

# ThinkSystem DE2000H, DE4000H, DE4000F, DE6000H, DE6000F, DE120S, and DE240S Storage Systems

## Installation and Setup Instructions for 2U Enclosures

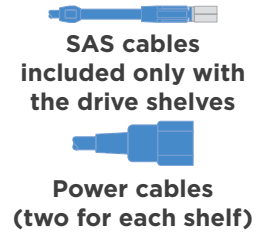
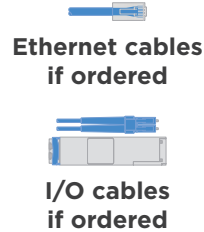
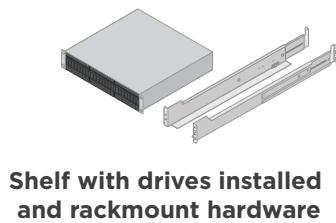
Machine Types: DE2000H (7Y70, 7Y71), DE4000H (7Y74, 7Y75), DE4000F (7Y76), DE6000H (7Y78), DE6000F (7Y79), DE120S (7Y63), and DE240S (7Y68)

### Prepare for installation | Stage 1

#### Pre-setup

- Create an account and register your hardware at [datacentersupport.lenovo.com](http://datacentersupport.lenovo.com)
- Inventory cables and make note of the quantity.
- Confirm that your location provides 100-240V AC power.

#### In the box



#### You provide



A standard 19 in. (48.30 cm) rack to fit 2U shelves of the following dimensions:

<b>Shelf:</b> 12-drive	<b>Shelf:</b> 24-drive
<b>Height:</b> 3.41 in. (8.68 cm)	<b>Height:</b> 3.34 in. (8.48 cm)
<b>Width:</b> 17.6 in. (44.7 cm)	<b>Width:</b> 17.6 in. (44.7 cm)
<b>Depth:</b> 21.1 in. (53.6 cm)	<b>Depth:</b> 19.0 in. (48.3 cm)
<b>Max Weight:</b> 63.9 lb (29.0 kg)	<b>Max Weight:</b> 60.5 lb (27.4 kg)



#### HELPFUL LINKS

- **Lenovo Data Center Support Web site (worldwide):**  
<http://datacentersupport.lenovo.com>
- **Lenovo Data Center Support Web site (China):**  
<http://support.lenovo.com.cn/EsWeb/>

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# Install hardware | Stage 2

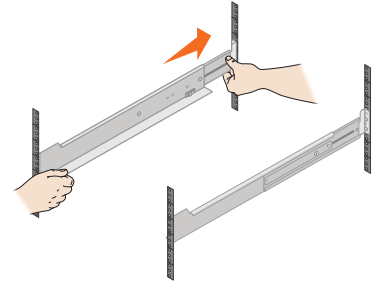
## 1 Unpack the Hardware

Unpack the contents and inventory the contained hardware against the packing slip. Read through all the instructions before proceeding.

## 2 Install the Rails

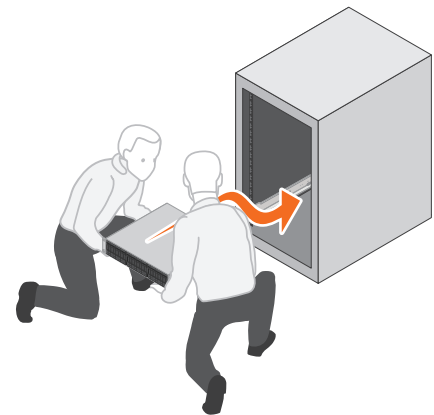
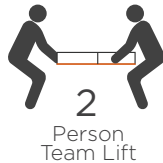
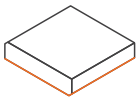
Refer to the enclosed instructions for detailed information on how to install the rails. To download the instructions, go to [Lenovo Data Center Support Web site](#).

**NOTE:** Install hardware from the bottom of the rack up to the top to prevent the equipment from toppling over.



## 3 Install the Shelf

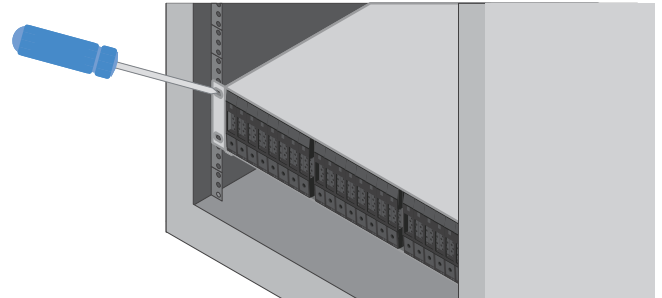
**CAUTION:** When fully loaded with drives, each shelf weighs approximately 64 lb (29 kg). Two persons or mechanical lift are required to safely move the shelf.



1. Starting with the shelf you want at the bottom of the rack, place the back of the shelf (the end with the connectors) on the rails.
2. Supporting the shelf from the bottom, slide it into the rack.

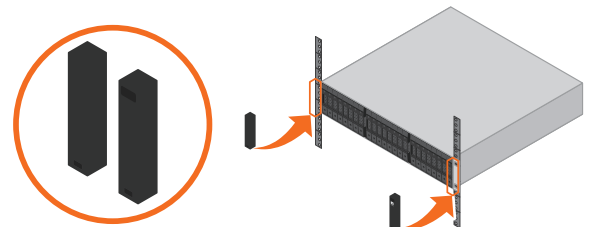
## 4 Secure the Shelf

1. Temporarily remove the left and right end caps to gain access to the enclosure flanges.
2. Secure the shelf to the rack as directed in the instructions for the rack-mounting hardware.



## 5 Install the End Caps

1. Position the left end cap in front of the drive shelf so that the holes in the end cap align with the fasteners on the left side of the shelf.
2. Snap the end cap into place.
3. Repeat the above steps for the right end cap.



## Cable the Shelves

Cable the system according to your configuration. Examples are shown in this section. For more cabling options, see *ThinkSystem DE-Series Hardware Installation and Maintenance Guide for 2U Enclosures*.

### Cable a controller shelf and three drive shelves

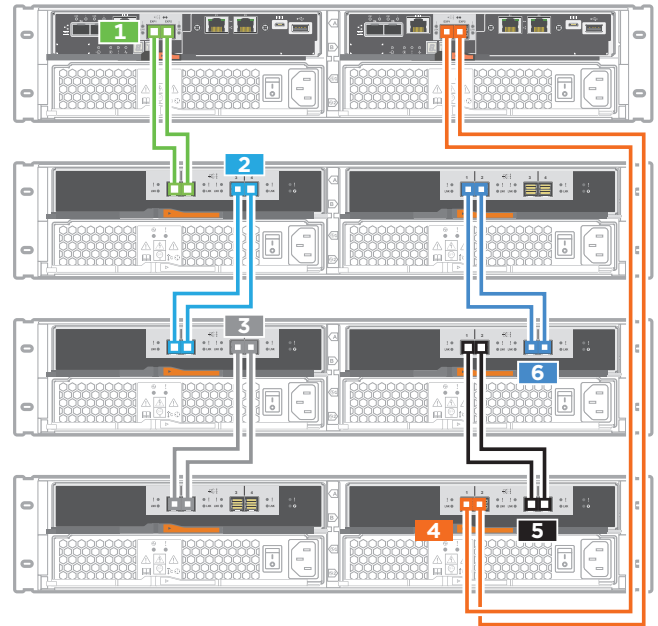
**A**  
Example



• Storage cables

- 1 Cable controller A to IOM A of the first drive shelf.
- 2 Cable IOM A of the first drive shelf to IOM A of the second drive shelf.
- 3 Cable IOM A of the second drive shelf to IOM A of the third drive shelf.
- 4 Cable controller B to IOM B of the third drive shelf.
- 5 Cable IOM B of the second drive shelf to IOM B of the third drive shelf.
- 6 Cable IOM B of the first drive shelf to IOM B of the second drive shelf.

Example A: DE6000H or DE6000F controller shelf with three DE120S/DE240S drive shelves in a standard SAS configuration.



### Cable a controller shelf and one drive shelf

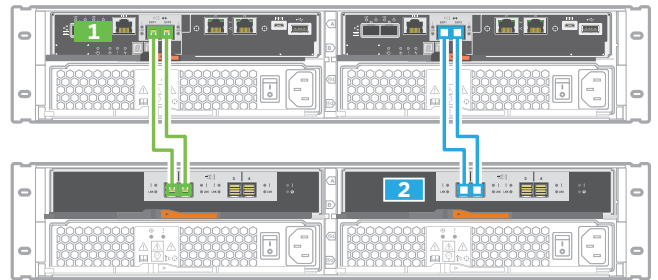
**B**  
Example



• Storage cables

- 1 Cable controller A to IOM A.
- 2 Cable controller B to IOM B.

Example B: A DE6000H controller shelf with one DE120S/DE240S drive shelf in a standard SAS configuration.

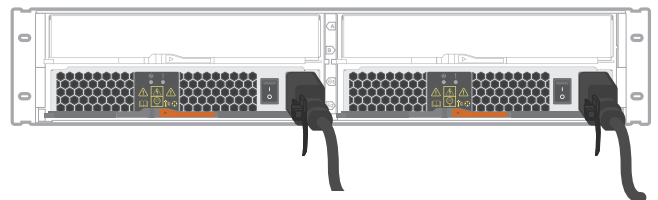


## Power the Drive Shelves



- ▲ **CAUTION:** Confirm the drive shelf power switches are off.
1. Connect the two power cables for each shelf to different power distribution units (PDUs) in the rack.
  2. If you have drive shelves, turn on their two power switches first. Wait 2 minutes before applying power to the controller shelf.
  3. Turn on the two power switches on the controller shelf.
  4. Check the LEDs and seven-segment display on each controller. During the boot sequence, the seven-segment display will display various codes. After the controller has booted up, the shelf ID will be displayed.

Example: Power connections are on the rear of the shelf.



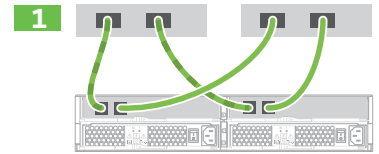
## Cable the Data Hosts

Cable the system according to your network topology.

**A**  
Option

### Direct-attach topology

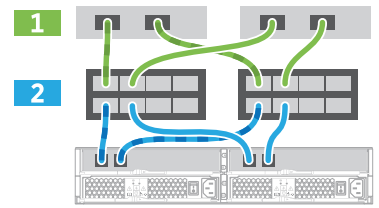
- 1 Connect each host adapter directly to the host ports on the controllers.



**B**  
Option

### Fabric topology

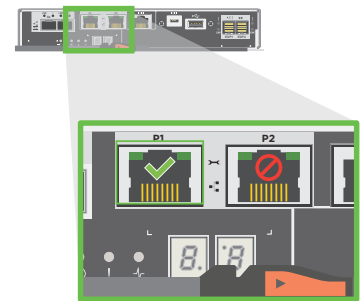
- 1 Connect each host adapter directly to the switch.
- 2 Connect each switch directly to the host ports on the controllers.



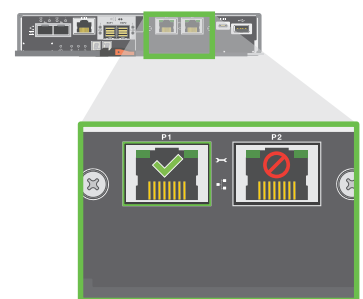
## Connect and Configure the Management Connection

1. Using an Ethernet cable, connect to controller A port 1 (P1) to the ethernet port on your laptop.
2. Manually specify the following IP address and subnet mask on the laptop's Ethernet port that you have physically connected to the storage array:  
IP address: 192.168.128.100  
Subnet mask: 255.255.255.0
3. Use the laptop's browser to access the storage array's management software using the following IP address:  
IP address: 192.168.128.101
4. In the management software, go to the Hardware tab and select Show back of shelf under Controller Shelf. Highlight controller B, and then select Configure management ports to set the IP addresses for management port 1 on controller B. Do not configure management port 2. This port is reserved for Lenovo technical support. After you have configured controller B's management port, repeat for controller A.
5. Disconnect your laptop from the storage array and connect an Ethernet cable to management port 1 (labeled P1) on each DE2000H, DE4000H, DE4000F, DE6000H, or DE6000F controller and connect the other end to your network.

DE2000H or DE4000H controller



DE6000H controller



## After Installing the Hardware

1. Use the ThinkSystem SAN OS software to configure and manage your storage arrays.
2. In the simplest network configuration, connect your controller to a web browser and use ThinkSystem System Manager for managing a single DE-series storage array.
3. In a more complex environment, use the ThinkSystem SAN Manager for managing multiple storage arrays.

