(page 4\)](#)
- 3. [Identify your configuration \(page 7\)](#)

## Installing the storage system

- 4. [Install the base and expansion units \(page 8\)](#)
- 5. [Install drives \(page 8\)](#)
- 6. [Attach the front bezel \(page 9\)](#)
- 7. [Attach expansion units \(optional\) \(page 10\)](#)
- 8. [Connect cables to the base unit \(page 13\)](#)
- 9. [Connect to a Modular 2U SAS Expansion Unit \(optional\) \(page 16\)](#)
- 10. [Power-up the base unit](#)

## Configuring the storage system

- 11. [Set Java Runtime parameters if necessary](#)
- 12. [Install and log in to Navigator 2 \(page 21\)](#)
- 13. [Add storage systems \(page 22\)](#)
- 14. [Perform the initial setup \(page 25\)](#)
- 15. [Add the newly configured storage system to Navigator 2 \(page 46\)](#)



Please read the Release Notes before installing or using this product. They may contain requirements and restrictions not fully described in this document, along with updates and corrections to this document.

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# Preparing for installation

## 1. Unpack items

1. Inspect all shipping cartons for signs of damage. If you see damage, contact the shipper.
2. Loosen the band around the cartons and open all cartons.
3. Remove all accessory boxes, packing materials, and envelopes from the cartons.
4. Have at least three people remove the base unit and any expansion units.



5. Open and remove the bag in which the base unit is enclosed. Repeat this step for any expansion units you may have ordered.
6. Compare the items received to the packing list. If any items are missing or damaged, contact the shipper immediately.
7. Each base unit has a key for locking and unlocking the front bezel. Place the keys in a safe place.
8. Please keep all packing materials and cartons in case you need to transport or ship the base or expansion unit.

## 2. User-supplied items

To complete your installation, you need the following items.

### Requirements for all installations

- A personal computer (PC) that will act as a management console (see [Requirements for management on page 5](#)).
- A host server configured as described under [Host server requirements on page 6](#)
- Internet access and a supported browser, with pop-up blockers disabled (see [Requirements for management on page 5](#))
- *Optional:* A standard 19-inch rack, mounting hardware, and rack-mounting documentation if the storage system is to be rack mounted

### 1 Gbps iSCSI installation requirements

- An IP address, subnet mask, gateway (if applicable), and 5e or category 6 Ethernet cable for each 1Gbps iSCSI data port that will connect to your storage network.
- A host server that contains at least one iSCSI host bus adapter (HBA) or network-interface card (NIC), and a supported iSCSI initiator (see [Host server requirements on page 6](#))
- *Optional:* a Gigabit Ethernet LAN switch for switch configurations

### 10 Gbps iSCSI installation requirements

- An IP address, subnet mask, gateway (if applicable), and a 50/125µm multimode OM2 or OM3 cable for each 10 Gbps iSCSI data port that will connect to your storage network
- A host server that contains at least one iSCSI host bus adapter (HBA) or network-interface card (NIC), and a supported iSCSI initiator (see [Host server requirements on page 6](#))
- *Optional:* a 10 Gbps Ethernet LAN switch for switch configurations

### Fibre Channel installation requirements

- A multimode fiber-optic cable for each Fibre Channel port that will connect to your storage network (see [Table 1-1 on page 1-5](#))
- A host server that contains at least one Fibre Channel host bus adapter (HBA) (see [Host server requirements on page 6](#))
- *Optional:* a Fibre Channel switch for switch configurations

**Table 1-1: Supported Fiber-Optic Cables and Distances**

Cable Length	Distance	
	LPe1150 (@ 4Gb/s)	LPe1250 (@ 8Gb/s)
Max 50/125µ multimode fibre cable (2000MHz*km bandwidth) OM3 (limiting optical receiver, 800-M5E-SN-I)	1246.71 feet (380 m)	492.12 feet (150 m)
50/125µm (500MHz*km bandwidth) OM2 (limiting optical receiver, 800-M5-SN-S)	492.12 feet (150 m)	164.04 feet (50 m)
62.5/125µm (200MHz*km bandwidth) OM1 (limiting optical receiver, 800-M6-SN-S)	229.65 feet (70 m)	68.89 feet (21 m)

### Requirements for management

- An IP address for each storage system management port
- A PC that will act as a management console and meets the following requirements:

Processor: 1 GHz (2.4 GHz recommended)

Random Access Memory: 1 GB (2 GB recommended)

Disk space: 1.5 GB or more

Video resolution: 800 x 600 dots per inch (1024 x 768 or higher recommended), 256 colors or more

A network-interface card (NIC)

An Ethernet LAN cable to attach the management console to the storage system's management ports. The management ports support Auto-MDI/MDIX technology, allowing you to use either standard (straight-through) or crossover Ethernet cables.



**TIP:** For an optimum experience with Navigator 2, we recommend that your management console be a new or dedicated PC.

- One of the following operating systems:
  - Microsoft Windows XP (Service Packs 2 and 3)
  - Microsoft Windows 2003 (Service Packs 1 and 2) – x86 only
  - Microsoft Windows 2003 R2 (no Service Pack, Service Packs 1 and 2) – x86 and x64
  - Microsoft Windows Vista (Service Pack 1) B – 86 only
  - Microsoft Windows Server 2008 (Service Pack 2) – x64 and x86
  - Microsoft Windows 7, x64 and x86 (no Service Pack)
  - Microsoft Windows Server 2008 R2 (no Service Pack)
  - Red Hat Enterprise Linux 4 (Update 1) – x86 only
  - Red Hat Enterprise Linux 4 (Update 5) –x86 only
  - Red Hat Enterprise Linux 5 (Update 3) – x86 only

Red Hat Enterprise Linux 5 (Update 4) – x86 and x64  
Solaris v8, v9, and v10 – SPARC only, Solaris 10 x64 (AMD64)



**NOTE:** The Navigator 2 command-line interface also supports the following operating systems: HP-UX 11.0, 11i, 11i v2.0, and 11i v3.0; IBM AIX 5.1, 5.2, and 6.1; and IRIX 5.

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- One of the following Web browsers, with pop-up blockers disabled and Java Runtime Environment (JRE) v6.0 installed (JRE v6.0 can be downloaded from <http://java.com/en/download/> and installed by following the on-screen prompts):

Internet Explorer 6 for Microsoft Windows 2000, XP, and 2003

Internet Explorer 7 for Microsoft Windows XP, 2003, 2008, Vista

Mozilla 1.7 for Red Hat Enterprise Linux 4 Update 1, Update 5, 5.0 Update 3 and 4

Mozilla 1.7 for Solaris v8, v9, and v10

Firefox2 for Solaris 10



**NOTE:** For Windows 2008, server R2 and Windows 7, use Internet Explorer 8.

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## Host server requirements

A host server equipped as follows:

- A supported Fibre Channel HBA for Fibre Channel installations, or an iSCSI HBA, NIC, and iSCSI initiator for iSCSI installations
- One of the following host operating systems:

Apple Macintosh OS10 (Fibre Channel only)

Asianux

HP-UX

IBM AIX v5.1, v5.2, v5.3, v6.1, and v7.1

Microsoft Windows 2000 (Service Packs 3 and 4)

Microsoft Windows 2003 and 2003 Server (Service Pack 1)

Microsoft Windows 2008 (Service Pack 2)

Microsoft Windows XP (Service Pack 2)

NetWare v6.5 Service Packs 6 and 7 (Fibre Channel only)

Red Hat Enterprise Linux 4 (Update 1)

Red Hat Enterprise Linux 4 (Update 5)

Red Hat Enterprise Linux 5 (Update 3)

Red Hat Enterprise Linux 5 (Update 4)

Sun™ Solaris™ v8, v9, and v10

SuSE Linux



### 3. Identify your configuration

The base unit can be used in a direct-connect point-to-point or switch configuration.

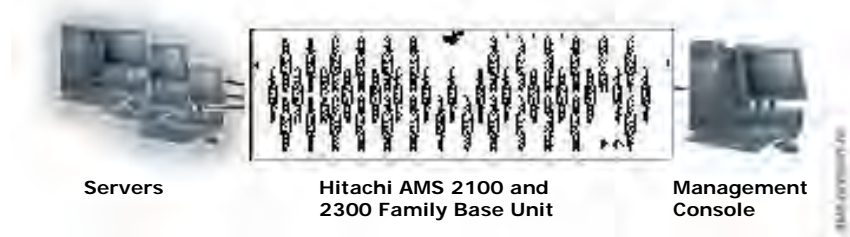


Figure 1-1: Example of a Direct-Connect Configuration

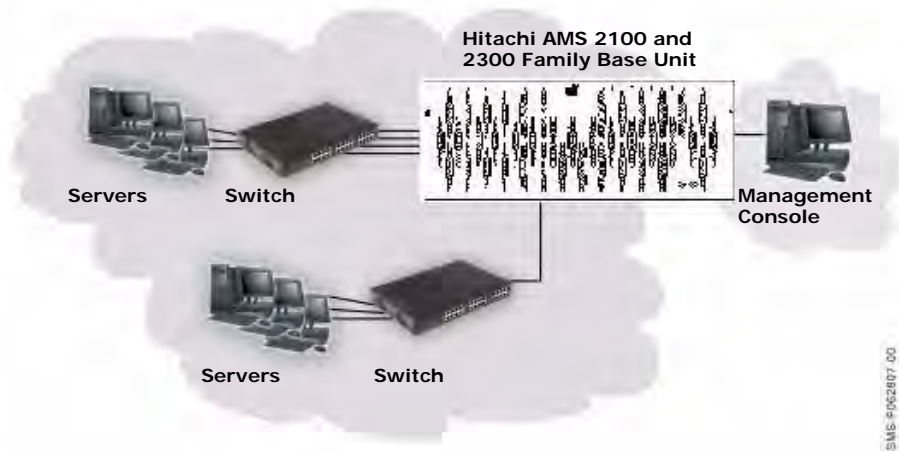


Figure 1-2: Example of a Switch Configuration

## Installing the storage systems

The following sections describe how to install your storage system. AMS 2100 and 2300 storage systems are delivered in a pretested configuration, with the trays positioned in a certain location. When the site team installs the storage system, the team should arrange the trays as they were tested (a piece of paper supplied with the storage systems shows the tested tray locations). If the trays are not installed in the proper location, they generate HDD identification error messages I6G100 at power up. However, if the site team performs an installation from scratch using maintenance mode (soft reset) from the Web, it does not matter how the trays are arranged.

Modular deployments require configuration attention to ensure that the storage infrastructure and ecosystem components interoperate correctly with Hitachi AMS storage systems and software. There are many component variations, and the Hitachi compatibility and interoperability matrix can be used as a reference when constructing configurations that are supported end to end by Hitachi AMS storage systems. To view the matrix, please visit: [http://www.hds.com/products/interoperability/?\\_p=v](http://www.hds.com/products/interoperability/?_p=v).

## 4. Install the base and expansion units

1. Select an appropriate location. Refer to the *AMS 2100/2300 Storage System Hardware Guide* (MK-97DF8010).
2. Base and expansion units ordered with the Hitachi Global 19-inch rack are delivered preinstalled in the rack. If you use a different rack, refer to and follow all safety precautions in the documentation for the rack.



CAUTION! Observe all safety guidelines in the following documents:

- *AMS 2100/2300 Site Preparation Guide* (MK-98DF8149)
  - *AMS 2100/2300 Storage System Hardware Guide* (MK-97DF8010)
  - The documentation for your rack
- 



To avoid damage to the storage system or storage system components due to electrostatic discharge (ESD), wear an anti-static wrist strap when handling the storage system. Connect the clip to an unpainted part of the storage system chassis frame to safely channel any static electricity generated by your body to ground. If no wrist strap is available, ground yourself by touching an unpainted part of the storage system chassis frame.

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## 5. Install drives

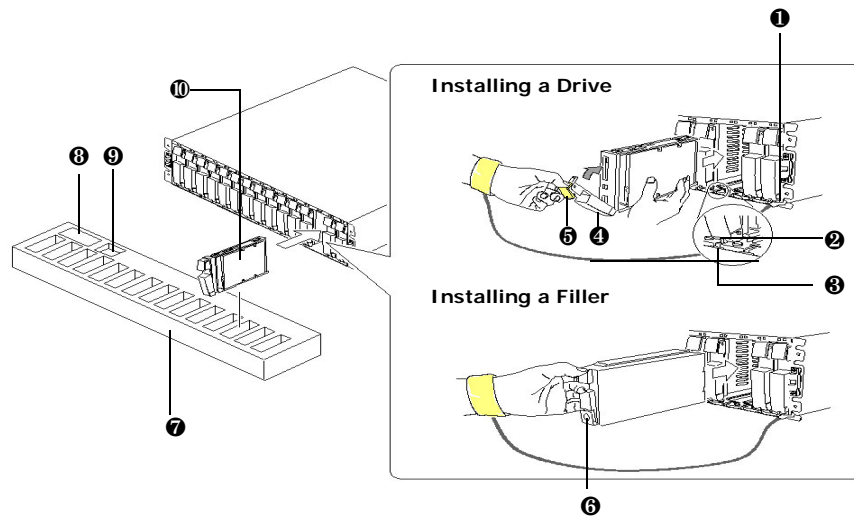
Drives are preinstalled. To install additional drives:

1. Wear an anti-static wrist strap connected to the chassis of the base or expansion unit.
2. Place a finger under the blue lever at the top of the drive tray. Then gently pull the lever forward.
3. Holding the lever, gently pull the drive tray toward you until the tray is about half way out of the slot.
4. Hold the top and bottom of the drive tray and remove it from the unit.
5. If the slot where the drive is to be installed has a filler, remove the filler.
6. Orient the new drive so the gold edge connectors on the rear of the drive are at the rear of the drive tray and the label on the drive faces the right.
7. Insert the drive into the rear of the drive tray and slide the drive forward until the 3 rectangular hooks on the drive (2 on top and 1 on the bottom) enter the rectangular holes on the top and bottom of the drive tray.
8. Place the drive on the slot's guide rail, then gently slide the drive into the slot (shown by the arrow in [Figure 1-3 on page 9](#)). Stop pushing when the blue lever at the top of the drive tray starts to rise.
9. Secure the drive tray in the unit by pushing the blue lever to the top until the lever snaps into place.
10. To install additional drives, repeat steps 3 through 9.



**NOTE:** Drive slots that do not have a drive must have a filler. If a slot does not have a filler installed, insert a filler into the slot. Insert the filler slowly, so the latch (round dent) on the filler moves to the right.

---



**Figure 1-3: Installing a Drive or Drive Filler**

Legend:

- ❶ Guide rail
- ❷ Hook
- ❸ Rectangular hole
- ❹ Handle
- ❺ Stopper
- ❻ Latch (round dent)
- ❼ Storage area for components
- ❽ Address label
- ❾ Screw holder
- ❿ Disk drive

## 6. Attach the front bezel

Attaching the front bezel to the storage system is optional. To attach it:

1. The front of the bezel has two hooks, one on the lower right side and one on the upper right side.
  - a. Insert the hook on the lower right side of the bezel into the hole on the bottom right part of the base unit.
  - b. Insert the hook on the upper right side of the bezel into the hole on the top right part of the base unit.
2. After the hooks are engaged, gently push the bezel against the base unit's front panel until the bezel snaps into place.
3. Lock the bezel by inserting the key in the keyhole and turning counterclockwise.

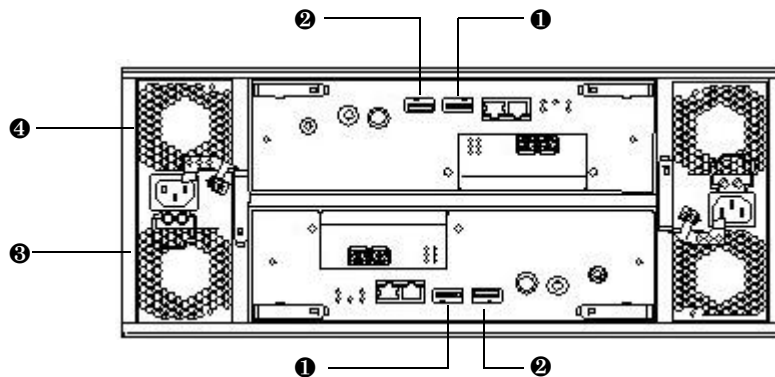
Attaching the front bezel to the modular 2U SAS expansion unit is also optional. To attach it:

1. Insert the key into the keyhole on the front bezel and unlock the lock.
2. Grasp the front bezel on both sides and above the center of the unit.
3. Engage the two hooks at the bottom of the front bezel into the slots on the array chassis.
4. Push the front bezel toward the chassis to engage it into the ball catches.
5. Remove the key from the front bezel and store it in a safe place.

## 7. Attach expansion units (optional)

If you do not have expansion units, skip to [page 13](#). Otherwise:

1. Connect one expansion unit to the base unit:
  - a. Use a supplied ENC cable to connect the **PATH#0** port on controller 0 to the ENC0 **IN** port on the rear of the expansion unit.
  - b. Use a supplied ENC cable to connect the **PATH#0** port on controller 1 to the ENC1 **IN** port on the rear of the expansion unit.
  - c. Gather the excess part of the ENC cable in a circle, tighten it gently and secure, and place it inside the rack.
2. To connect a second expansion unit to the base unit:
  - a. Use a supplied ENC cable to connect the **PATH#1** port on controller 0 to the ENC0 **IN** port on the second expansion unit.
  - b. Use a supplied ENC cable to connect the **PATH#1** port on controller 1 to the ENC1 **IN** port on the second expansion unit.
  - c. Gather the excess part of the ENC cable in a circle, tighten it gently and secure, and place it inside the rack.
3. To connect additional expansion units, follow the pattern in [Figure 1-6 on page 12](#).

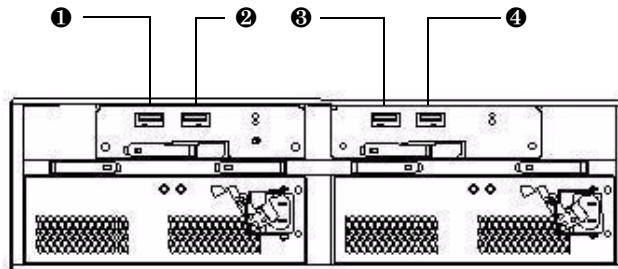


**Figure 1-4: Location of PATH#0 and PATH#1 Ports (Base Unit)**

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Legend:

- ❶ PATH#0 port
  - ❷ PATH#1 port
  - ❸ CTL 0
  - ❹ CTL 1
- 



**Figure 1-5: Location of IN and OUT Ports (Expansion Unit)**

---

Legend:

- ❶ IN port (ENC0)
  - ❷ OUT port (ENC0)
  - ❸ IN port (ENC1)
  - ❹ OUT port (ENC1)
- 

4. To connect two expansion units, use a supplied ENC cable to connect the **OUT** port on the rear of one expansion unit to the **IN** port on the rear of the next expansion unit. Repeat this step for each additional expansion unit you want to add.



## 8. Connect cables to the base unit

1. Make the connections to the rear panel of the base unit using the appropriate figures on the following pages.

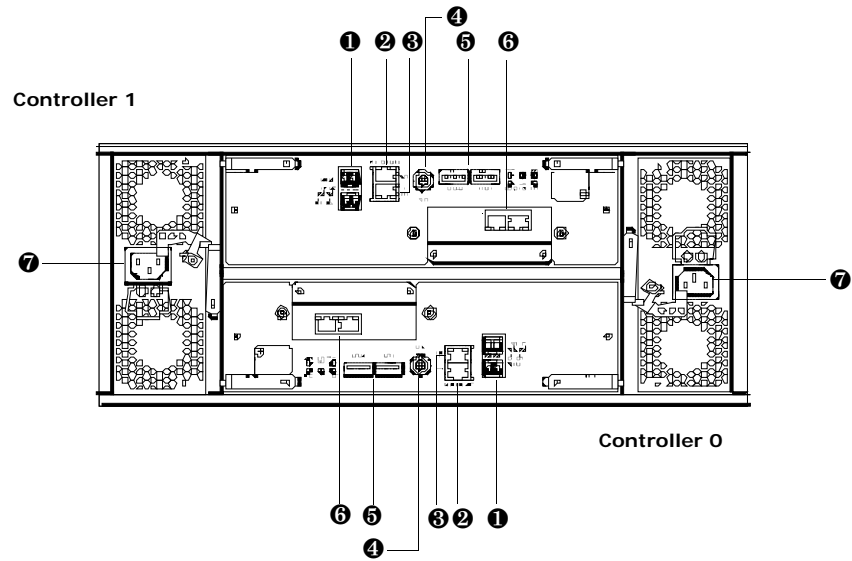


Figure 1-7: Rear of AMS 2100 Base Unit with 1 Gbps iSCSI Controller

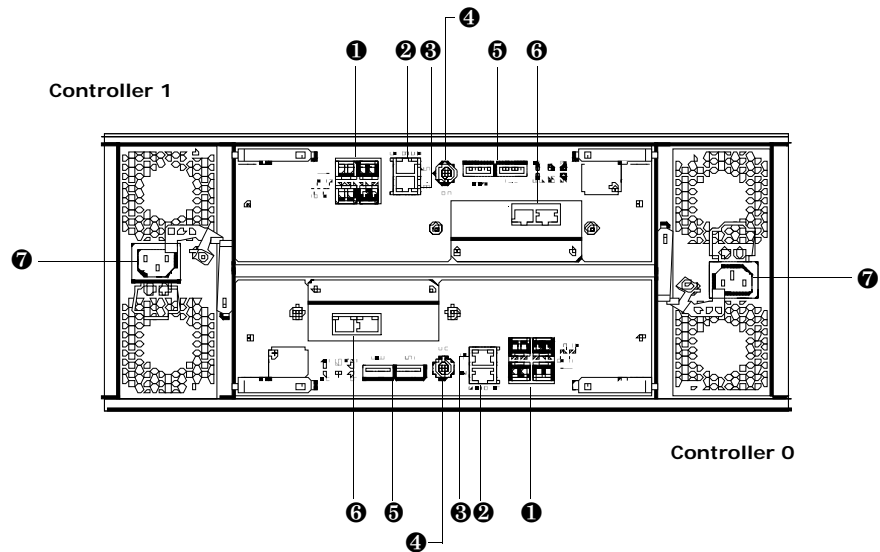


Figure 1-8: Rear of AMS 2300 Base Unit with 1 Gbps iSCSI Controller

Legend:

- ① Fibre Channel connectors
- ② Maintenance LAN connector (service personnel only, disabled port)
- ③ Navigator 2 connector (connect to management console PC)
- ④ Connector for UPS cable
- ⑤ PATH#1 and PATH#0 expansion connectors (see [Figure 1-6 on page 1-12](#))
- ⑥ 1 Gbps iSCSI ports  
(For other port types, see [Figure 1-9](#) and [Figure 1-10 on page 1-14](#))
- ⑦ AC power receptacle

## Close-up of AMS 2100/2300 Fibre Channel and iSCSI Interfaces

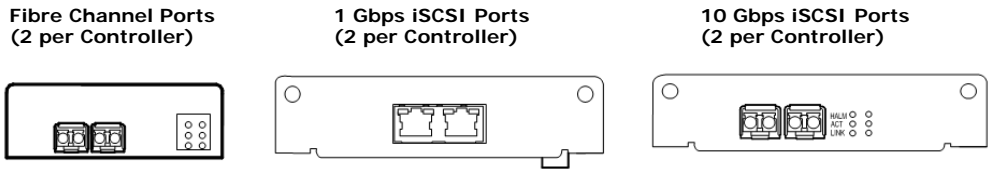


Figure 1-9: Possible AMS 2100 Interfaces

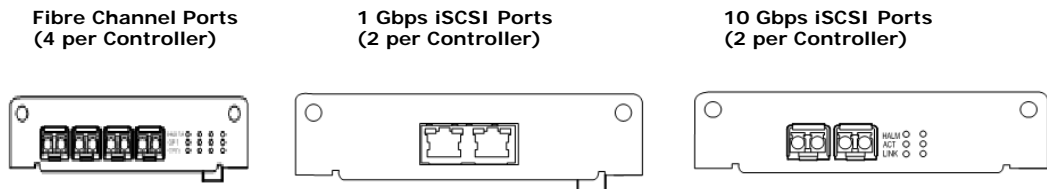


Figure 1-10: Possible AMS 2300 Interfaces



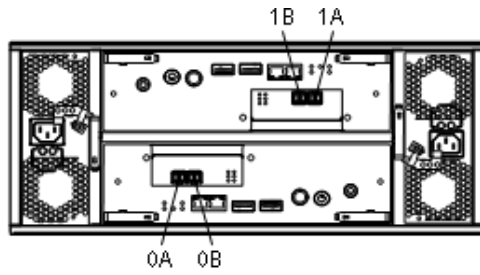
**NOTE:** Fibre Channel and 10 Gbps iSCSI connectors and their cables are seemingly identical in appearance. Therefore, confirm that you are connecting the appropriate cable to the appropriate connector before making Fibre Channel and 10 Gbps iSCSI connections.

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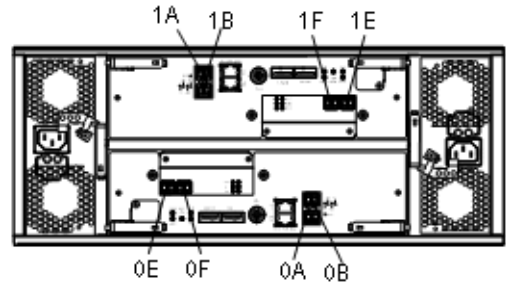


# AMS 2100/2300 Fibre Channel and iSCSI Port Assignments

## AMS 2100 Fibre Channel Port Assignments

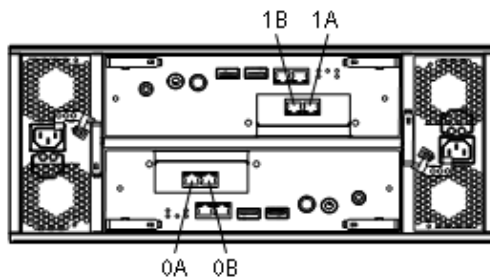


Version 1 Controller

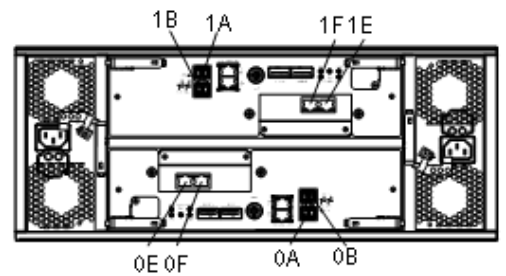


Version 2 Controller

## AMS 2100 iSCSI Port Assignments

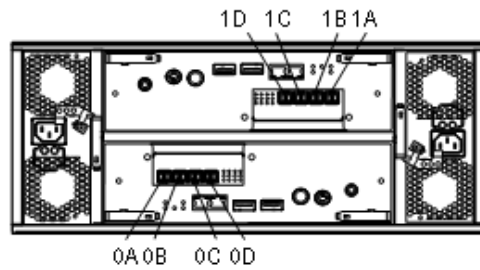


Version 1 Controller

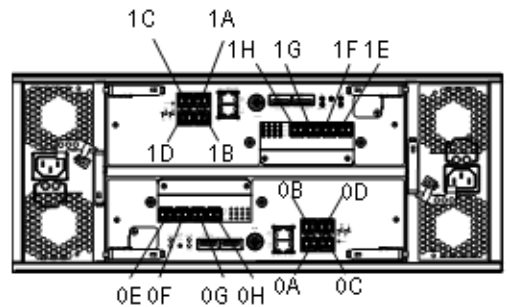


Version 2 Controller

## AMS 2300 Fibre Channel Port Assignments

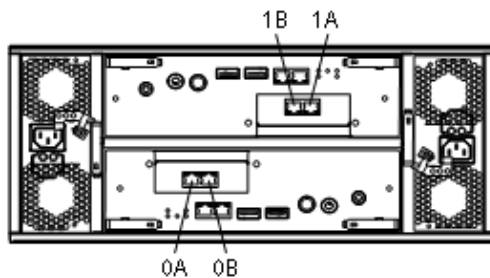


Version 1 Controller

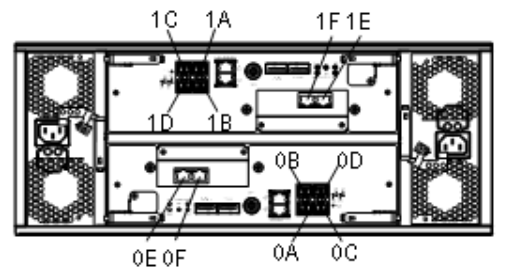


Version 2 Controller

## AMS 2300 iSCSI Port Assignments



Version 1 Controller



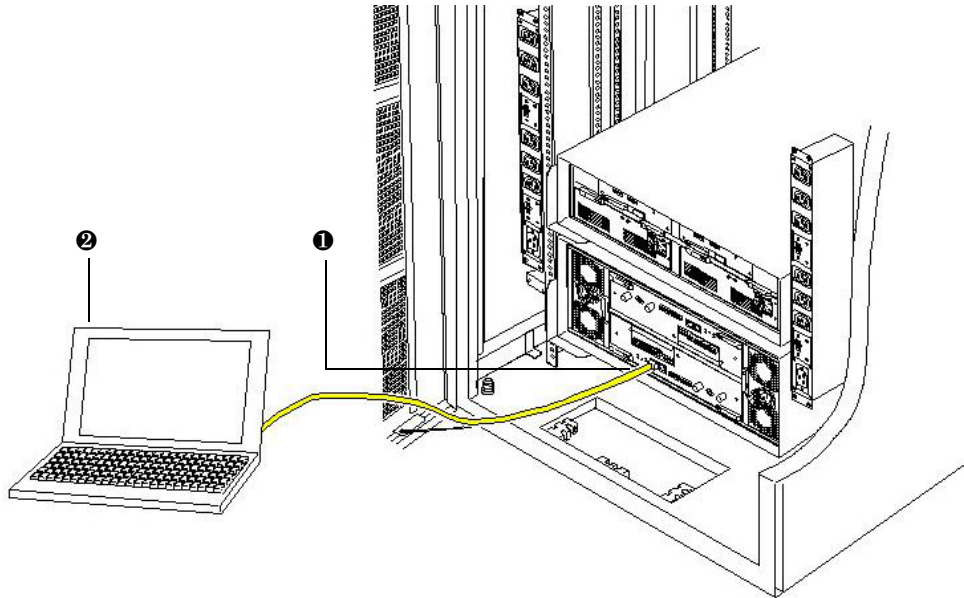
Version 2 Controller

2. When attaching a management console to the base unit's management (**LAN 1**) port, either connect the console directly to the port or using a switch or hub:
  - A direct connection lets you configure one controller at a time (see [Figure 1-11](#)).
  - Connecting through a switch or hub lets you configure both controllers using the same procedure.



**TIP:** You can attach a portable ("pocket") hub between the management console and unit to configure both controllers in one procedure.

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**Figure 1-11: Example of Directly Connecting to a Management Port**

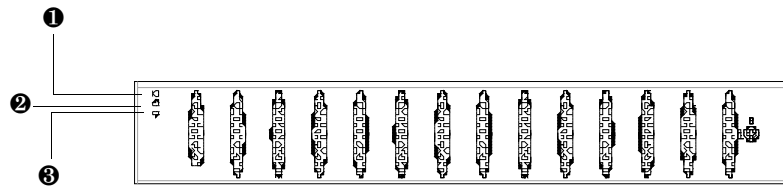
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Legend:

- ❶ Management port (labeled **LAN 1**)
  - ❷ Management console
- 

## 9. Connect to a Modular 2U SAS Expansion Unit (optional)

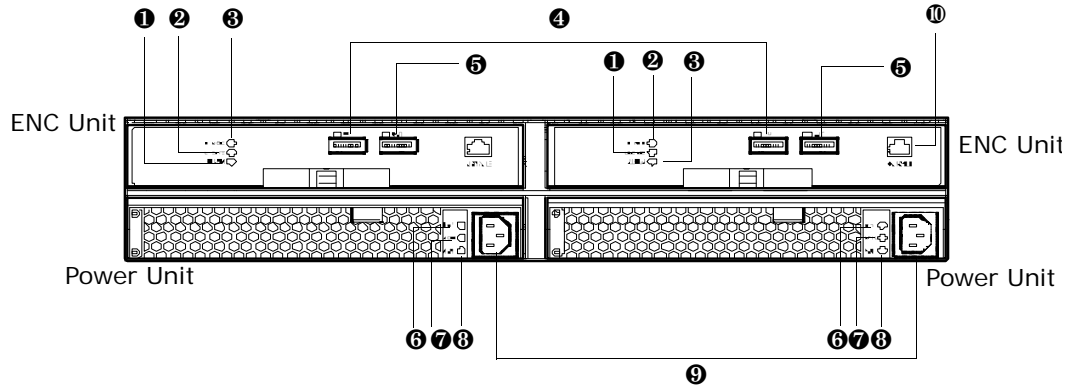
AMS 2100 and AMS 2300 storage systems support connection to a 2U SAS expansion unit. This unit contains two redundant power supplies, two ENC interface units, and from two to 24 small form factor (SFF) disk drives. It can connect to additional expansion units or high-density expansion units. The same expansion unit is used with both base unit models.



**Figure 1-12: Front Panel (Bezel Applied)**

**Table 1-2: Modular 2U SAS Expansion Unit Front Bezel**

Item	Description
①	POWER LED (green) <ul style="list-style-type: none"> <li>• ON = expansion unit is receiving power.</li> <li>• OFF = expansion unit is not receiving power.</li> </ul>
②	READY LED (green) <ul style="list-style-type: none"> <li>• ON = system can be operated.</li> <li>• Fast blinking = internal processing is occurring, system is operational (even if the READY LED blinks).</li> <li>• Slow blinking = offline download processing ended (occurs during maintenance).</li> </ul>
③	LOCATE LED (orange) <ul style="list-style-type: none"> <li>• ON = a failure occurred, but the expansion unit remains operational.</li> </ul>



**Figure 1-13: Back Panel**

**Table 1-3: Modular 2U SAS Expansion Unit Back Panel**

Item	Description
①	Alarm LED (red) <ul style="list-style-type: none"> <li>• ON = a failure occurred that makes the array unable to operate.</li> <li>• Slow Blinking = a serious failure has occurred while power is on. Please contact Hitachi Data Systems Technical Support. See the Getting help section in the Preface of this manual.</li> </ul>
②	Locate LED (orange) — lights when a modular 2U SAS expansion unit has encountered a serious error. Please contact Hitachi Data Systems Technical Support. See the Getting help section in the Preface of this manual. <ul style="list-style-type: none"> <li>• Blink one time fast = SRAM error.</li> <li>• Blink two times fast = ENC hard error.</li> <li>• Blink three times fast = microprogram error in flash memory.</li> </ul>
③	Power LED (green) <ul style="list-style-type: none"> <li>• ON = normal operation; the section is fully operational.</li> <li>• Slow Blink = firmware download is complete.</li> <li>• Fast Blink = firmware is downloading (do not turn off the array).</li> </ul>
④	IN from RKS/RKES/RKM/RKEM,RKH/RKHE/RKEH or RKAK/RKAKS/RKAKX PATH IN LED (green) appears above this connector.
⑤	OUT to RKAK/RKAKX IN PATH OUT LED (green) appears above this connector.
⑥	RDY LED (green) <ul style="list-style-type: none"> <li>• ON = DC output is normal.</li> </ul>
⑦	AC IN (green) <ul style="list-style-type: none"> <li>• ON = expansion unit is receiving power.</li> </ul>
⑧	ALM LED (red) <ul style="list-style-type: none"> <li>• ON = a failure occurred in the ENC unit, rendering it inoperable.</li> </ul>
⑨	Power receptacle (J1)
⑩	Console

## 10. Power-up the base unit

1. Confirm that both power receptacles on the rear of the base unit are connected to working outlets. The green LEDs above each receptacle should be ON and the green front panel **READY** LED should blink.



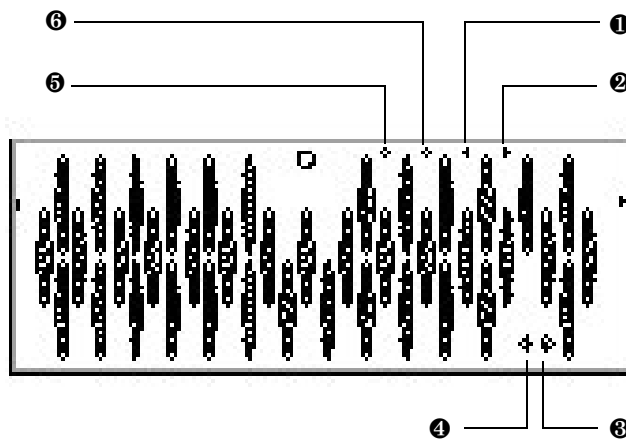
**NOTE:** The outlets should not be controlled by a wall switch, which can inadvertently remove power from the storage units.

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2. Press the **Power** switch on the lower right side of the front panel of the base unit to the ON position:



The base unit performs its Power On Self Test and the activity LEDs on the drives flash and then go ON. After a few minutes, the front panel **READY** LED goes ON.



**Figure 1-14: Front View of Base Unit**

---

Legend:

- ① Ready LED (green)
  - ② Power LED (green)
  - ③ POWER switch (ON position)
  - ④ POWER switch (OFF position)
  - ⑤ Alarm LED (red). If this LED goes ON, refer to the User's Guide.
  - ⑥ Warning LED (orange). If this LED goes ON, refer to the User's Guide.
- 



**NOTE:** When the bezel is removed, the **Power** switch is identified on the enclosure as **MAIN SW**.

---

# Configuring the storage systems

## 11. Set Java Runtime parameters if necessary

After you install the storage units, use the supplied Navigator 2 software to configure the storage units. If you intend to use the Advanced Settings in Navigator 2 on clients running the Microsoft Windows, Solaris, or Linux operating system, download JRE v6.0 and set the JRE parameters described in the following sections. Otherwise, Advanced Settings will fail, and you will be locked out and unable to access Advanced Settings until the login times out (20 minutes). For information about Java updates, please visit [http://www.java.com/en/download/help/java\\_update.xml](http://www.java.com/en/download/help/java_update.xml).

If you do not intend to use Advanced Settings, skip to Step 12. [Install and log in to Navigator 2 on page 21](#).

### Clients running Microsoft Windows

If your client runs Microsoft Windows, perform the following procedure:

1. Click the Windows Start menu, point to **Settings**, and click **Control Panel**. The Windows Control Panel appears.
2. From the Windows Control Panel, double-click **Java Control Panel**. The Java Control Panel appears.
3. Click the **Java** tab. The **Java** tab is displayed (see [Figure 1-15](#)).

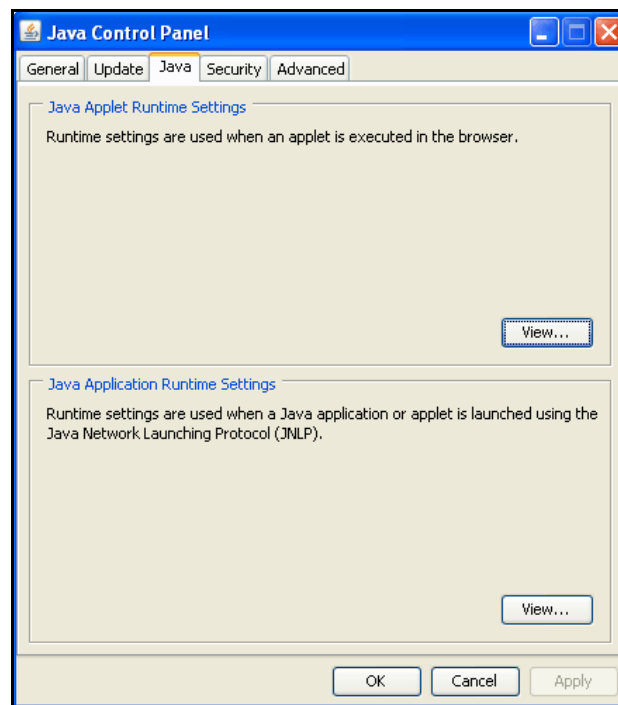


Figure 1-15: Java Tab

4. Click **View** in the **Java Applet Runtime Settings** section. The Java Runtime Settings dialog box appears.
5. In the **Java Runtime Parameters** field, type **-Xmx464m**.

6. Click **OK** to exit the Java Runtime Settings dialog box.
7. Click **OK** in the **Java** tab to close the Java Control Panel dialog box.
8. Close the Windows Control Panel.

## Clients running Solaris or Linux

If your client runs Solaris or Linux, perform the following procedure:

1. From an XWindows terminal, execute the `<JRE installed directory>/bin/jcontrol` to run the Java Control Panel.
2. Click **View** in the **Java Applet Runtime Settings** section. The Java Runtime Settings dialog box appears.
3. In the **Java Runtime Parameters** field, type **-Xmx464m**.
4. Click **OK** to exit the Java Runtime Settings dialog box.
5. Click **OK** in the **Java** tab to close the Java Control Panel dialog box.

## 12. Install and log in to Navigator 2

The following procedure describes how to install and log in to Navigator 2.



**TIP:** For the best Navigator 2 experience, we recommend you install Navigator 2 on a new or dedicated PC.

---

1. Find out the IP address of the management console (for example, using `ipconfig`). Then change the console's IP address to `192.168.0.x` where `x` is a number from 1 to 254, excluding 16 and 17. Write this IP address on a piece of paper. You will be prompted for it during the Navigator 2 installation procedure.



**NOTE:** The default IP address for Controller 0 management port is `192.168.0.16`. The default IP address for Controller 1 management port is `192.168.0.17`.

---

2. Disable pop-up blockers in your Web browser. We also recommend that you disable anti-virus software and proxy settings on the management console when installing the Navigator 2 software.
3. Insert the Navigator 2 CD in the management console CD drive and follow the installation wizard.
  - If the CD does not auto-run, double-click the following file, where `nnnn` is the Navigator 2 version number:  
`\program\hsm2_win\HSNM2-nnnn-W-GUI.exe`
  - The installation process takes about 15 minutes to complete.
  - During the installation, the progress bar may pause for several seconds. This is normal and does not mean the installation has stopped.

4. After the software is installed, launch a browser on the management console and log in to Navigator 2:

http://<IP address>:23015/StorageNavigatorModular/Login

OR

https://<IP address>:23016/StorageNavigatorModular/Login

where <IP address> is the IP address of the management console.



**NOTE:** If entering an IPv6 address in your Web browser, enter the URL in brackets. Example: http://[xxxx]:23015/StorageNavigatorModular/Login

---

5. At the login page, enter **system** as the default User ID and **manager** as the default case-sensitive password.
6. Click the **Login** button and go to Step 13. [Add storage systems on page 22.](#)

## 13. Add storage systems

The following procedure describes how to add storage systems. As part of this procedure, you enter the default Account Authentication user ID and password for the controller (Account Authentication is a security protocol enabled by default on the AMS). For more information, refer to the *Storage Navigator Modular 2 Storage Features Reference Guide* (MK-97DF8148).

1. If the Arrays page is not displayed, click **Arrays** in the Explorer pane (see [Figure 1-17 on page 24](#)).
2. In the Arrays page:
  - a. Look in the **Array Name** column for the name of the storage system you want to configure. Then record the storage system name in [Table 1-10 on page 49](#) (you will refer to it later).
  - b. Click the name of the storage system you want to configure. The Account Authentication Log in page prompts you for an Account Authentication user ID and password (see [Figure 1-16 on page 23](#)).



HSNM2 HITACHI

### Log in - DF800H\_87010011

Log in

Enter the information to log in the array.

\* User ID:

\* Password:

\* Required field

Login Cancel

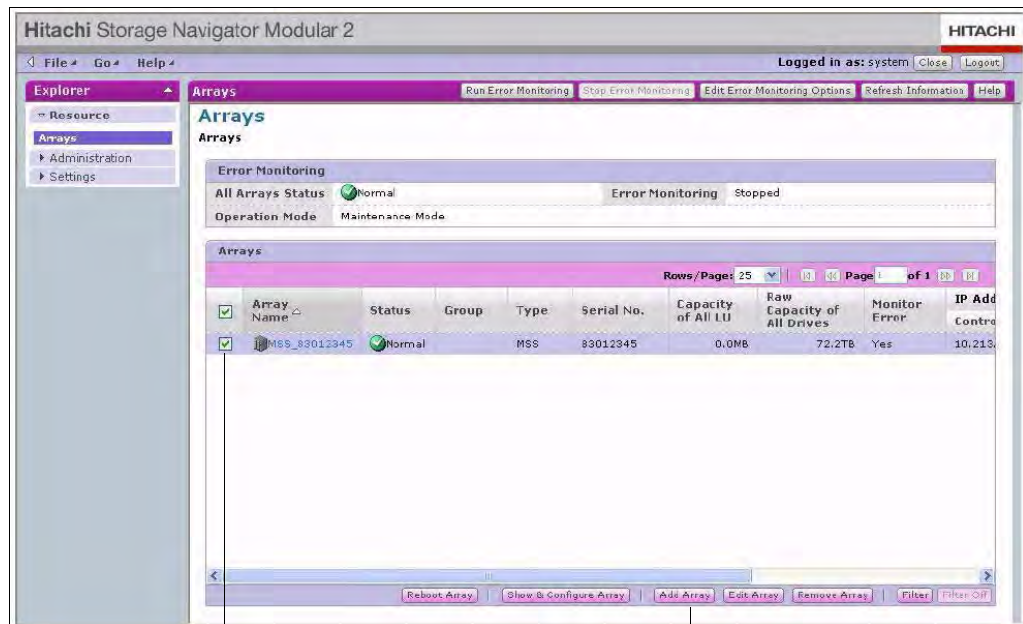
**Figure 1-16: Account Authentication Log in Page**

3. In the Account Authentication Log in page:
  - a. Enter the default User ID of **root** in the **User ID** field.
  - b. Enter the default case-sensitive password of **storage** in the **Password** field.



**CAUTION!** If you change the Account Authentication password, record the new password and keep it in a safe place. Without a valid password, you cannot access the storage system without reinstalling the firmware. Hitachi Data Systems Technical Support cannot retrieve the password for you. The user ID is not changeable.

- c. Click **Login** to close the Account Authentication Log in page and log in to Navigator 2.
4. In the Arrays page:
  - a. Click the check box next to the storage system you want to configure.
  - b. Click **Add Array** at the bottom of the window to launch the Add Array wizard.



Check the Storage System Name    Add Array Button

**Figure 1-17: Arrays Page**

5. When the introductory wizard page appears, click **Next**.
6. At the next page:
  - a. Enter the following default IP address in the **Specific IP Address or Array Name** fields for each storage system management port.  
 Controller 0: type **192.168.0.16**  
 Controller 1: type **192.168.0.17**



**NOTE:** If your management console is directly connected to a management port, enter the default IP address just for that port.

**Figure 1-18: Entering IP Addresses in the Array Wizard**

- b. In the **Using Ports** area, select whether the ports are secure, nonsecure, or both.
  - c. Click **Next**.
7. When the next page appears:
- a. Enter an storage system name in the **Array Name** field.
  - b. Click **Next**.
  - c. Click **Finish** and proceed to Step 14. [Perform the initial setup.](#)

## 14. Perform the initial setup

After you run the Add Array wizard, use the following procedure to perform the initial Navigator 2 setup.

1. In the Arrays page, click the name of the storage system you want to configure.
2. In the following page, under **Common Array Tasks**, click **Initial Setup**.

## Initial Setup

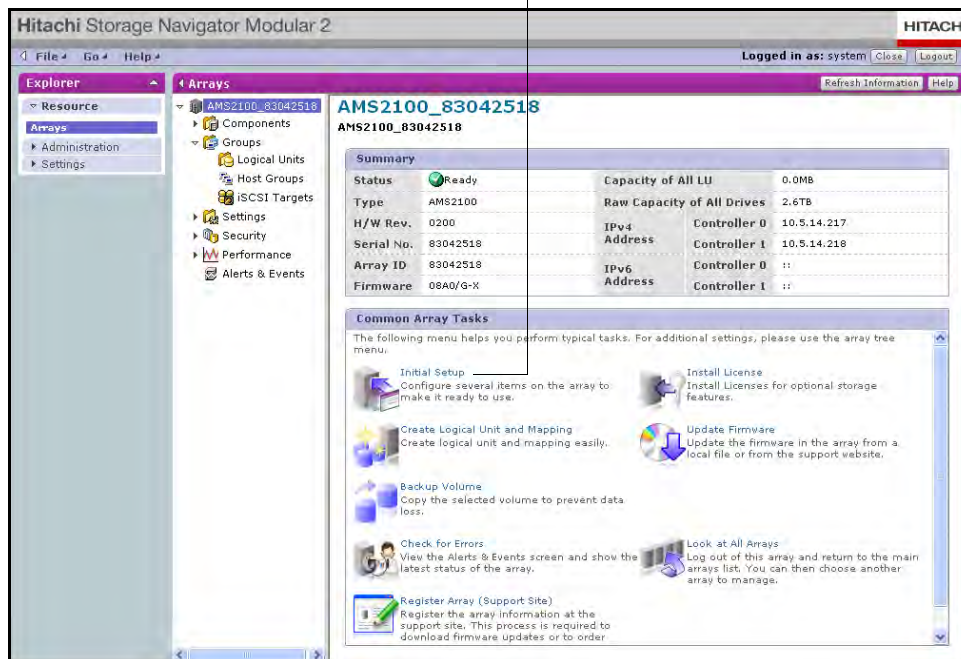
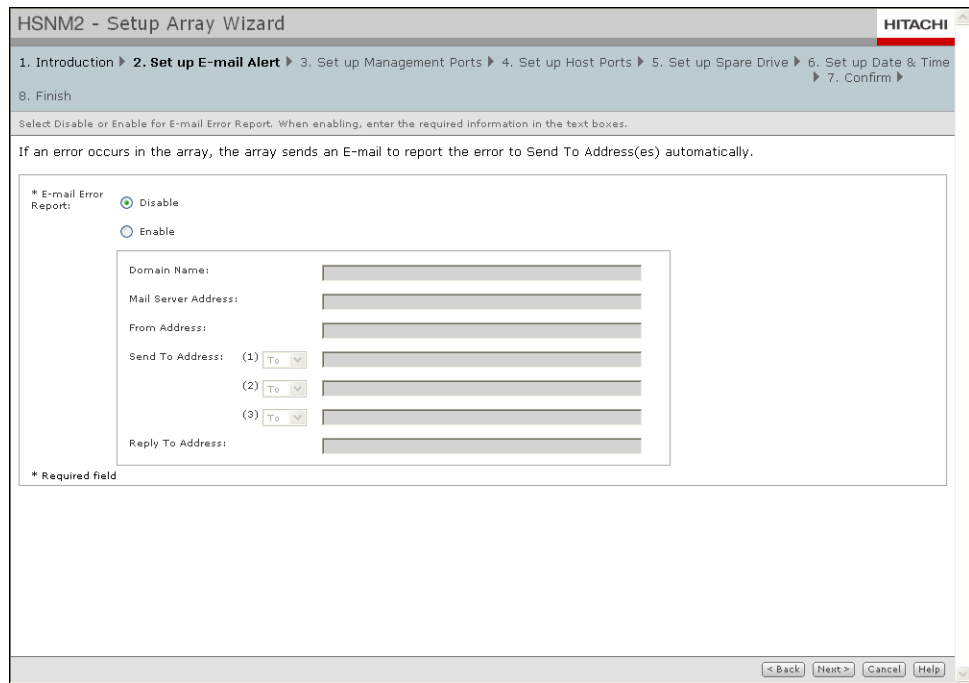


Figure 1-19: Initial Setup Icon

### Enable email notifications

1. In the introductory page, click **Next** to display the Set up E-mail Alert page.
2. In the Set up Email Alert page:
  - a. By default, email notifications are disabled. To accept this setting, click **Next** to display the Set up Management Ports page and skip to [Configure management ports on page 27](#).
  - b. To enable email notifications, complete the fields in [Figure 1-20 on page 27](#) (see [Table 1-4 on page 1-27](#)).
  - c. Click **Next** and go to [Configure management ports on page 27](#).

This procedure assumes that your SMTP server is set up correctly to handle email. If desired, you can send a test message to confirm that email notifications will work. For more information, refer to the *Storage Navigator Modular 2 Graphical User Interface User's Guide* (MK-99DF8208) and the Navigator 2 online help.



**Figure 1-20: Set up Email Alert Page**

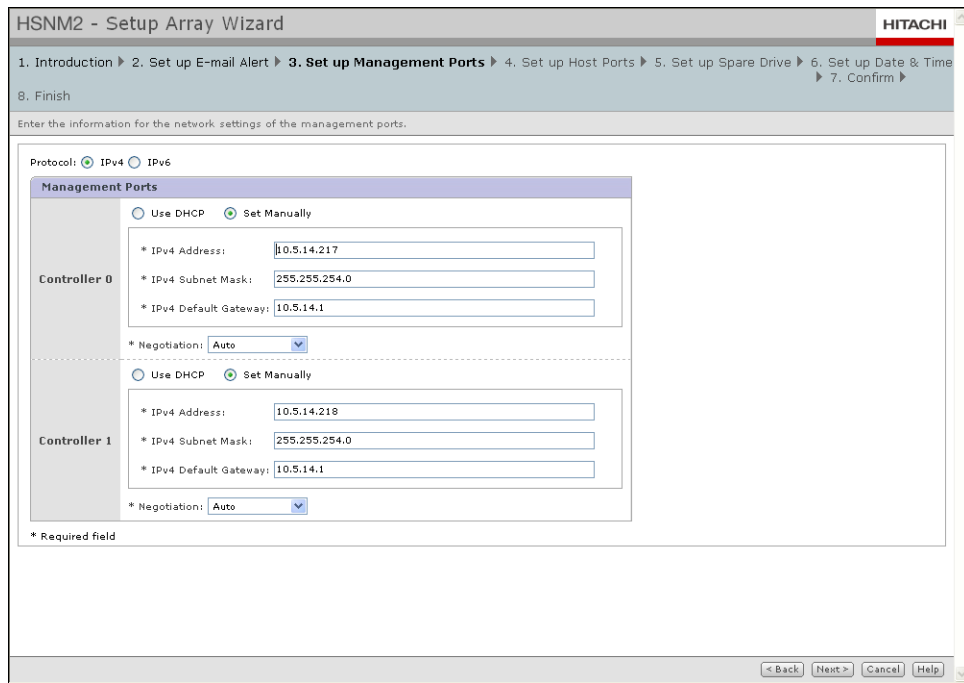
**Table 1-4: Enabling Email Notifications**

Field	Description
Disable/Enable	To enable email notifications, click Enable, complete the remaining fields, and record your settings in <a href="#">Table 1-10 on page 49</a> .
Domain Name	Domain appended to addresses that do not contain one.
Mail Server Address	Email address or IP address that identifies the base unit as the source of the email.
From Address	Each email sent by the base unit will be identified as being sent from this address.
Send to Address	Up to 3 individual email addresses or distribution lists where notifications will be sent or blind copied (Bcc).
Reply To Address	Email address where replies can be sent.

## Configure management ports

In the Set up Management Ports page:

1. Configure the controller management ports manually or automatically (see [Figure 1-21 on page 28](#) and [Table 1-5 on page 1-28](#)).
2. Click **Next**.
3. Proceed to [Set up host ports on page 29](#).



**Figure 1-21: Set Up Management Ports Page**

**Table 1-5: Configuring Management Ports**

Field	Description
IPv4/IPv6	Select the IP addressing method you want to use.
Use DHCP/Set Manually	For IPv4, <b>Use DHCP</b> configures the management port automatically, but requires a DHCP server. For IPv6, <b>Set Automatically</b> configures the management port automatically.
Set Manually	Lets you complete the remaining fields to configure the management port manually. If you use IPv6 addresses, note that these addresses are based on Ethernet addresses. If you replace the storage system, the IP address is changed. Therefore, you may want to consider using the manual setting. As you complete the settings, record them in <a href="#">Table 1-10 on page 49</a> .
<b>If You Selected the IPv4 Protocol in the Set Up Management Ports Page:</b>	
IPv4 Address	Static Internet Protocol address that client PCs use to access the base unit's management port.
IPv4 Subnet Mask	Subnet mask that client PCs use to access the base unit's management port.
IPv4 Default Gateway	Default gateway that client PCs use to access the base unit's management port.
Negotiation	Use the default ( <b>Auto</b> ) setting to auto-negotiate speed and duplex mode, or select a fixed speed and duplex setting.

**Table 1-5: Configuring Management Ports (Continued)**

Field	Description
<b>If You Selected the IPv6 Protocol in the Set Up Management Ports Page:</b>	
IPv6 Address	Static Internet Protocol address that client PCs use to access the base unit's management port.
Subnet Prefix Length	Subnet prefix length that client PCs use to access the base unit's management port.
IPv6 Default Gateway	Default gateway that client PCs use to access the base unit's management port.
Negotiation	Use the default ( <b>Auto</b> ) setting to auto-negotiate speed and duplex mode, or select a fixed speed and duplex setting.



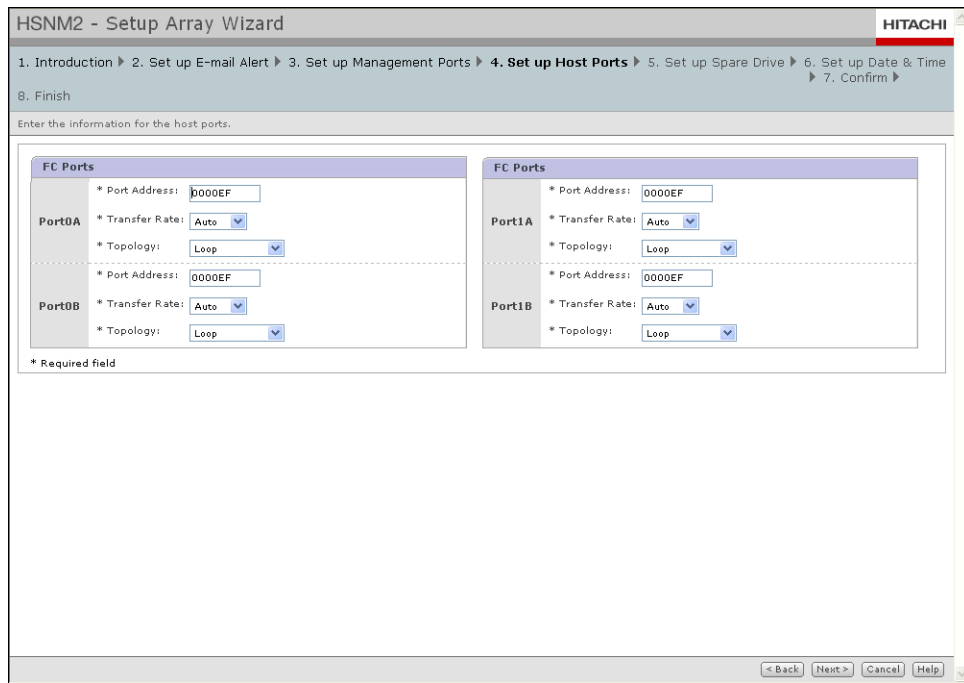
If your:

- Management console is directly connected to a management port on one controller, enter settings only for that controller (you will configure the management port settings for the other controller later).
- Management console is connected using a switch or hub, you can enter settings for both controllers now.

### Set up host ports

The next part of the wizard lets you configure the Fibre Channel and iSCSI ports on your storage system. These settings are configured on separate pages within the wizard. The first page that appears lets you configure the Fibre Channel ports.

1. In the first Set up Host Ports page, enter configuration information for each Fibre Channel port that will be used.



**Figure 1-22: Set Up Host Ports Page (Fibre Channel Ports)**

**Table 1-6: Configuring Fibre Channel Ports**

Field	Description
Port Address	Enter the address for the Fibre Channel port.
Transfer Rate	Select a fixed data transfer rate from the drop-down list that corresponds to the maximum transfer rate supported by the device connected to the storage system, such as the server or switch.
Topology	Select the topology in which the port will participate: <ul style="list-style-type: none"> <li>Point-to-Point = port will be used with a Fibre Channel switch.</li> <li>Loop = port is directly connected to the Fibre Channel port of an HBA installed in a server.</li> </ul>

- Click **Next** to display the following page for configuring the iSCSI ports. Then enter configuration information for each iSCSI port that will be used.



**Figure 1-23: Set Up Host Ports Page (iSCSI Ports)**

**Table 1-7: Configuring iSCSI Ports**

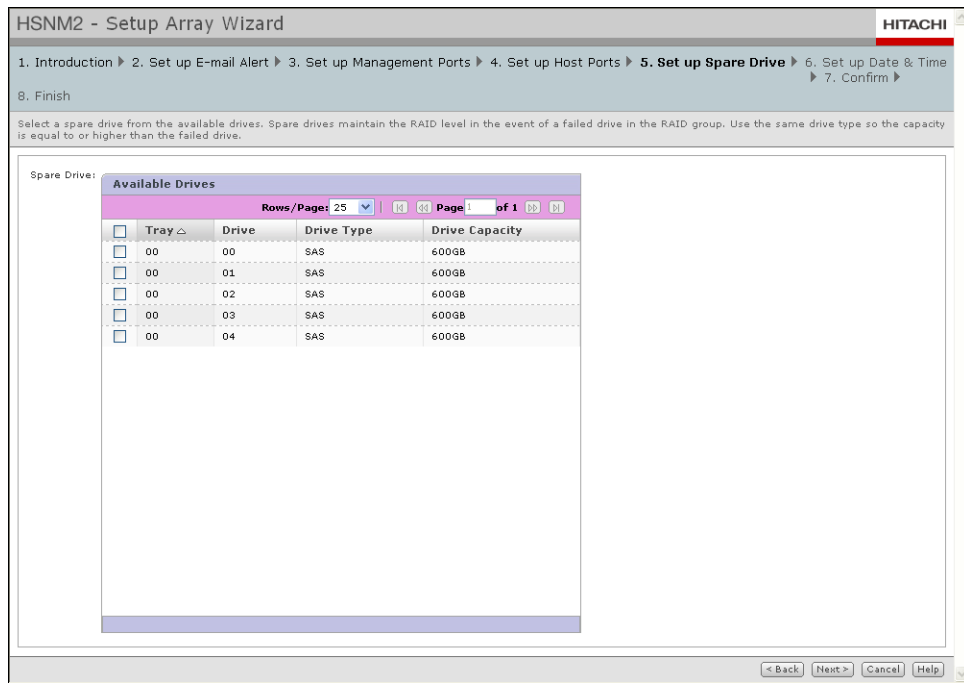
Field	Description
IP Address	Enter the IPv4 address (dotted-decimal notation).
Subnet Mask	Enter the network subnet mask (dotted-decimal notation).
Default Gateway	Enter the default route.

3. Click **Next** to display the Set up Spare Drive page.

### Configure spare drives

The Set up Spare Drive page shows all the spares that can be used in case one of the drives fails. In this page:

1. Select the drives you want to use as spares. If the drives exceed what can be shown in the **Available Drives** area, use the controls at the top of this area to display other pages of drives.



**Figure 1-24: Set Up Spare Drive Page**

2. After checking the spares you want to use, click **Next** to display the Set up Date & Time page.

## Configure system date and time

In the Set up Date & Time page in [Figure 1-25 on page 33](#):

1. Select whether the date and time are to be set automatically, manually, or not at all.
2. If you select **Set Manually**, enter the date and time (in 24-hour format) in the fields provided.
3. Click **Next**.

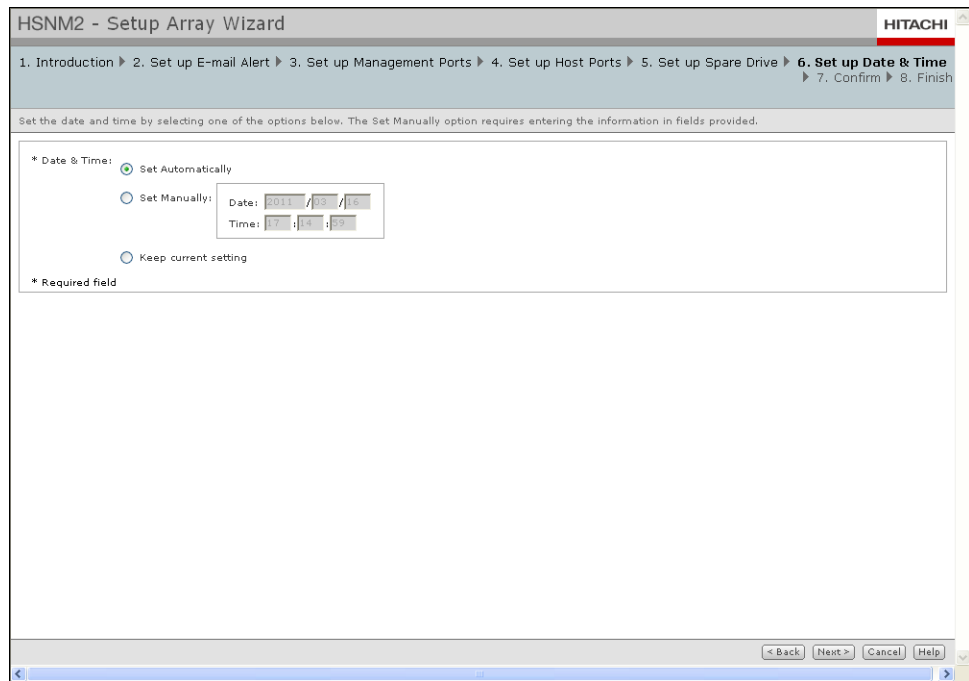


Figure 1-25: Set Up Date & Time Page

## Confirming your selections

1. Review your selections in the next five confirmation pages:
  - a. If no changes are required, click **Next**.
  - b. If you need to change a selection, click **Back** to return to the appropriate page, make the desired changes, and then click **Next** to return the first confirmation page and verify that the change was made.
  - c. At the last confirmation page, click **Confirm** to commit your selections.
2. When the finish page appears, click **Finish**.
3. When the next page tells you that the initial setup of the storage system was completed successfully, click **Finish**.

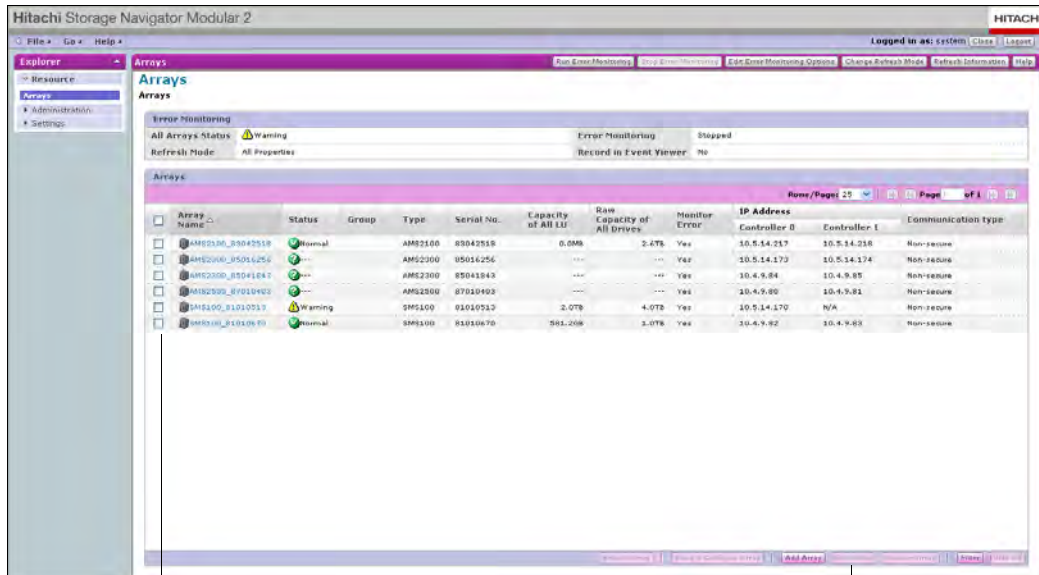
## Change controller IP addresses

1. If the storage unit was not added to your storage network:
  - a. Log out of Navigator 2.
  - b. Power-off the storage unit.
  - c. Add the storage unit to the network.
  - d. Reconnect the management console to the management ports.
  - e. Restart your browser and log in to Navigator 2 again.



**NOTE:** Configure the console for the same subnet on which the base unit is installed. Otherwise, an error message appears when you try to access Navigator 2.

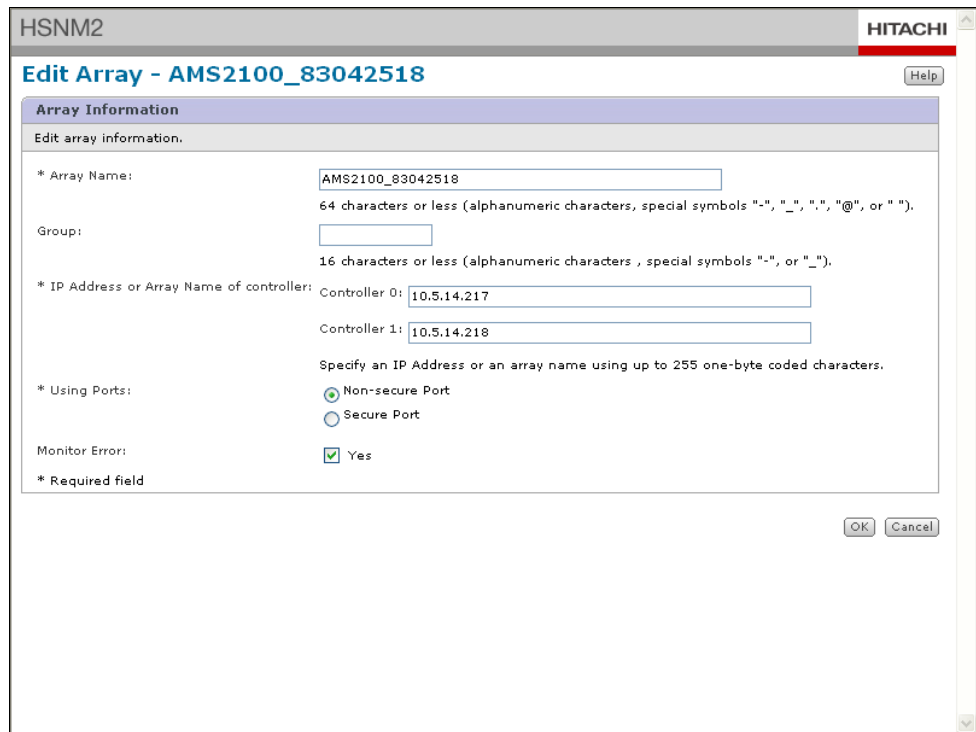
2. If the Arrays page is not displayed, click **Arrays** in the Explorer pane.
3. In the Arrays page:
  - a. Under the **Array Name** column, check the storage system name that you recorded in [Table 1-10 on page 49](#).
  - b. Click **Edit Array**. An Edit Array page similar to the one in [Figure 1-27 on page 35](#) appears.



Check an Array Name Here

Edit Array Button

**Figure 1-26: List of Arrays and Edit Array Button**



**Figure 1-27: Example of Edit Array Page**

4. In the **IP Address or Array Name of controller** field, enter the same controller IP addresses recorded in [Table 1-10 on page 49](#). Refer to the note on [page 29](#) regarding management consoles directly connected to a management port on one controller or connected using a switch or hub.
5. Click **OK**.
6. When the page tells you that the storage system information has been edited successfully, click **Close**.

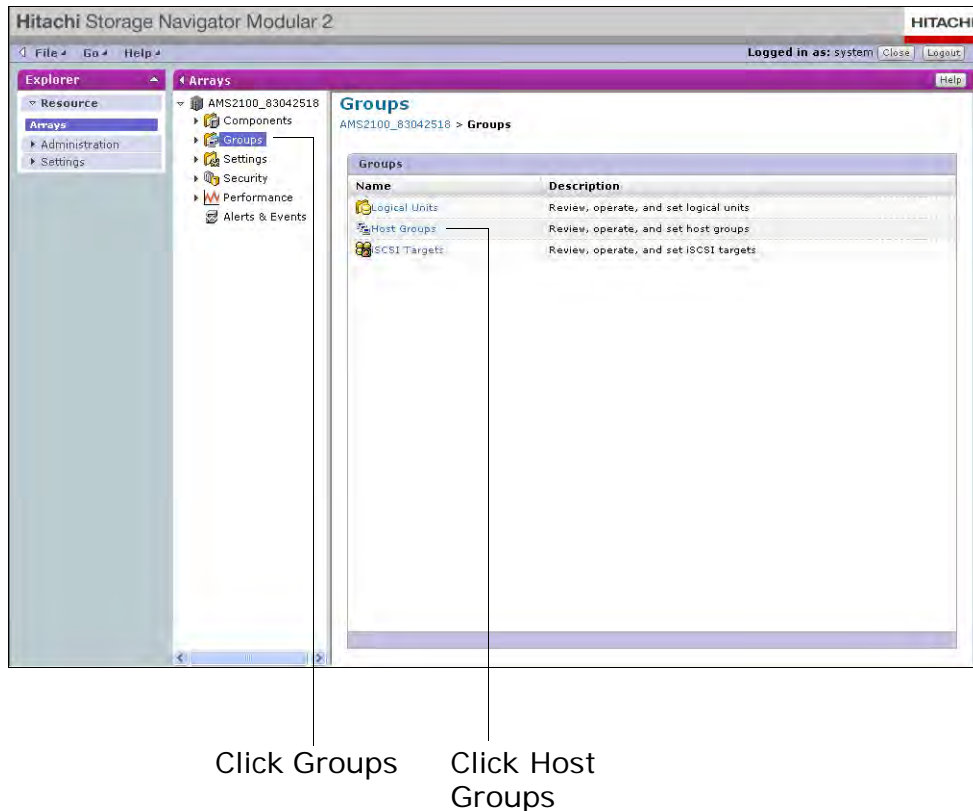
### Select platform-specific settings

To connect to hosts running the following host operating systems and clustering solutions, use Navigator 2 to configure the storage system's host groups and iSCSI targets as described in the following procedures.

- |                          |  |
|--------------------------|--|
| • AIX                    | • Apple Macintosh  |
| • HP-UX                  | • Microsoft Windows 2000 Server, Windows Server 2003 and 2008, Windows XP, Vista |
| • NetWare                | • Red Hat Enterprise Linux, SUSE Linux Enterprise, Asianux                       |
| • TruCluster             | • Solaris  |
| • Veritas Cluster Server | • VMware   |

The following procedure describes how to select platform-specific settings for Fibre Channel host groups. A host group is a logical entity of two or more hosts that share access to specific disks on the storage system. The hosts in a host group can run the same or different operating systems. In addition, the hosts in the host group usually have special software, such as clustering software, to manage virtual disk sharing and accessibility.

1. Under the **Array Name** column, check the storage system name that you recorded in [Table 1-10 on page 49](#) and then click the **Edit Array** button (see [Figure 1-26 on page 34](#)).
2. In the center pane, click **Groups**. Then, in the Groups page, click **Host Groups** (see [Figure 1-28](#)).



**Figure 1-28: Groups Page**

3. When the Host Group page appears (see [Figure 1-29 on page 37](#)), check a host group in the **Host Groups** tab.

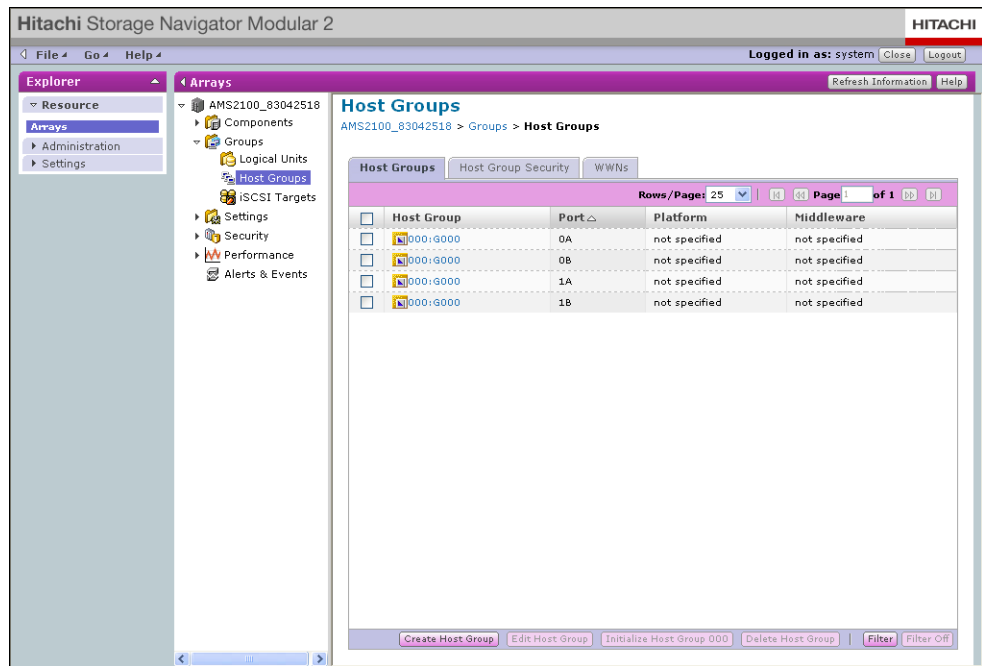


Figure 1-29: Host Groups Page

- Click **Edit Host Group**. The Edit Host Group page appears (see Figure 1-30).

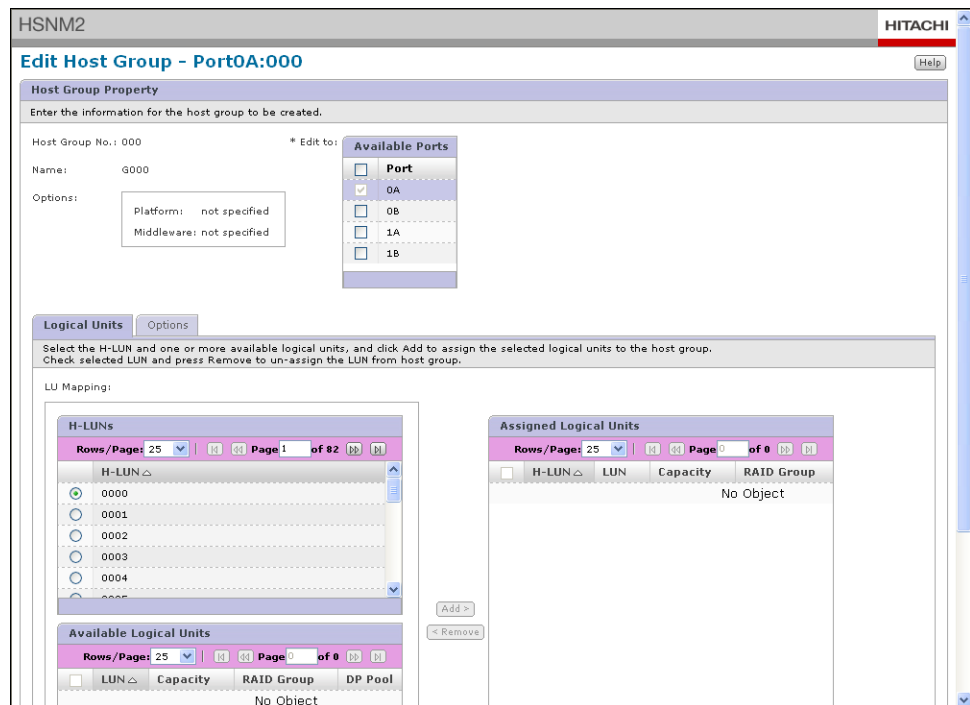
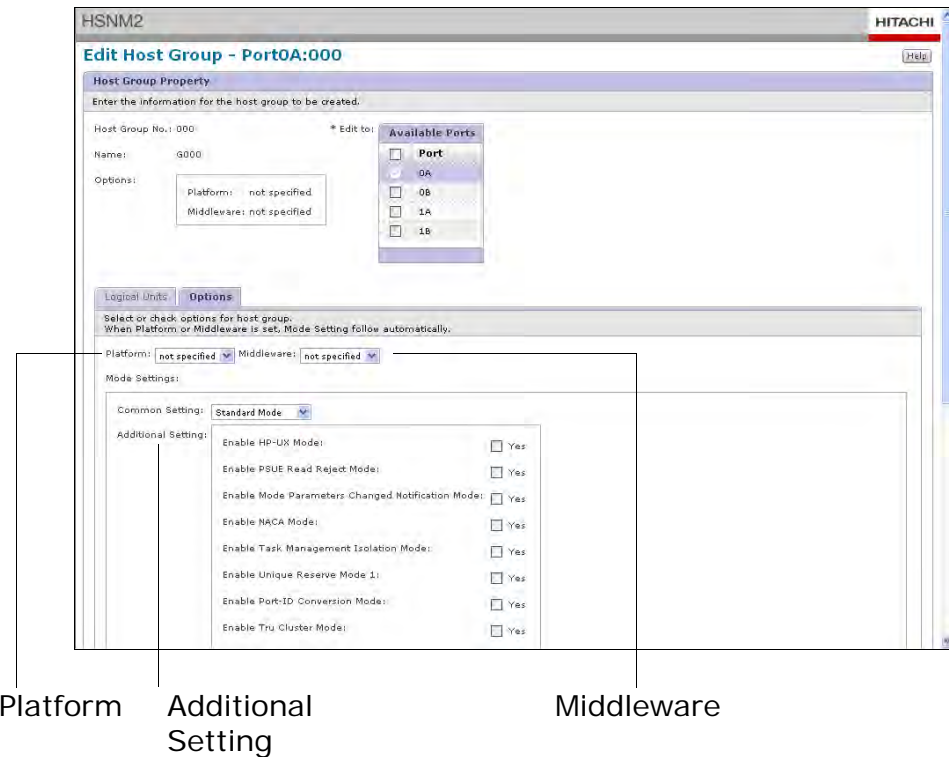


Figure 1-30: Edit Host Group Page

- Click the **Options** tab, then use the **Platform** pull-down list to select the host operating system to be connected to the storage system (see [Table 1-8](#), [Figure 1-31](#), and the guidelines on [page 41](#)).

**Table 1-8: Platform Settings**

For the Following Operating Systems to Connect	Select This Platform Setting
Windows 2000 Server, Windows Server 2003 and 2008, Windows XP and Vista	Windows
Red Hat Enterprise Linux, SUSE Linux Enterprise, Asianux	Linux
Solaris	Solaris
VMware	VMware
NetWare	NetWare
HP-UX	HP-UX
AIX	AIX
Apple Macintosh	Not specified



**Figure 1-31: Options Tab in the Edit Host Group Page**

- From the **Middleware** pull-down list on the **Options** tab, select the middleware to be connected according to [Table 1-9](#).

**Table 1-9: Middleware Settings**

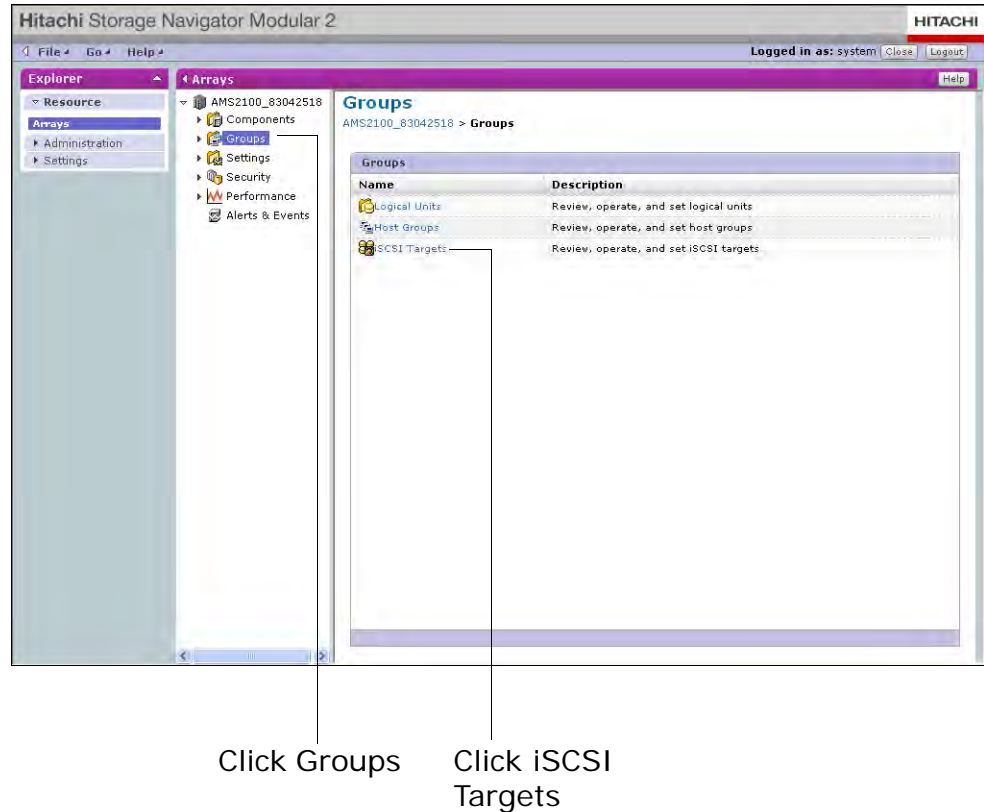
To Use This Software	Select This Middleware Setting
Veritas Cluster Server	VCS
HP TruCluster Server	TruCluster
Other	Not specified



7. Click the **OK** button in the lower right corner of the page.
8. Click the **Close** button.

You can now perform the same procedure for iSCSI targets. Or you can skip to [Create RAID groups, logical units, and host groups on page 42](#).

1. Redisplay the Groups page and click **iSCSI Targets** (see [Figure 1-32](#))



**Figure 1-32: Groups Page**

2. When the iSCSI Targets page appears (see [Figure 1-33 on page 40](#)), check an iSCSI target in the **iSCSI Targets** tab.

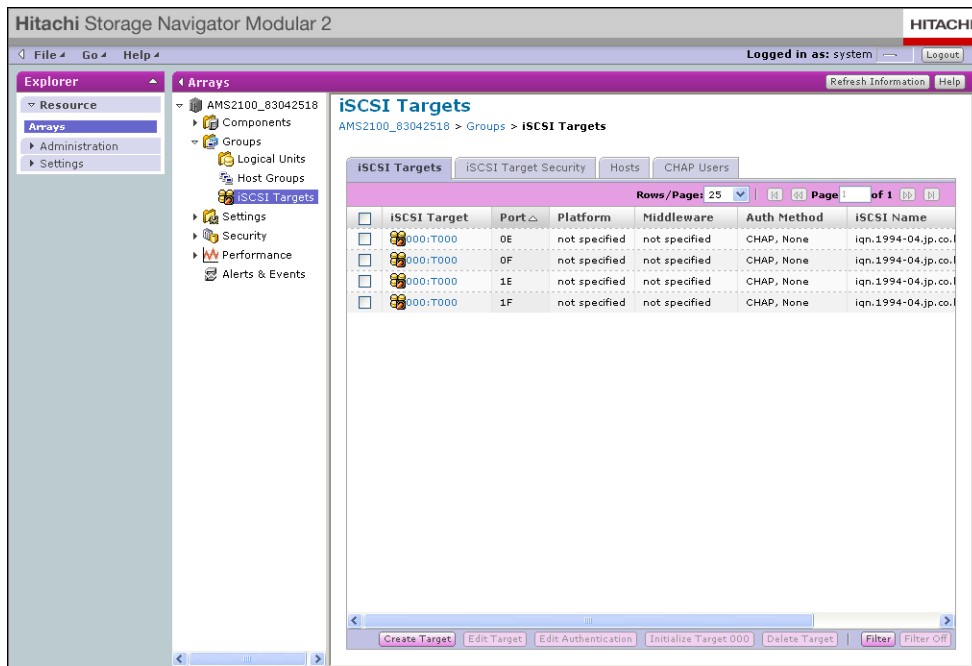


Figure 1-33: iSCSI Targets Page

- Click **Edit Target**. The Edit iSCSI Target page appears (see Figure 1-34).

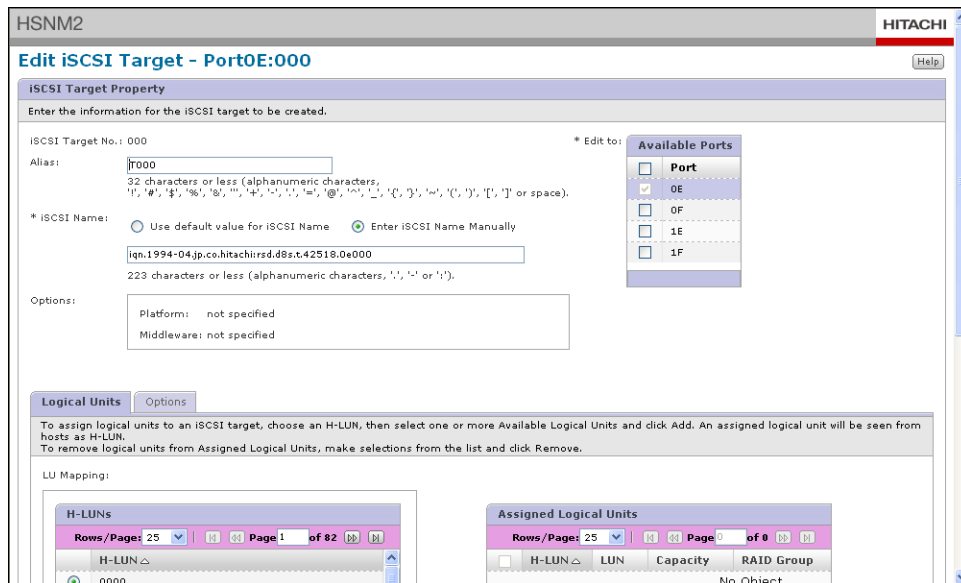
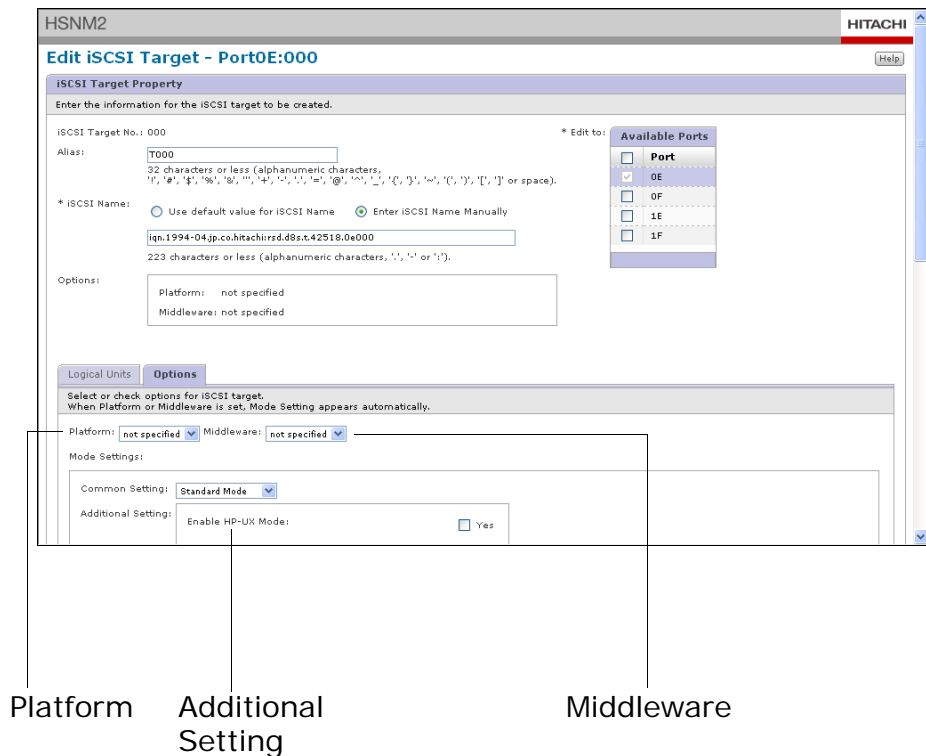


Figure 1-34: Edit iSCSI Target Page

- Click the **Options** tab, then use the **Platform** pull-down list to select the host operating system to be connected to the storage system (see Figure 1-35 on page 41 and Table 1-8 on page 1-38).



**Figure 1-35: Options Tab in the Edit Host Group Page**

- From the **Middleware** pull-down list on the **Options** tab, select the middleware to be connected according to [Table 1-9 on page 1-38](#).

Observe the following guidelines when selecting platform and middleware settings on the storage system:

- If you use winBoot/i by emBoot, Inc. or Open Enterprise Server by Novell, Inc, check **Enable NOP-In Suppress Mode**.
- For VMware, select the following setting:  
**Platform = VMware**  
**Middleware = not specified**  
**Common Settings = Standard Mode**
- If you use VMware CHAP (Discovery session) over an iSCSI connection, check **Enable Discovery CHAP Mode** and refer to your VMware documentation for additional information.
- If you use alternate path (MPIO: Multipath I/O) and clustering (MSCS: Microsoft Cluster Service) configuration using the Microsoft's iSCSI Software Initiator on Windows Server 2003 with the iSCSI connection, the following setting is required.
  - Registry setting on the server.  
When downloading the iSCSI Software Initiator from the Microsoft home page, refer to the descriptions of Microsoft Server Cluster (MSCS) in the Microsoft iSCSI Initiator 2.x Users Guide, which is a

separate download. Then change the Registry setting for Persistent Reservation as required. Exercise care when setting this value. If set incorrectly, the server may not operate normally.

- Unique Reserve Mode setting on the storage system. Check **Enable Unique Reserve Mode 1**.
- If you use an alternate path (MPIO: Multipath I/O) configuration on Windows Server 2008, open MPIO on the Windows Control Panel and register **HITACHI DF600F** as an MPIO device.
- If connecting with a Tru64 host, select **Not specified** from the **Platform** drop-down list. Do not select **HP-UX** for Tru64.



**NOTE:** **Discovery CHAP Mode** is not used with Fibre Channel, even if this option appears to be selectable and checked.

---

6. Click the **OK** button in the lower right corner of the page.
7. Click the **Close** button.
8. Go to [Create RAID groups, logical units, and host groups on page 42](#).

## Create RAID groups, logical units, and host groups

The following sections describe how to create RAID groups, logical units, and host groups. For additional information, refer to the Navigator 2 online help.

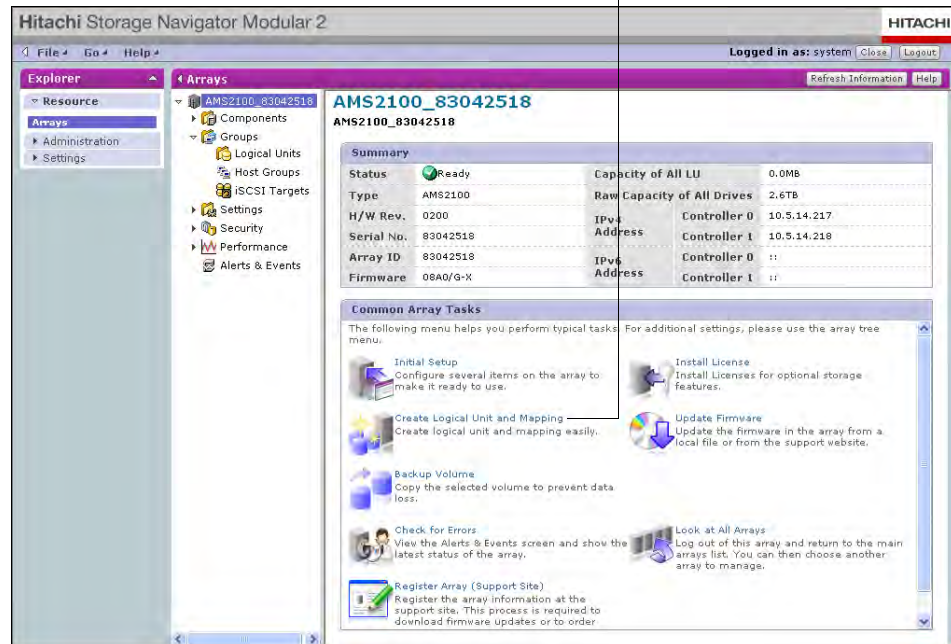


**NOTE:** If LUN Manager is not installed or enabled in the storage system, or if host group security is disabled or host group assignment is skipped, a screen appears at the end of this procedure to inform you that Navigator 2 automatically assigns logical units to all hosts connected to the selected port.

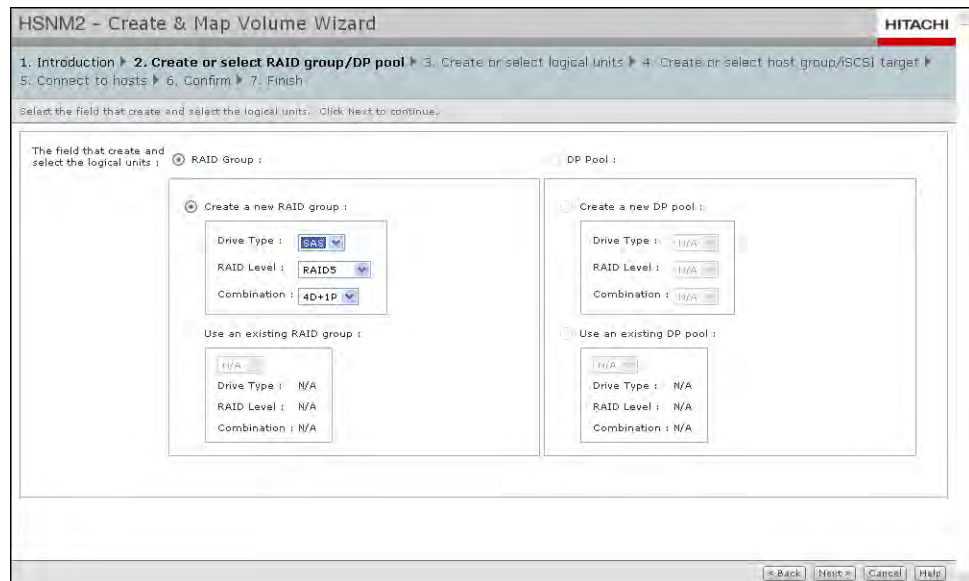
---

1. If the Common Array Tasks area is not displayed, click the storage system under the **Array Name** column in the Arrays page.
2. In the Common Array Tasks area, click **Create Logical Unit and Mapping**. The Create & Map New Volume wizard starts.

## Create Logical Unit and Mapping



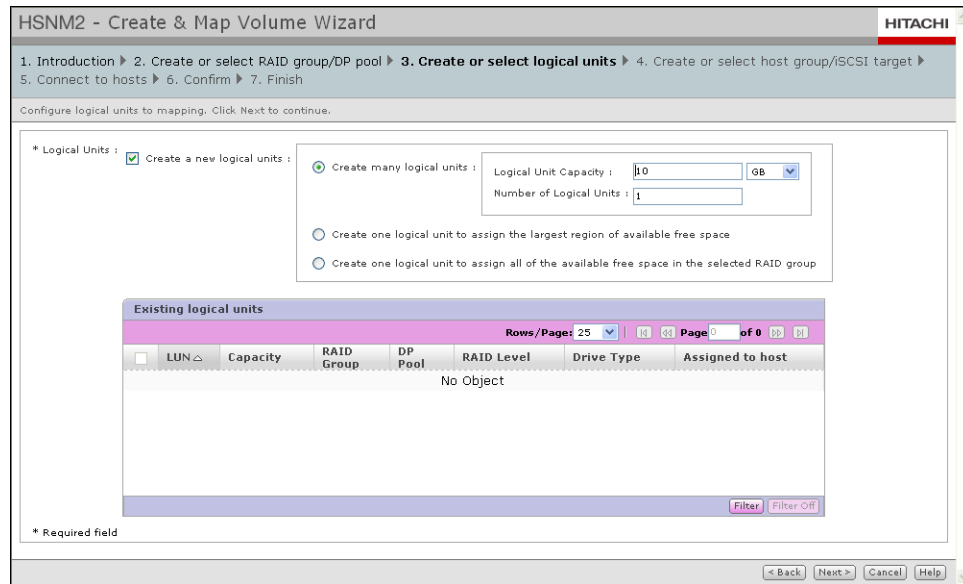
3. When the introductory page appears, click **Next**. The page in [Figure 1-36](#) appears.



**Figure 1-36: Create or Select RAID Group/DP Pool Page**

4. Create a new RAID group or use ones that already exist:  
To create a new RAID group:
  - a. Select **Create a new RAID group** if it is not selected.
  - b. Use the drop-down lists to select a drive type, RAID level, and data + parity (D+P) combination for the RAID group.

- To use RAID groups that already exist:
- Select **Use an existing RAID group**.
  - Select a RAID group from the drop-down list.
- This page also lets you configure new or existing Dynamic Provisioning (DP) pools if you installed the license key for Hitachi Dynamic Provisioning. For more information, refer to the *Hitachi AMS 2000 Family Dynamic Provisioning Configuration Guide* (MK-09DF8201).
  - Click **Next**. The page in [Figure 1-37](#) appears.



**Figure 1-37: Create or Select Logical Units Page**

- Create new logical units or use ones that already exist, check **Create a new logical units**. Then check the appropriate option below:

To create new logical units, select one of the following options:

- Create many logical units** lets you create multiple logical units whose size and number you specify in the **Logical Unit Capacity** and **Number of Logical Units** fields. Each logical unit that will be created will be the same size that you specify in this field.

OR

- To create a single logical unit consisting of the maximum available free space in the selected RAID group, click **Create one logical unit to assign the largest region of available free space**.

OR

- To create a single logical unit consisting of all the available free space, click **Create one logical unit to assign all of the available free space in the selected RAID group**.

To use logical units that already exist:

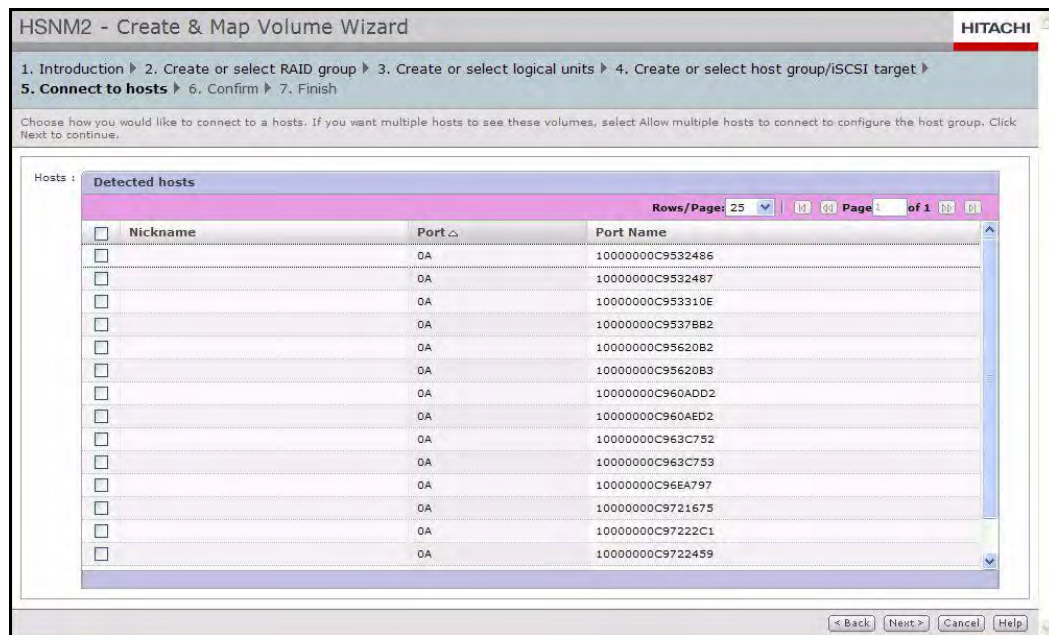
- Under **Existing logical units**, check each existing logical unit you want to use. To check them all, click the check box to the left of **LUN**. (Clicking this check box again deselects all existing logical units.)

8. Click **Next**. A page similar to the one in [Figure 1-38](#) appears.

The screenshot shows the 'HSNM2 - Create & Map Volume Wizard' interface. At the top, a progress bar indicates the current step: '4. Create or select host group/iSCSI target'. Below the progress bar, instructions state: 'Create a new host group below or select from an existing host group. Click Next to continue.' The main content area is titled 'Assignment:' and offers two radio button options: 'Skip assignment' and 'Assign now:'. Under 'Assign now:', there are two sub-sections. The first is 'Port:', with radio buttons for 0A, 0B, 0E, 0F, 1A, 1B, 1E, and 1F. The second is 'Host Group:', with a radio button for 'Create a new host group:'. To the right of this is a form for creating a new host group, containing fields for '\* Host Group No.:' (with a 'From 1 to 127' note), '\* Name:' (with a 32-character limit and character set restriction), 'Platform:' (a dropdown menu currently set to 'not specified'), and 'Middleware:' (another dropdown menu set to 'not specified'). Below these is a radio button for 'Use an existing host group:' and a 'Host Group:' dropdown menu currently showing '000:G000'. A '\* Required field' note is at the bottom left. At the bottom right, there are navigation buttons: '< Back', 'Next >', 'Cancel', and 'Help'.

**Figure 1-38: Create or Select Host Group/iSCSI Target Page**

9. Select the physical port for the host group.
10. Create new host groups or use ones that already exist:
- To create new host groups:
- Click **Assign now** if it is not selected.
  - Select **Create a new host group**.
  - In the **Host Group No** field, enter a host group number from 1 to 127.
  - In the **Name** field, enter a host group name from 1 to 32 characters.
  - Select a **Platform** or **Middleware** setting, or both, if appropriate for your configuration (refer to the Navigator 2 online help).
- To use host groups that have already been created:
- Select **Use an existing host group**.
  - Use the **Host Group** drop-down list to select a host group.
11. Click **Next**. The Connect to Hosts page appears (see [Figure 1-39 on page 46](#)).



**Figure 1-39: Connect to Hosts Page**

12. Check all of the hosts to which you want the storage system to connect.
13. When you finish, click **Next**.
14. Review your selections in the next two confirmation pages:
  - If no changes are required, click **Next**.
  - If you need to change a selection, click **Back** to return to the appropriate page, make the desired changes, and then click **Next** to return the first confirmation page and verify that the change was made.
  - At the last confirmation page, click **Confirm** to commit your selections.
15. The next page confirms that the Create & Map Volume Wizard completed successfully. To create additional RAID groups, logical units, and host groups, click **Create & Map More LU** and repeat this procedure. Otherwise, click **Finish**.

## 15. Add the newly configured storage system to Navigator 2

After you configure both controllers, perform the following procedure to add the newly configured storage system to Navigator 2.

1. If the Arrays page is not displayed, click **Arrays** in the left pane.
2. From the Arrays page, check the storage system you just configured under the **Array Name** column.
3. Click **Remove Array** to remove the selected base unit from the Arrays area.
4. When the message indicates that the base unit was removed successfully, click **Close** to remove the message.



5. In the Arrays page:
  - a. Click **Add Array** to run the Array wizard.
  - b. Click **Next** at the first page.
6. When the Search Array page appears (see [Figure 1-40](#)), enter the IP address for each controller, which you recorded in [Table 1-10 on page 1-49](#).



**TIP:** Alternatively, if you have many controllers, you can click **Range of IP Addresses** and enter the starting and ending IP address range in the **From** and **To** fields, respectively.

**Figure 1-40: Search Array Page**

7. Click **Next** and **Finish** to complete the wizard. The newly configured base unit appears in the Arrays area.

## Complete your installation

To complete the configuration procedure, perform the following configuration tasks based on your storage and environmental requirements (for details, see the Navigator 2 online help):

- Create, format, delete, and filter logical units
- Create, edit, initialize, delete, and filter targets
- Back up volumes to prevent data loss
- Perform local replication tasks (create, edit, split, resync, restore, and delete pairs)
- Enable license keys for any storage features that require them

## Additional information

### User registration

Refer to the Hitachi Web Portal:

<https://portal.hds.com/index.php/component/registration/start>



**NOTE:** If you encounter a problem registering your storage system, please visit <http://www.hds.com/solutions/smb/>.

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### Product documentation

Refer to the supplied documentation CD or visit the Hitachi Web Portal:

<http://www.hds.com/corporate/resources/>

### Product Interoperability

Refer to the interoperability matrix at:

<http://www.hds.com/products/interoperability/>

### Firmware (microcode)

Refer to the Navigator 2 online help and to the Hitachi Web Portal:

[support.hds.com](http://support.hds.com)

### Troubleshooting

Refer to the Hitachi Support page:

<http://www.hds.com/support/>

### Global Services

Hitachi Data Systems Global Services can increase the value of IT to your business with carefully applied new technologies for reducing risk, accelerating ROI, lowering costs, and managing your storage infrastructure successfully.

<http://www.hds.com/services/>

### Hitachi Data Systems Storage Forums

Hitachi Data Systems Forums let you exchange information and questions comments about Hitachi Data Systems products, services, and support.

<http://forums.hds.com>

## Record configuration settings

We recommend that you make a copy of the following table and record your configuration settings for future reference.

**Table 1-10: Recording Configuration Settings**

Field	Description
Storage system Name	
<b>Email Notifications</b>	
Email Notifications	<input type="checkbox"/> Disabled <input type="checkbox"/> Enabled (record your settings below)
Domain Name	
Mail Server Address	
From Address	
Send to Address Address 1: Address 2: Address 3:	
Reply To Address	
<b>Management Port Settings</b>	
Controller 0	
Configuration	<input type="checkbox"/> Automatic (Use DHCP) <input type="checkbox"/> Manual (record your settings below)
IP Address	
Subnet Mask	
Default Gateway	
Controller 1	
Configuration	<input type="checkbox"/> Automatic (Use DHCP) <input type="checkbox"/> Manual (record your settings below)
IP Address	
Subnet Mask	
Default Gateway	
<b>Host Port Settings</b>	
Fibre Channel Port: _____	Port Address: Transfer Rate: Topology:
Fibre Channel Port: _____	Port Address: Transfer Rate: Topology:
Fibre Channel Port: _____	Port Address: Transfer Rate: Topology:

**Table 1-10: Recording Configuration Settings (Continued)**

Field	Description
Fibre Channel Port: _____	Port Address: Transfer Rate: Topology:
Fibre Channel Port: _____	Port Address: Transfer Rate: Topology:
Fibre Channel Port: _____	Port Address: Transfer Rate: Topology:
Fibre Channel Port: _____	Port Address: Transfer Rate: Topology:
Fibre Channel Port: _____	Port Address: Transfer Rate: Topology:
iSCSI Port: _____	IP Address: Subnet Mask: Default Gateway:
iSCSI Port: _____	IP Address: Subnet Mask: Default Gateway:
iSCSI Port: _____	IP Address: Subnet Mask: Default Gateway:
iSCSI Port: _____	IP Address: Subnet Mask: Default Gateway:
<b>LUN Settings</b>	
RAID Group	
Free Space	
LUN	
Capacity	
Stripe Size	
Format the Logical Unit	<input type="checkbox"/> Yes <input type="checkbox"/> No



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