Hewlett Packard Enterprise

HPE MSA 2050/2052 Quick Start Instructions

Abstract

This document is for the person who installs, administers, and troubleshoots servers and storage systems. HPE assumes that you are qualified in servicing and installing computer equipment, and are trained in recognizing hazards in products and hazardous energy levels.

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Notices

Contents

MSA Quick Start Instructions

Feature overview

The HPE MSA 2050/2052 is available in two models:

- 24 disk capacity model for 2.5 inch Small Form Factor (SFF) disks
- 12 disk capacity model for 3.5 inch Large Form Factor (LFF) disks

For detailed reference information, instructions, and cabling examples, see the following documents:

- *HPE MSA 2050/2052 QuickSpecs*
- *HPE MSA 2050/2052 User Guide*
- *HPE MSA 2050/2052 Cable Configuration Guide*
- *HPE MSA 2050/2052 SMU Reference Guide*
- *HPE MSA 2050/2052 Best Practices Guide*

MSA 2050/2052 front features

24 disk slots for SFF disks

12 disk slots for LFF disks

MSA 2050/2052 rear features

Dual Power Supply and Fan modules

Dual Array Controller modules

Prepare for the installation

Prerequisites

The following items will be shipped with the MSA 2050/2052 :

- HPE MSA 2050/2052 LFF or HPE MSA 2050/2052 SFF chassis.
- Rack mounting kit
- Mini-USB CLI cable
- PSU power cords
- HPE MSA 2050 front faceplate
- HPE MSA 2052 systems include 2 SDDs

Other items you may need:

- Screwdrivers (Phillips #1 and #2)
- Antistatic protection device
- Expansion disk enclosures and cables
- Servers that need access to the MSA Storage array
- SAN or Ethernet Switches
- Cables for connecting to the host
- RJ-45 Ethernet cable for connecting to a remote management host

- Access from a workstation or a server to the MSA Storage array management to access the Storage Management Utility (SMU) and validate host connections
- Access to the Internet (to access HPE websites for the latest QuickSpecs, user documents, and firmware)

Obtain the latest user documents

Locate MSA 2050/2052 user guides to help with the planning, installation, and configuration processes. User documents are available on the Hewlett Packard Enterprise Information Library at **http://www.hpe.com/info/storage/docs**.

Confirm support for your hardware and software components

Confirm that the devices you plan to connect and their installed firmware and software versions are supported for use with each other. The latest support information is available on the HPE Single Point of Connectivity Knowledge (SPOCK) website at **http://www.hpe.com/storage/spock**.

Verify the operating environment

Review the *HPE MSA 2050/2052 User Guide* and ensure that all environmental requirements are met, including site wiring and electrical power inputs, ventilation and cooling, and weight considerations.

Install the MSA chassis

Use the following steps to install your MSA chassis. For more information, see the *HPE MSA 2050/2052 User Guide*.

WARNING:

At least two people are needed to lift a fully populated MSA storage enclosure or expansion disk enclosure into the rack.

- **Install the device into the rack**
- **Connect expansion disk enclosures**
- **Connect the MSA Controllers to data hosts**
- **Connect the MSA Controller to a remote management host (optional)**
- **Connect two MSA storage systems to replicate volumes (optional)**
- **Connect power cords and power on devices**
- **Update firmware on all components**
- **Configure the MSA storage systems**

Install the device into the rack

Use the instructions provided with the rack mounting kits or other devices to rack the MSA chassis, expansion disk enclosures, switches, and servers.

Connect expansion disk enclosures

If expansion disk enclosures are included in your environment, connect SAS cables employing either a straight-through or fault tolerant cabling plan. Mini-SAS to Mini-SAS cables are required for each disk enclosure.

The following disk enclosures are supported:

Disk enclosure model	Description
HPE MSA 2050 SFF Disk Enclosure	24-disk SFF enclosure
HPE MSA 2050 LFF Disk Enclosure	12-disk LFF enclosure
HPE MSA 2040 LFF Disk Enclosure	12-disk LFF enclosure
HPE D2700 Disk Enclosure (supported in upgrade scenarios only)	25-disk SFF enclosure

Disk enclosure connection guidelines

- Expansion disk enclosures can be connected to an operational MSA Storage Array, see the *HPE MSA 1050/2050/2052 Best Practices Guide*.
- Mini-SAS to Mini-SAS 0.5 m (1.64 ft) cables are provided with all supported expansion Disk Enclosures.
- The maximum length cable supported for connecting disk enclosures is 2 m (6.56 ft).
- Cables longer than those supplied with the disk enclosure must be purchased separately. For a list of cables available from HPE, see the *HPE MSA 2050/2052 QuickSpecs*.
- The maximum number of enclosures supported with an MSA 2050/2052 solution is eight (one MSA 2050/2052 and up to seven expansion disk enclosures).

Example MSA 2050/2052 disk enclosure connections

MSA 2050/2052 firmware supports both fault-tolerant and straight-through SAS cabling to cascaded disk enclosures. For more information about these cabling schemes and for additional cabling examples, see the *HPE MSA 2050/2052 Cabling Configuration Guide*.

Connect the MSA Controllers to data hosts

Direct-connect and switch-connect environments are supported. For direct-connect configurations, connect cables from the MSA controller host ports to the host. For switch-connect configurations, connect cables from the MSA controller host ports to the switch ports and from the switch ports to the hosts.

For cabling examples, including connecting directly to a server, see the *HPE MSA 2050/2052 Cabling Configuration Guide*.

MSA 2050/2052 connection guidelines

- No host interface cables are shipped with MSA 2050/2052 Storage Systems. For a list of cables available from HPE, see the *HPE MSA 2050/2052 QuickSpecs*.
- In direct-connect deployments, connect each host to the same port on both of the MSA controllers.
- In switch-connect deployments, connect an MSA Controller A port and the corresponding MSA Controller B port to one switch, and connect a second MSA Controller A port and the corresponding MSA Controller B port to a separate switch.

Connect the MSA Controller to a remote management host (recommended)

A remote management host directly manages systems out-of-band over an Ethernet network.

If a remote management host is included in your environment, connect an RJ-45 Ethernet cable from the network management port on each MSA 2050/2052 controller to a switch that your management host can access (preferably on the same subnet).

Connect two MSA storage systems to replicate volumes (optional)

HPE MSA Remote Snap Software is an optional licensed disaster-recovery utility that performs asynchronous (batch) replication of block-level data from a volume on a primary MSA storage system to a secondary volume

on an independent MSA storage system. These two MSA Storage systems connect through switches and are on the same fabric or network.

The MSA 2052 ships with the advanced data services license, which is customer installable.

For more information about Remote Snap Software, including cabling requirements and user information, see the *HPE MSA 2050/2052 User Guide*, *HPE MSA 1050/2050/2052 SMU Reference Guide*, and *HPE MSA Remote Snap Technical White Paper*.

Connect power cords and power on devices

IMPORTANT:

The power cord must be approved for use in your country. The power cord must be rated for the product and for the voltage and current marked on the electrical ratings label of the product.

Apply power to the devices in the following order:

1. Connect power cords from the power distribution units (PDUs) to separate external power sources.
2. Power on the SAN/LAN switches (if necessary).
3. If applicable, ensure all enclosure power switches are in the **Off** position.
4. Connect each power supply module in all attached expansion disk enclosures to the PDUs. If the expansion disk enclosures have power switches, apply power. If the disk enclosures do not have power switches, they automatically start.
5. Wait two minutes to ensure that all disks in the disk enclosure are powered up and ready.
6. Connect each power supply module in the MSA 2050/2052 array enclosure to the PDUs.

   If the array enclosures have power switches, apply power. If the array enclosures do not have power switches, they automatically start.
7. Observe the LEDs on the front and the rear of the MSA 2050/2052 and any expansion disk enclosures, and confirm that no LEDs are amber.
8. Power on the servers (if necessary).

Update firmware on all components

After installing hardware and powering on devices for the first time, verify that MSA 2050/2052 controller modules, expansion disk enclosure I/O modules, and all disk drives are running the latest available firmware. If updates are necessary, obtain the firmware from the HPE website and install the downloaded firmware.

Firmware is available from HPE at: **http://www.hpe.com/support/msa2050**.

NOTE:

A valid HPE passport connected to the MSA hardware will be required to download the firmware. See **http://h20564.www2.hpe.com/hpsc/doc/public/display?docLocale=en_US&docId=emr_na-c05349541** for the HPE passport for MSA arrays.

Configure the MSA storage systems

Key configuration steps include setting the system date and time, entering system parameters, and configuring storage volumes. For more information, see the *HPE MSA 2050/2052 SMU Reference Guide*.

NOTE:

For better array monitoring, configure either email or SNMP alerts.

Websites

General websites

Hewlett Packard Enterprise Information Library

www.hpe.com/info/EIL

Single Point of Connectivity Knowledge (SPOCK) Storage compatibility matrix

www.hpe.com/storage/spock

Storage white papers and analyst reports

www.hpe.com/storage/whitepapers

MSA websites

MSA 2050 manuals page:

http://www.hpe.com/support/msa2050

MSA 2050 product page:

http://www.hpe.com/support/msa2050

HPE Passport for MSA arrays

http://h20564.www2.hpe.com/hpsc/doc/public/display?docLocale=en_US&docId=emr_na-c05349541

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