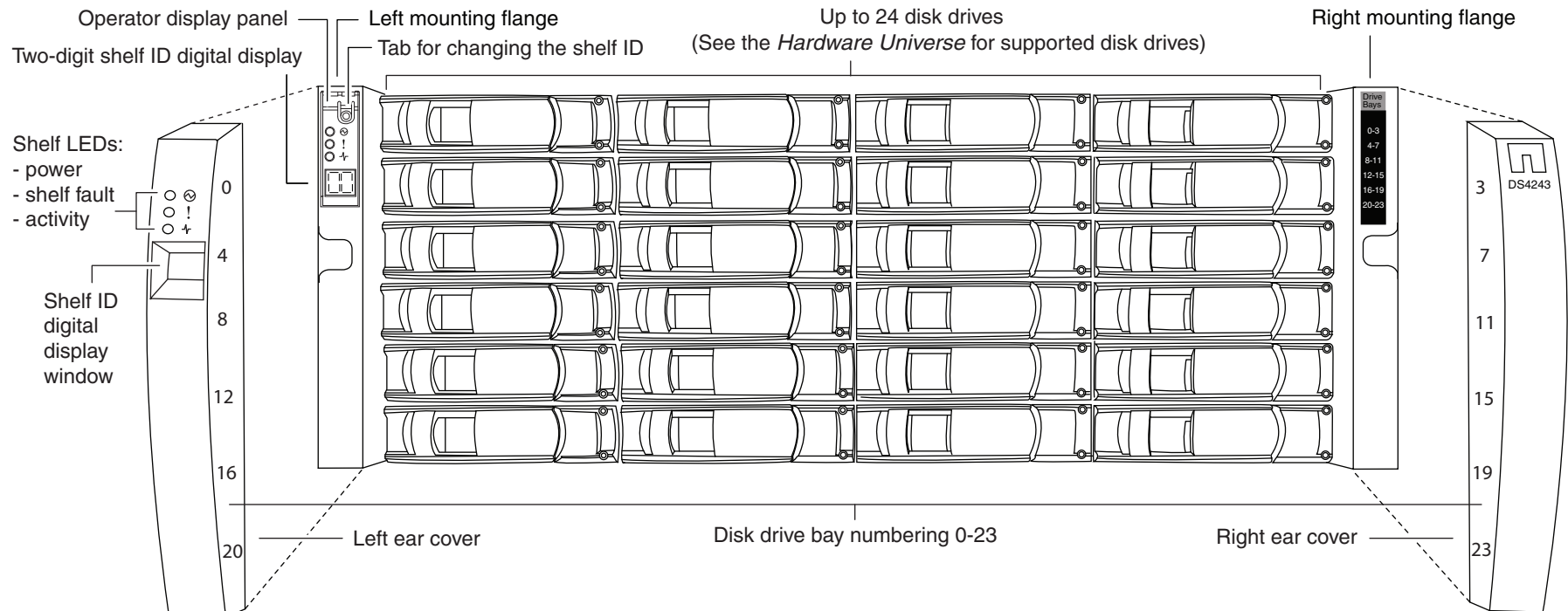
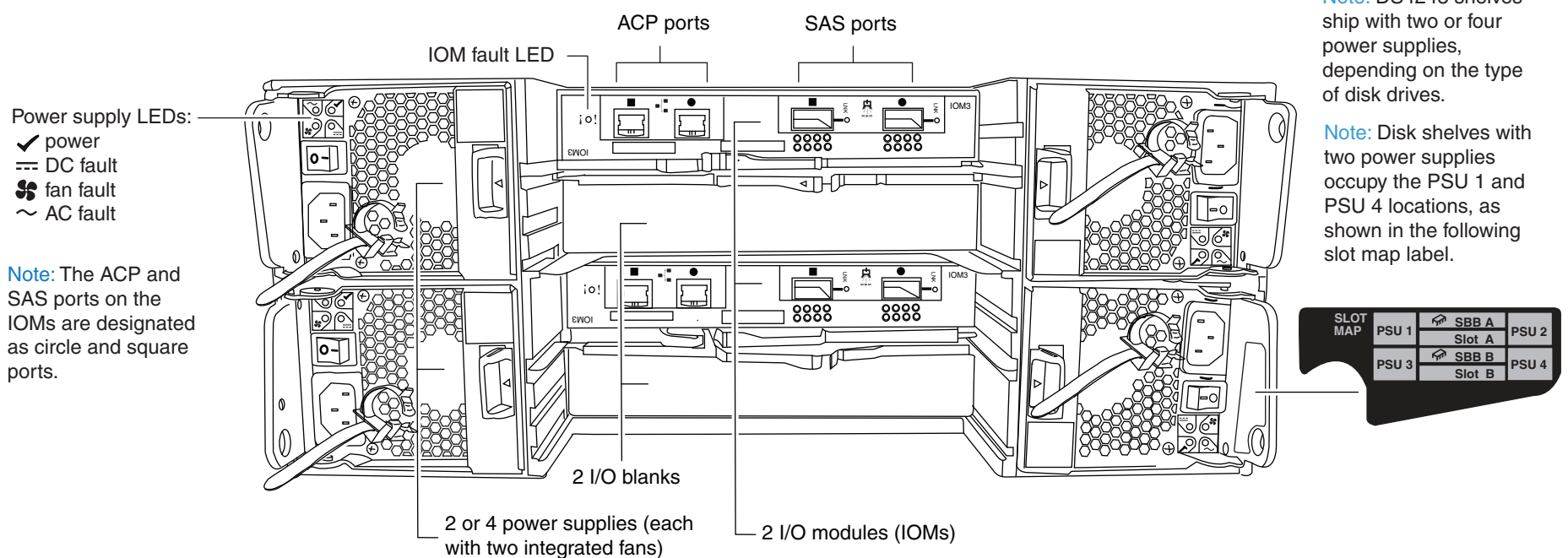


DS4243 and DS4246 Disk Shelf Overview

Front view



Rear view

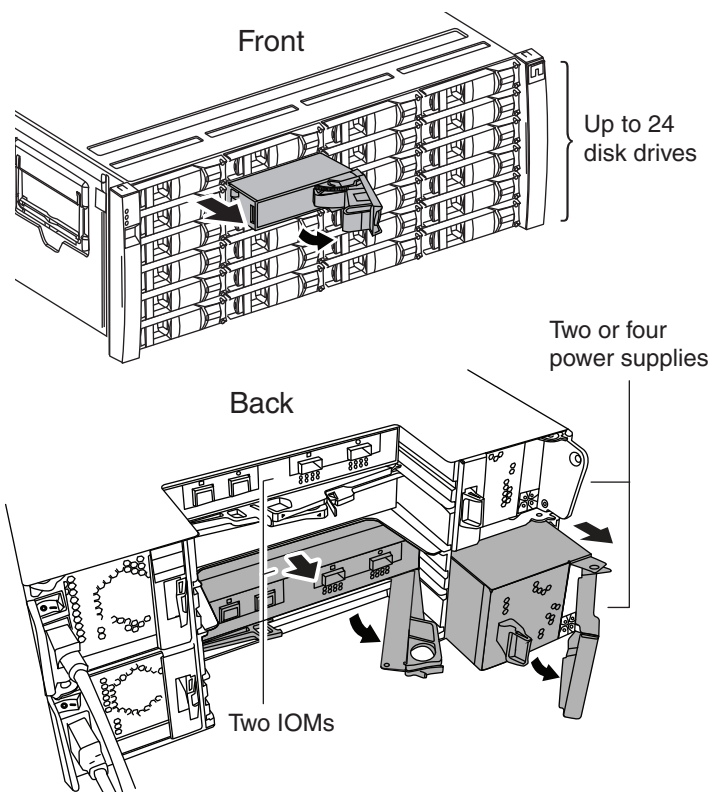


Note: New DS4243 and DS4246 disk shelves are visually distinguished by the following labeling:

- The disk shelf model, DS4243 or DS4246, appears on the front right ear cover of the disk shelf.
- IOM3 appears on the IOM face for DS4243 disk shelves. IOM6 appears on the face of the IOM for DS4246 disk shelves.

The illustrations in this document show a DS4243 disk shelf.

Component replacement map



- Power supplies and disk drives are hot-swappable. (Replace the power supply within two minutes of removal to minimize disruption to the disk shelf's airflow.)
- Shelf IOMs are not hot-swappable in storage systems that are single-controller single-path configurations.
- Mixing IOM3 and IOM6 in the same disk shelf is not supported.

For component replacement instructions, LED behavior, and SES error messages, see the *DS4243, DS2246, DS4486, and DS4246 Installation and Service Guide*.

Hot-adding disk shelves

If you are hot-adding disk shelves to an existing storage system, see the applicable document for the system requirements and procedure:

- For storage systems, see the *DS4243, DS2246, DS4486, and DS4246 Disk Shelf Installation and Service Guide*.
- For MetroCluster systems using SAS optical cables, see *Configuring a stretch MetroCluster system with SAS disk shelves and SAS optical cables*.
- For MetroCluster systems using FibreBridge 6500N bridges, see *Configuring a MetroCluster system with SAS disk shelves and FibreBridge 6500N bridges*.

These documents can be found on the NetApp Support Site at support.netapp.com.

Alternate Control Path (ACP) capability

For maximum storage availability and stability, storage systems with disk shelves have the option to use the ACP capability. ACP is a protocol that enables Data ONTAP® to manage and control the disk shelf storage subsystem. It uses a separate network from the data path so that it can independently perform recovery whenever certain interruptions are detected in the data path.

To use the ACP capability, you must cable the ACP ports on the disk shelves and connect the disk shelves to the dedicated network interface on each storage system controller. At system setup, you enable ACP functionality by configuring ACP parameters. If your storage system does not have a dedicated onboard network interface for ACP, you assign one at system setup.

Standard ACP cabling rules apply to all storage systems and can be found in the *Universal SAS and ACP Cabling Guide*. ACP functionality, configuration, and enabling information can be found in the *Data ONTAP Storage Management Guide*.

Note: If at initial storage system setup you choose not to use the ACP capability, you can use it later by cabling the ACP connections and enabling ACP by running setup again.



DS4243 and DS4246 Disk Shelf Installation and Setup

System requirements

For the most current information about supported Data ONTAP releases, platforms, SAS disk shelves, disk drives, and SAS cables, see the Hardware Universe on the NetApp Support Site at support.netapp.com.

Documentation

For more disk shelf and safety information, see the *DS4243, DS2246, DS4486, and DS4246 Disk Shelf Installation and Service Guide*.

All documentation can be found on the NetApp Support Site at support.netapp.com.

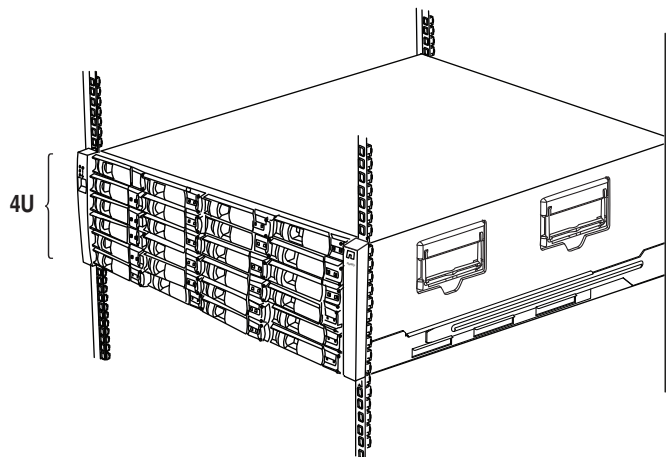
1 Ground yourself

Ground yourself to the storage system chassis using the grounding leash that came with your storage system.

Note: You do not need to ground disk shelves; grounding is done through the power cords.

2 Installing the disk shelf in a rack

If the disk shelf did not come in a system cabinet, you must install it in an equipment rack using the four-post rail kit or the two-post telco tray kit that came with your disk shelf. See the rack installation flyer that came with the rack kit for detailed instructions.



Note: If you are installing the disk shelf in a two-post mid-mount installation, you must use the mid-mount telco kit, which includes brackets, in addition to the two-post telco tray kit.

Note: One power outlet is required for each power supply in a disk shelf.

CAUTION LIFTING HAZARD



110 lbs (49.9 kg)

To reduce the weight of the disk shelf, remove the power supplies and IOMs before lifting.

3 Set disk shelf IDs

1. Connect power cords to the disk shelf and turn on the power to the disk shelf.

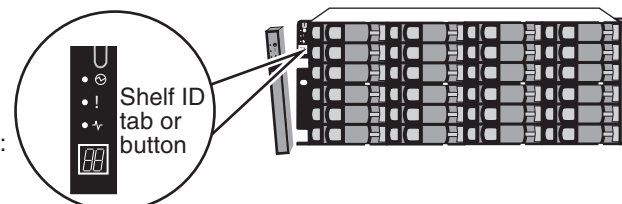
Note: Depending on the disk drive type, your disk shelf might have two or four power supplies. Connect power supplies in slots 1 and 3 to one power source and power supplies in slots 2 and 4 to a different power source.

2. Visually verify that the ID for each disk shelf is unique. If not, set the disk shelf ID:

- Remove the left ear cover.
- Press and hold the U-shaped tab or button until the first digit blinks.
- Press the tab or button until the correct number is displayed.
- Repeat steps **b** and **c** for the second digit.
- Press and hold the tab or button until the second number stops blinking.

Result: Both numbers blink and the operator display panel fault LED illuminates in about five seconds.

f. Power-cycle the disk shelf to make the new disk shelf ID take effect.



Note: A valid shelf ID is 0-98. FAS20xx and FAS22xx systems have the internal shelf ID preset to 00.

Note: A unique shelf ID is required for each SAS shelf within the entire storage system. If your storage system has SAS and FC shelves, shelf IDs do not need to be unique between the SAS and FC shelves. (FC shelf IDs continue to be unique within each FC loop. SAS shelf IDs continue to be unique to all other SAS shelves in the storage system, including internal shelf IDs for FAS20xx and FAS22xx systems.)

4 Cable the system

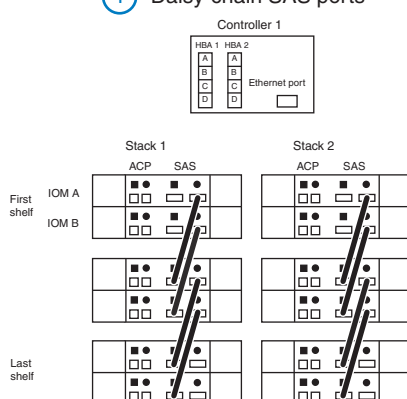
If you are using HBAs, they must already be installed in the storage system.

- Cable controllers.
See the documentation that came with your storage system for how to cable the controllers.
- Cable disk shelves.

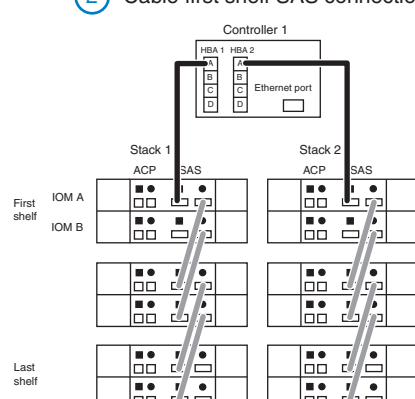
Following are steps to cable two common configurations. For SAS and ACP rules, and more cabling configurations, see the *Universal SAS and ACP Cabling Guide*.

Single controller with two quad-port SAS HBAs supporting two stacks of disk shelves
Dual-path connectivity

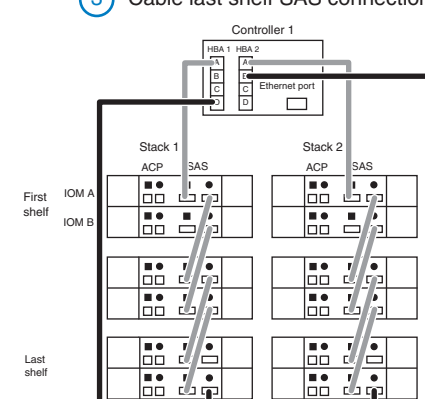
1 Daisy-chain SAS ports



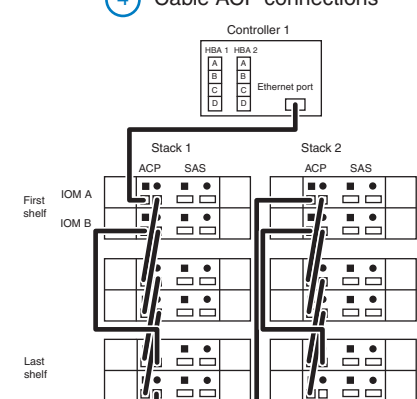
2 Cable first shelf SAS connections



3 Cable last shelf SAS connections

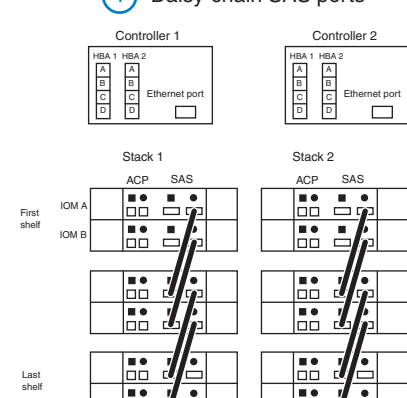


4 Cable ACP connections

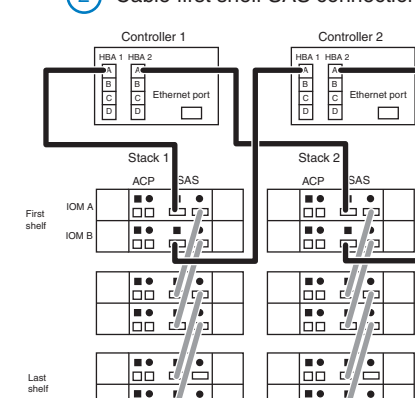


High availability (HA pair) with two quad-port SAS HBAs supporting two stacks of disk shelves
Multipath HA connectivity

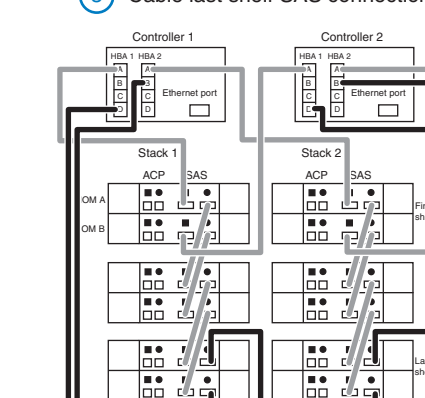
1 Daisy-chain SAS ports



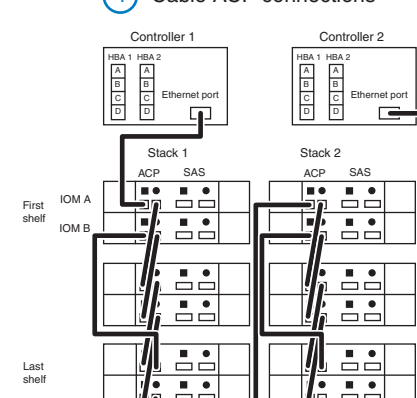
2 Cable first shelf SAS connections



3 Cable last shelf SAS connections



4 Cable ACP connections



5 Boot the system and proceed with setup

- See the *Installation and Setup Instructions* that came with your storage system for booting your storage system and for system setup.
- To take advantage of the ACP capability, you can enable it at setup or later. See the *Data ONTAP Software Setup Guide* for the setup worksheet and other setup information.