

Warning: The MSA20 disk array weighs 24 kg (53 lb) full. At least two people are required to lift and rack mount the disk array.

Caution: Make sure that the rack and all equipment mounted in the rack has a reliable ground connection. Verify that the total current of the rack components does not exceed the current rating of the power distribution unit or outlet receptacles.

Warning: To reduce the risk of personal injury or damage to the equipment, before installing equipment be sure that:

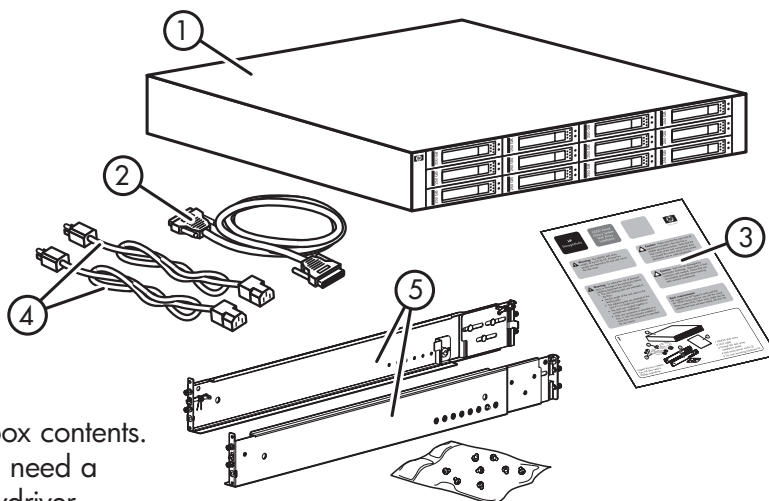
- The rack leveling jacks are extended to the floor.
- The full weight of the rack rests on the leveling jacks.
- The stabilizing feet are attached to the rack if it is a single-rack installation.
- The racks are coupled together in multiple-rack installations.
- Only one component is extended at a time. A rack may become unstable if more than one component is extended for any reason.

Caution: Parts can be damaged by electrostatic discharge. Keep parts in their containers until needed. Ensure that you are properly grounded when touching static sensitive components.

Rack requirements:

HP supports the HP System E racks and the HP 10000 Series racks for use with the virtual library system (VLS). Other racks might also be suitable, but have not been tested with the VLS.

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Inspect the box contents. You will also need a Phillips screwdriver.

- 1 MSA20 disk array
- 2 SCSI cable
- 3 Printed VLS disk array installation poster
- 4 Disk array power cords (2)
- 5 2U rack mounting hardware kit

2 Power down the node

If you are adding a disk array to an operating VLS, power down the node. If not, skip this step.

To power down the node:

1. Verify that any backup or restore operation has completed and that the VLS is idle.
2. Open a serial session and log in as the administrator as follows:
 - a. Connect a PC or workstation to the serial port on the rear of the VLS using the null-modem serial cable provided.
 - b. Establish a CLI session using a terminal emulation program, such as Windows Hyperterminal.
 - c. Enter `administrator` for the username.
 - d. Enter `admin` for the password.
3. Initiate a shutdown of the VLS by entering: `shutdownSystem` and then press **Enter**
4. When the VLS has completed its shutdown operation, press the node **Power On/Standby** button to place the node in standby mode. When the node activates standby power mode, the system power LED changes to amber.

3 Install the capacity license shipped with the capacity bundle

If you are installing a capacity bundle or an existing disk array to the VLS base configuration, install the capacity license for the additional disk array following the instructions in the *HP StorageWorks 6000 Virtual Library System User Guide*. Otherwise, skip this step.



Note: As an option, you can add an additional disk array to the VLS before installing its capacity license. However, a capacity violation will occur when the VLS node is powered up, disabling the VLS storage capacity so that the VLS is unable to perform read/write operations. Later, when the capacity license is installed and the VLS is rebooted, the VLS storage capacity is re-enabled.



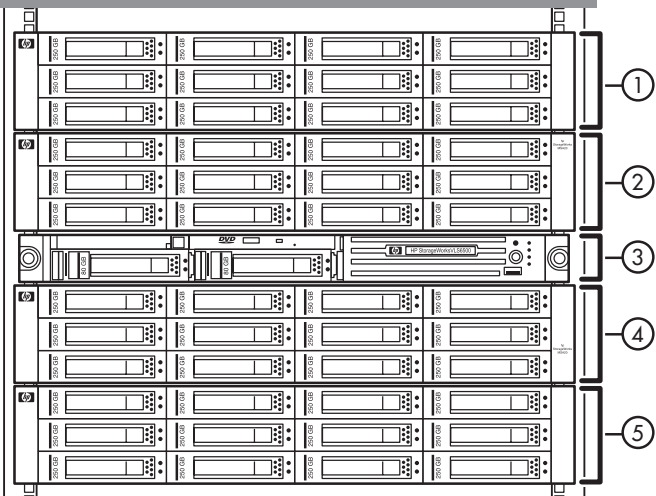
Note: The VLS 2.5TB capacity bundle contains an MSA20 disk array and the capacity license for the disk array. If you want to add an existing MSA20 disk array to the VLS, you must purchase the capacity license for the disk array separately.

4 Installing the disk array(s) in the rack

HP recommends that you mount the disk arrays in the following order.

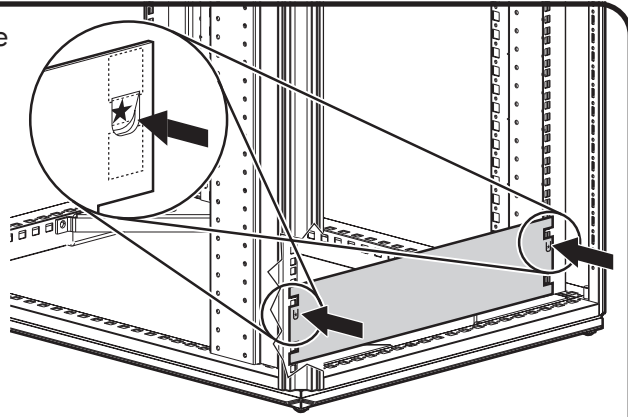
- 1 Disk array 4
- 2 Disk array 3
- 3 Node
- 4 Disk array 1
- 5 Disk array 2

Note: If the VLS node is not installed, install and cable it before installing the disk array(s). See the *HP StorageWorks 6000 Virtual Library System Node Installation* poster.



5 Use the 2U rack mounting template as a guide to indicate where on the rack the rails for the disk array are to be mounted.

- a. At the front of the rack, with the front of the template facing you, align the lower edge of the template with the bottom of the rack (or the top of the previous rack component). Be sure that the lower edge of the template is level.
- b. Push the template tabs into the holes in the rack uprights to hold the template in place.
- c. Use a permanent marker pen to indicate the holes in the rack uprights into which the scissor-like locking latches are to be inserted, as specified by the template.
- d. Repeat these steps to mark the back of the rack, using the information on the back of the template as a guide to the required location of the locking latches in this case.



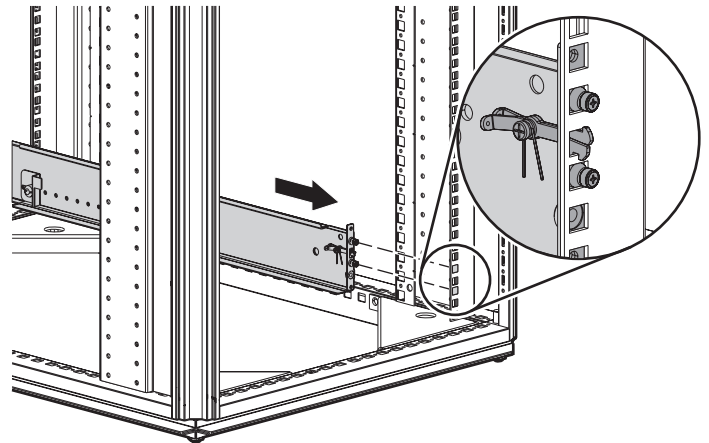
Warning: The pins in the rails are load-bearing. Do not remove the pins except to replace them with the pins for round-hole racks.

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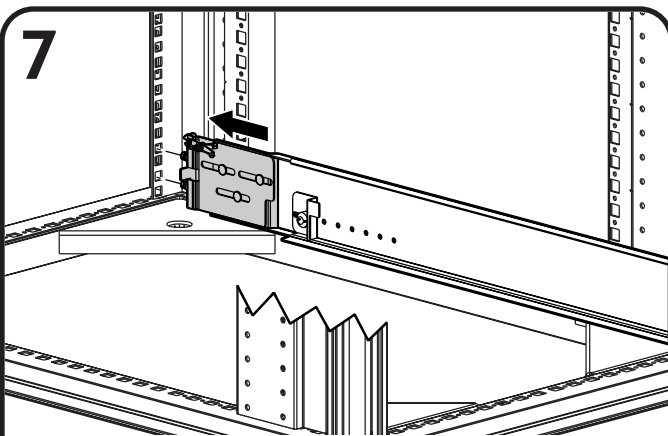
If the holes in the rack uprights are round instead of square, remove the standard pins from the rails and replace them with the round-hole pins provided in the rack mounting hardware kit.

Identify the left (L) and right (R) rack rails by markings stamped into the rails.

Slide the front end of the right rack rail toward the inside front of the rack until the locking latch engages with the marked hole in the front rack upright.

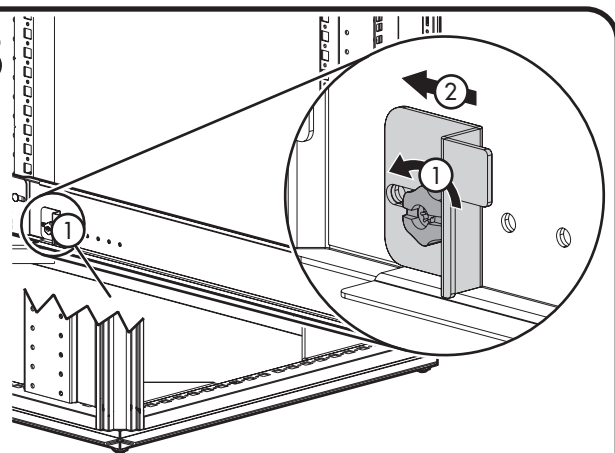


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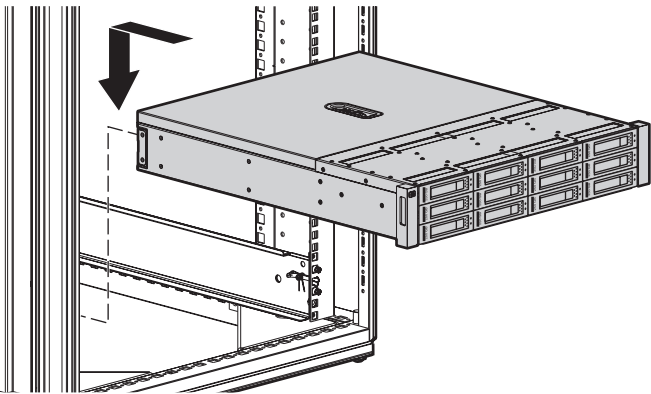
Extend the back end of the rail toward the inside rear of the rack until the locking latch engages with the marked hole in the rear rack upright.

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Loosen the locknut on the shipping bracket, and move the bracket to the rearmost position on the rail. Repeat steps 6 and 7 for the left rack rail.

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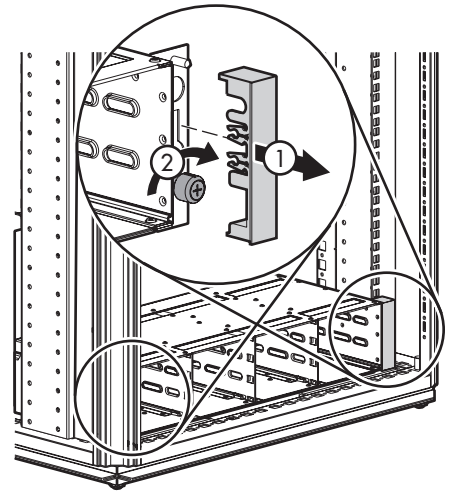


Align the disk array with the rails, and slide it into the rack.

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Remove the mounting bracket covers, and tighten the thumbscrews to secure the disk array to the rack.

Replace the mounting bracket covers.

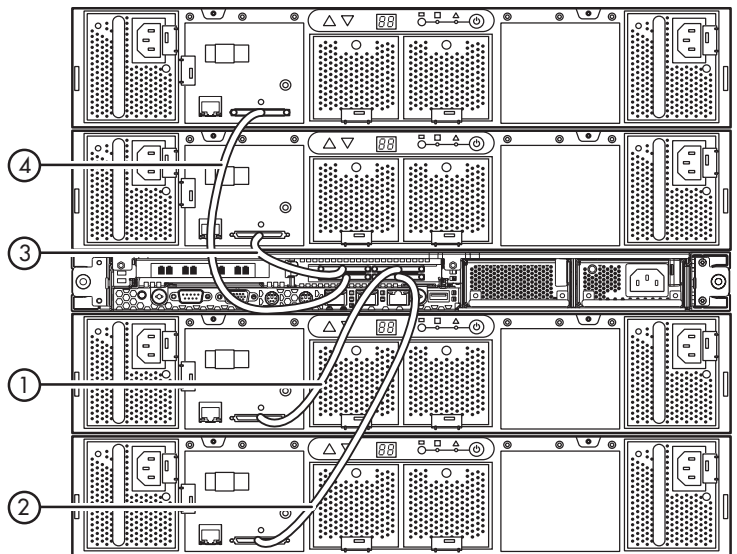


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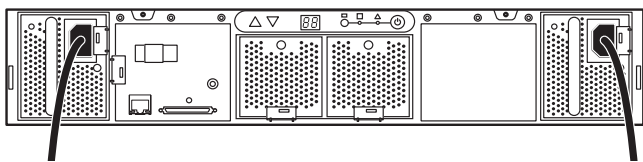
Cabling

Connect the VHDCI connector on the disk array to the appropriate VHDCI connector on the node as shown.

1. VHDCI connector A1, connect to disk array 1
2. VHDCI connector A2, connect to disk array 2
3. VHDCI connector B1, connect to disk array 3
4. VHDCI connector B2, connect to disk array 4



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Connect the AC input socket of each disk array power supply to an AC power source.

Hardware installation is complete. You may now power up the disk array(s) and then the node as described in the *HP StorageWorks 6000 Virtual Library System User Guide*.



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