

Servicing the Lenovo ThinkSystem SR630



ES71744

July 2017



Prerequisites

- ES41758 - ThinkSystem servers architecture introduction
<https://lenovoedu.lenovo.com/course/view.php?idnumber=ES41758>
- ES51757 - Introducing ThinkSystem tools
<https://lenovoedu.lenovo.com/course/view.php?idnumber=ES51757>
- ES41759 - ThinkSystem problem determination
<https://lenovoedu.lenovo.com/course/view.php?idnumber=ES41759>
- ES51780 - Servicing the ThinkSystem storage controllers
<https://lenovoedu.lenovo.com/course/view.php?idnumber=ES51780>

Objectives

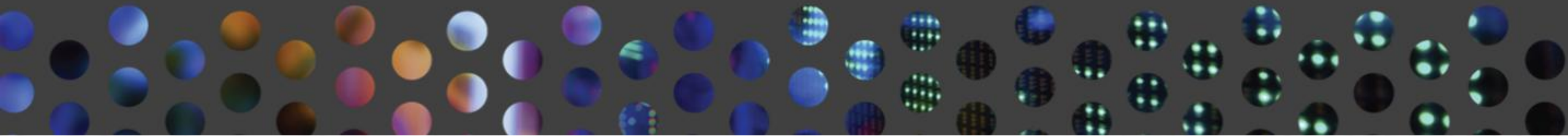
After completing the course, you will be able to:

- Describe the Lenovo ThinkSystem SR630 MT 7X01 and MT 7X02 server and components.
- List the Lenovo ThinkSystem SR630 MT 7X01 and MT 7X02 server specifications.
- List the Lenovo ThinkSystem SR630 MT 7X01 and MT 7X02 server configurations and diagrams.



➞ Product overview

Front, rear, inside view, product description



Lenovo ThinkSystem SR630 server product overview

The ThinkSystem SR630 (MT 7X01 and MT 7X02) is a 1U rack server designed to be highly flexible to support many kinds of IT workloads. This high-performance, multicore server is ideally suited for IT environments that require superior processor performance, I/O flexibility, and flexible manageability.

Front view

The front view of the server varies by model.

The front panel contains:

- One USB 2.0
- One USB 3.0
- **a** Power button (Green)
- **b** Network LED (Green)
- **c** System locator LED (Blue)
- **d** System error LED (Yellow)

Chassis:

- 1U Rack

Bays:

Click different bay configurations for details.

Four 3.5-inch
bays

Eight 2.5-inch
bays

Ten 2.5-inch
bays with
AnyBay



Front view of server model with four 3.5-inch drive bays



Front view of server model with eight 2.5-inch drive bays SAS/SATA configuration with the optional VGA

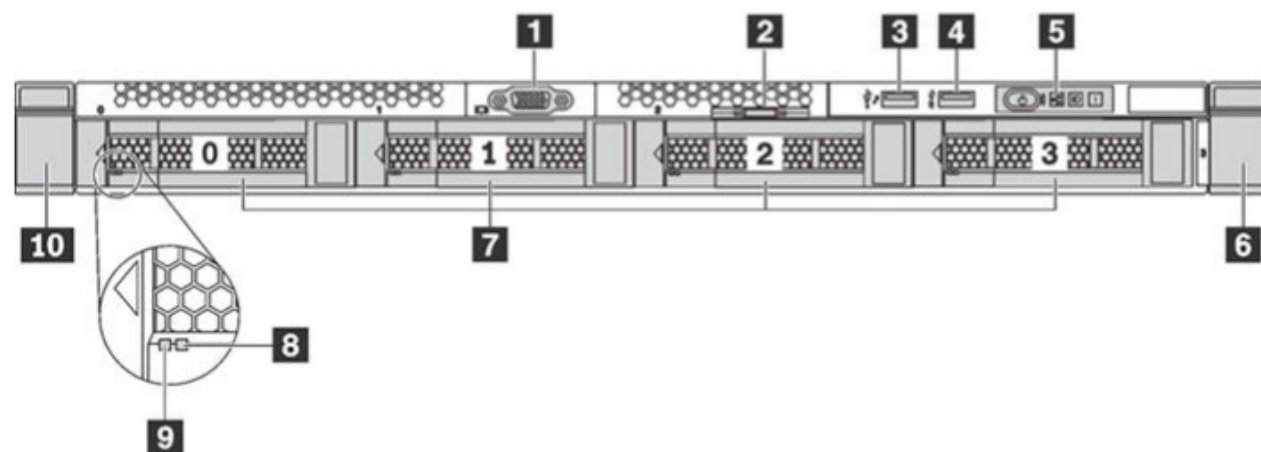


Front view of server model with ten 2.5-inch drive bays with AnyBay and optional VGA



Front view of server model with four 3.5-inch drive bays

X



Components on the front of the server:

1 VGA connector (available on some models)

2 Pull-out information tab

3 USB 2.0 connector

4 USB 3.0 connector

5 Operator information panel

6 Rack latch (right)

7 Hot-swap drive bays

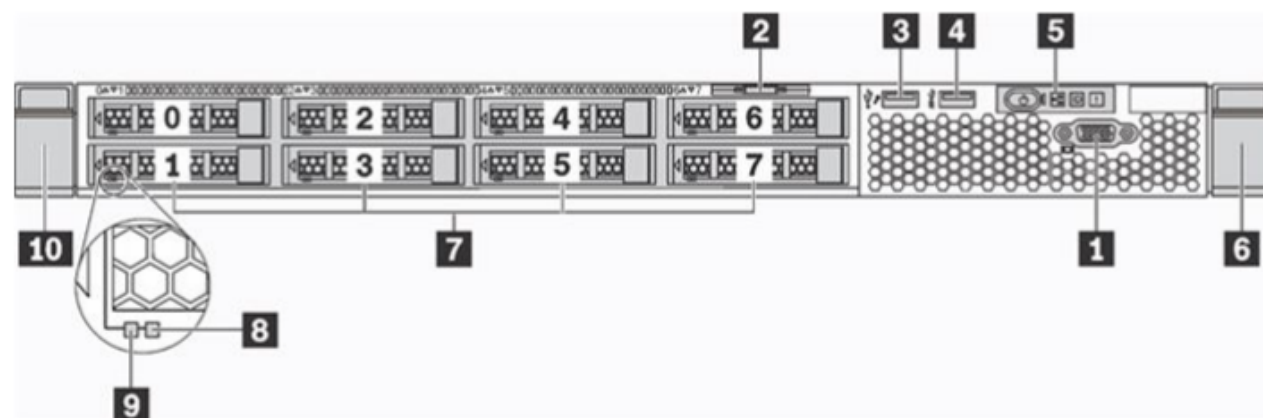
8 Drive status LED (yellow)

9 Drive activity LED (green)

10 Rack latch (left)

0 to 3 Drive 0 to drive 3

Front view of server model with eight 2.5-inch drive bays



Components on the front of the server:

1 VGA connector (available on some models)

2 Pull-out information tab

3 USB 2.0 connector

4 USB 3.0 connector

5 Operator information panel

6 Rack latch (right)

7 Hot-swap drive bays

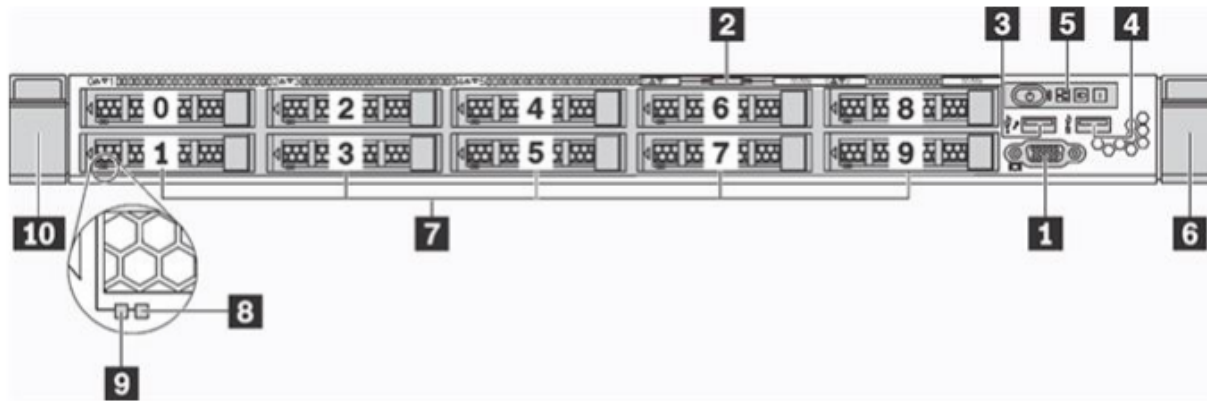
8 Drive status LED (yellow)

9 Drive activity LED (green)

10 Rack latch (left)

0 to **7** Drive 0 to drive 7

Front view of server model with ten 2.5-inch drive bays



Components on the front of the server:

1 VGA connector (available on some models)

2 Pull-out information tab

3 USB 2.0 connector

4 USB 3.0 connector

5 Operator information panel

6 Rack latch (right)

7 Hot-swap drive bays

8 Drive status LED (yellow)

9 Drive activity LED (green)

10 Rack latch (left)

0 to **9** Drive 0 to drive 9

Front view – information panel

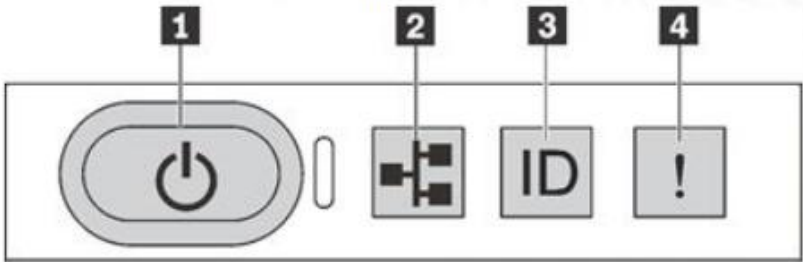
Components on the operator information panel:

- 1 Power button with power status LED
- 2 Network activity LED
- 3 System ID button with ID LED
- 4 System error LED

Power button status LED

Status	Color	Description
Solid on	Green	The server is on and running.
Slow blinking (about one flash per second)	Green	The server is off and is ready to be powered on (standby state).
Fast blinking (about four flashes per second)	Green	The server is off, but the Lenovo XClarity controller is initializing, and the server is not ready to be powered on.
Off	None	There is no ac power applied to the server.

Operator information panel controls and LEDs



Network activity LED

Status	Color	Description
On	Green	The server is connected to a network.
Blinking	Green	The network is connected and active.
Off	None	The server is disconnected from the network.

Rear view

The rear of the SR630 server provides access to the following components:

- PCIe adapters
- Hot-swap drive bays

Click different slot configurations for more information.

PCIe slot 1 PCIe slot 2 PCIe slot 3



PCIe slot 1
Low profile PCIe slot 2
Full height



Two 2.5-inch
rear HDD PCIe slot 3
Low profile



Click these configurations



Three low-profile PCIe slots

One low-profile slot and one
full-height, half-length (FHHL)

Two 2.5-inch hard-disk drives (HDDs)
and one low-profile PCIe slot

Rear view of server models with three PCIe slots

The rear of the server provides access to several connectors and components, including the power supplies, PCIe adapters, hot-swap drive bays, serial port, and Ethernet connectors.

The SR630 server with three PCIe slots supports three types of riser cards for the riser 1 assembly:

Type 1

- Slot 1: PCIe x8 (x8, x4, x1), low profile
- Slot 2: PCIe x16 (x16, x8, x4, x1), low profile

Type 2

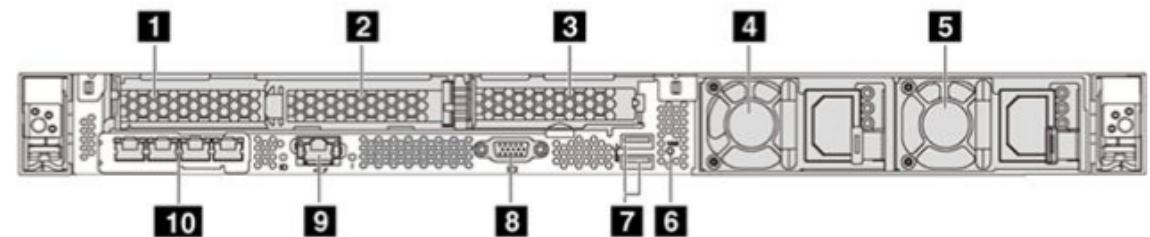
- Slot 1: ML2 x8 (x8, x4, x1), low profile
- Slot 2: PCIe x16 (x16, x8, x4, x1), low profile

Type 3

- Slot 1: ML2 x16 (x16, x8, x4, x1), low profile
- Slot 2: PCIe x8 (x8, x4, x1), low profile

PCIe slot on riser 2 assembly:

- Slot 3: PCIe x16 (x16, x8, x4, x1), low profile



Components on the rear of the server:

- 1** PCIe slot 1 on riser 1 assembly
- 2** PCIe slot 2 on riser 1 assembly
- 3** PCIe slot 3 on riser 2 assembly
- 4** Power supply 1
- 5** Power supply 2 (available on some models)
- 6** NMI button
- 7** USB 3.0 connectors
- 8** VGA connector
- 9** XClarity Controller network connector
- 10** Ethernet connectors on LOM adapter (available on some models)

Rear view of server models with two PCIe slots

The rear of the server provides access to several connectors and components, including the power supplies, PCIe adapters, hot-swap drive bays, serial port, and Ethernet connectors.

The SR630 server with two PCIe slots supports three types of riser cards for the riser 1 assembly:

Type 1

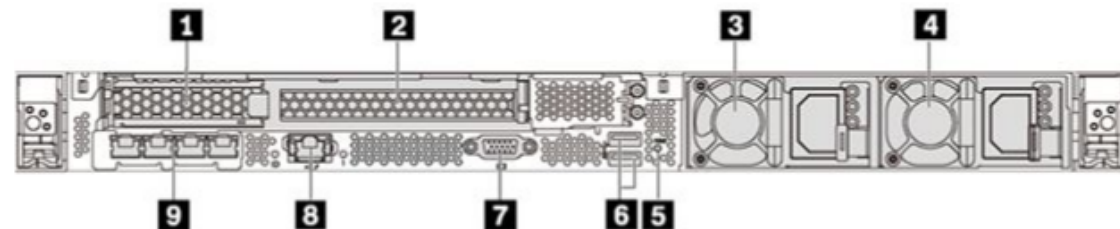
- Slot 1: PCIe x8 (x8, x4, x1), low profile
- Slot 2: PCIe x16 (x16, x8, x4, x1), full-height, half-length

Type 2

- Slot 1: ML2 x8 (x8, x4, x1), low profile
- Slot 2: PCIe x16 (x16, x8, x4, x1), full-height, half-length

Type 3

- Slot 1: ML2 x16 (x16, x8, x4, x1), low profile
- Slot 2: PCIe x8 (x8, x4, x1), full-height, half-length



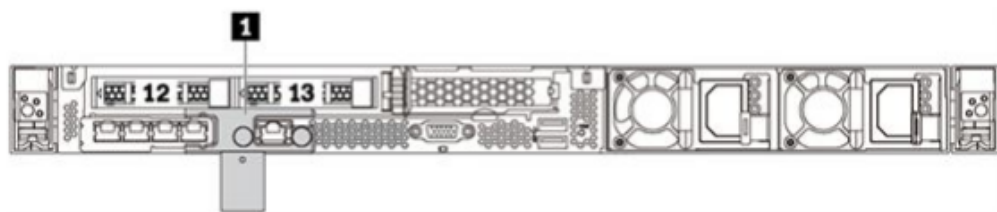
Components on the rear of the server:

- 1** PCIe slot 1 on riser 1 assembly
- 2** PCIe slot 2 on riser 1 assembly
- 3** Power supply 1
- 4** Power supply 2
(available on some models)
- 5** NMI button
- 6** USB 3.0 connectors
- 7** VGA connector
- 8** XClarity Controller network connector
- 9** Ethernet connectors on LOM adapter
(available on some models)

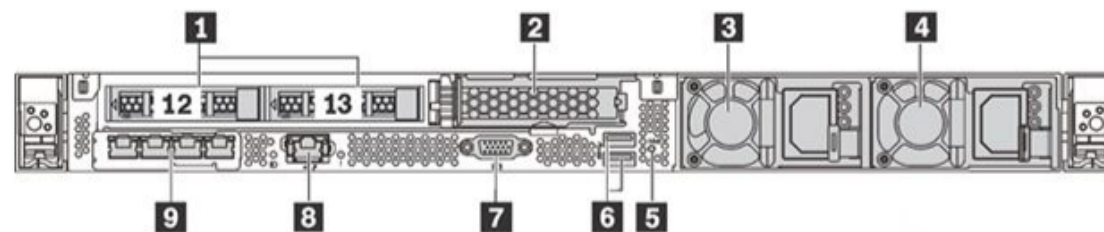
Rear view of server models with two hot-swap drive bays and one PCIe slot

This rear view shows the server model with two hot-swap drive bays and one PCIe slot.

Attention: Before turning on the server, be sure to remove the shipping bracket. For server models with two hot-swap drive bays in the rear, if the server is installed in a rack for shipping, be sure to install the shipping bracket.



1 Shipping bracket



Components on the rear of the server:

- 1** Rear 2.5-inch drive bays
- 2** PCIe slot 3
- 3** Power supply 1
- 4** Power supply 2 (available on some models)
- 5** NMI button
- 6** USB 3.0 connectors
- 7** VGA connector
- 8** XClarity Controller network connector
- 9** Ethernet connectors on LOM adapter (available on some models)

Rear view – LEDs

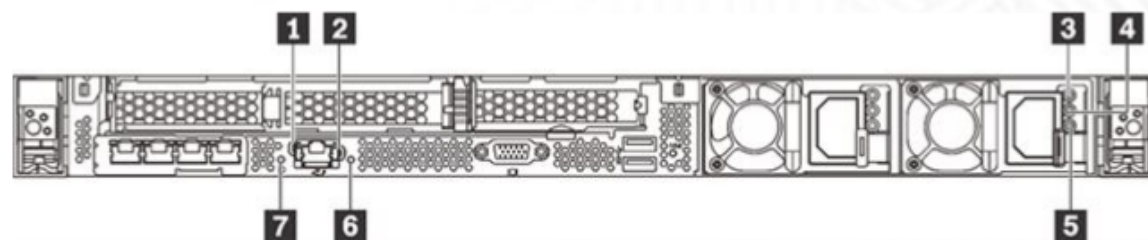
There are three types of LEDs:

- System LEDs:
 - The system error LED helps you to determine if there are any system errors.
 - The blue system ID LED helps you to visually locate the server. A system ID LED is also located on the front of the server.
- Ethernet LEDs:
 - Click [Ethernet link and activity LEDs](#) to view more information.
- Power LED:
 - Click [Power LED](#) to view more information.

[Ethernet link and activity LEDs](#)

[Power LED](#)

Rear view LEDs of server models with three PCIe slots



- 1** Ethernet link LED
- 2** Ethernet activity LED
- 3** Power input LED
- 4** Power output LED
- 5** Power supply error LED
- 6** System error LED
- 7** System ID LED

Rear view – LEDs

There are three types of LEDs:

Rear view LEDs of server models with three PCIe slots

- System LEDs:

LED	Color	Status	Description
Ethernet link LED	Green	On	The server is connected to a LAN
	None	Off	The server is disconnected from a LAN.
Ethernet activity LED	Green	blinking	The LAN is connected and active.
	None	Off	The LAN is not active.

- Power LED:
 - Click **Power LED** to view more information.

Power LED

- 5 Power supply error LED
- 6 System error LED
- 7 System ID LED

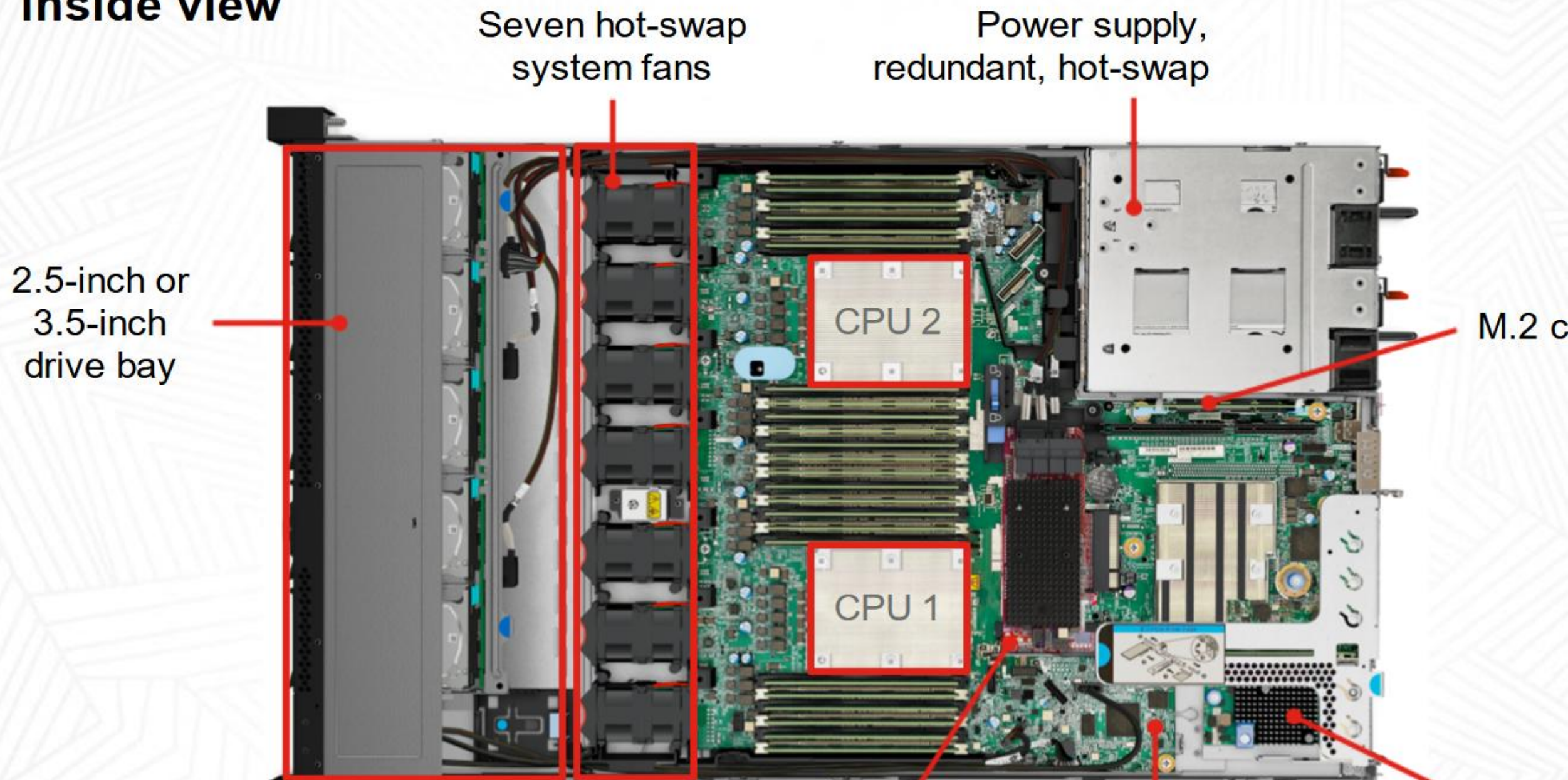


Rear view – LEDs

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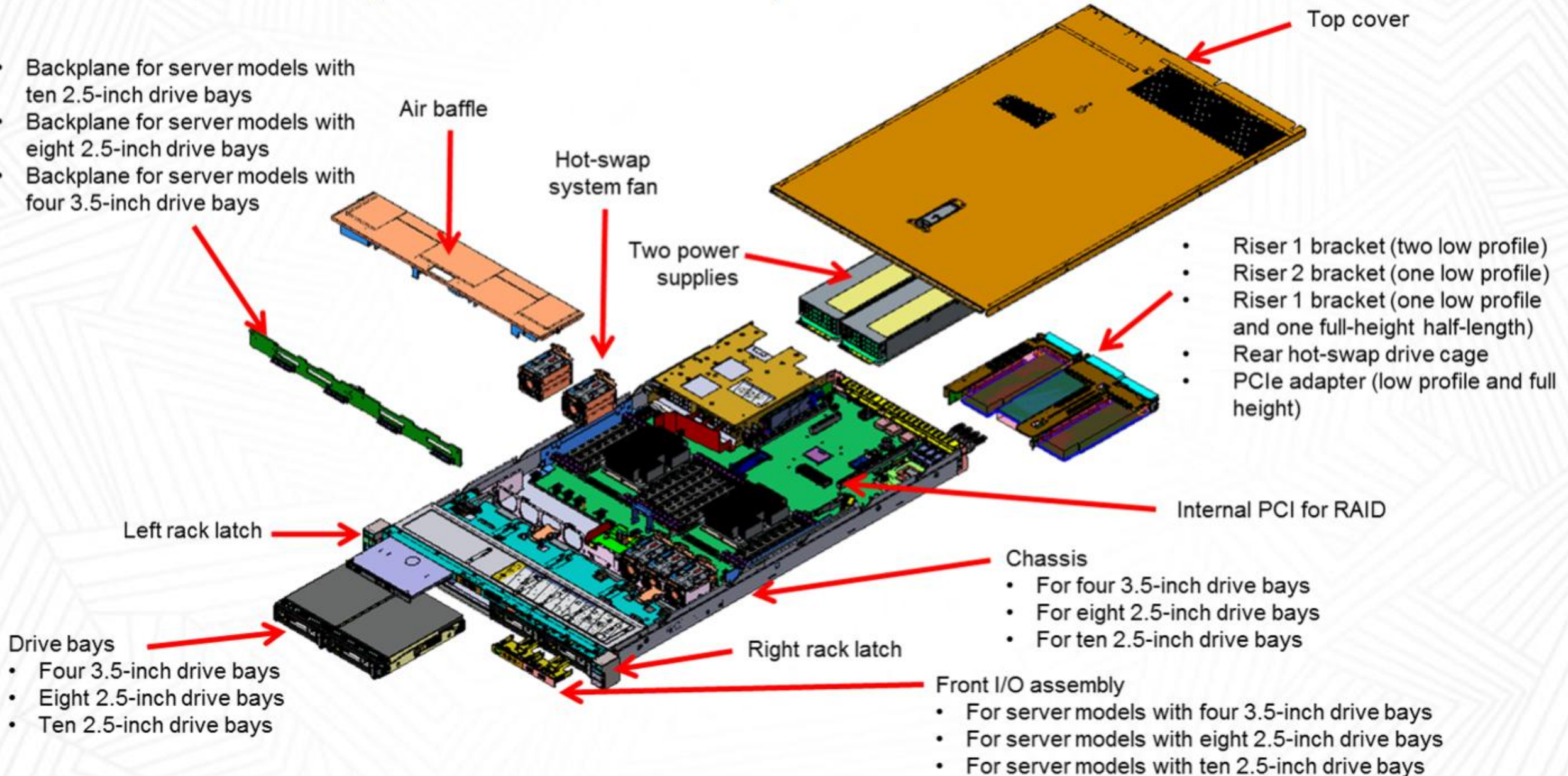
LED	Status
Power input LED	Green: The power supply is connected to the ac power source. Off: The power supply is disconnected from the ac power source or a power problem occurs.
Power output LED	Green: The server is on and the power supply is working normally. Blinking green: The power supply is in the zero-output mode (standby). The zero-output mode is enabled by default. If you disable the zero-out mode, both power supplies will be in the active state. Off: The server is powered off, or the power supply is not working properly. If the server is powered on but the LED is off, replace the power supply.
Power supply error LED	Yellow: The power supply has failed. To resolve the issue, replace the power supply. Off: The power supply is working normally.

Inside view



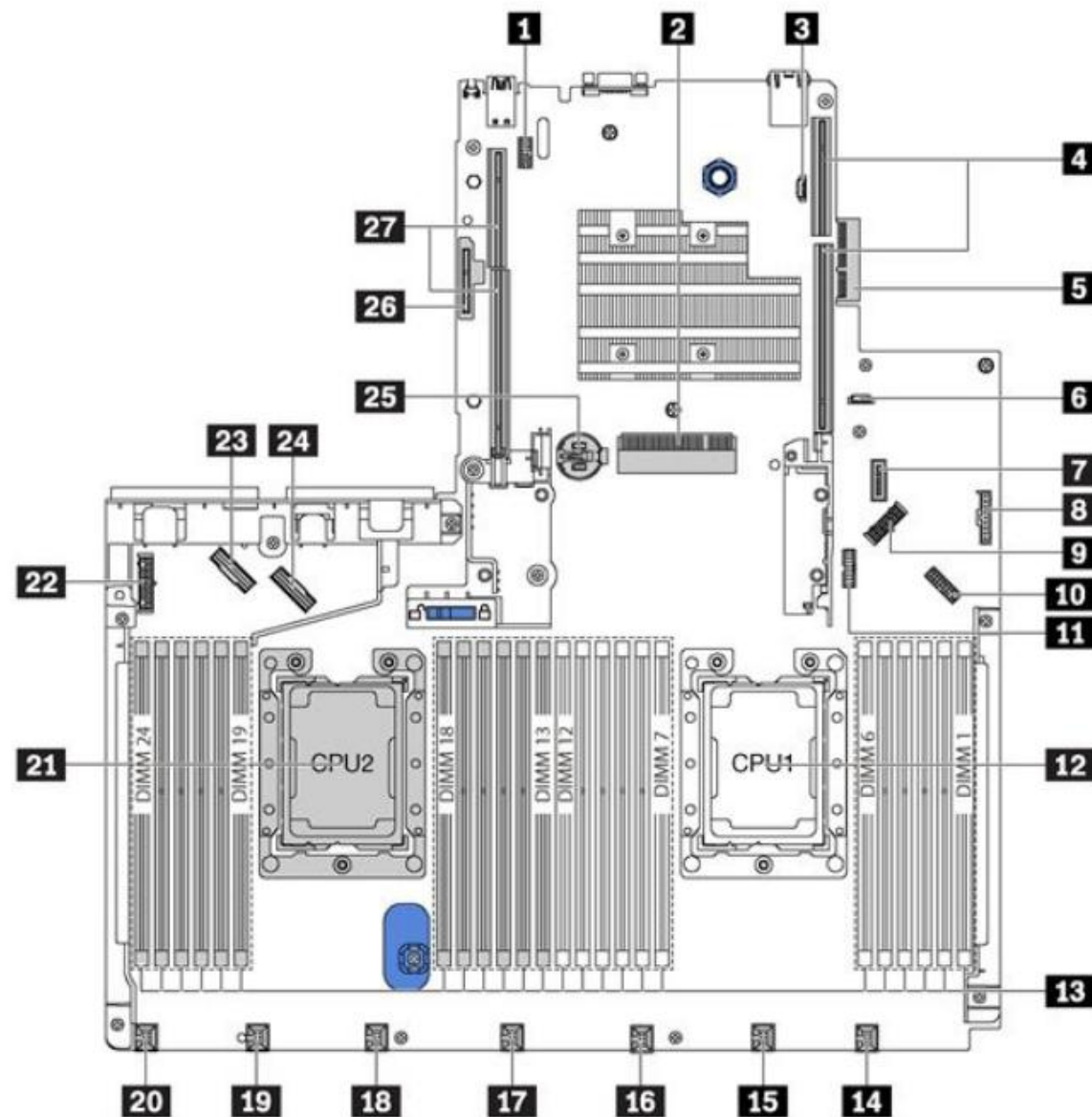
Lenovo ThinkSystem SR630 components

- Backplane for server models with ten 2.5-inch drive bays
- Backplane for server models with eight 2.5-inch drive bays
- Backplane for server models with four 3.5-inch drive bays



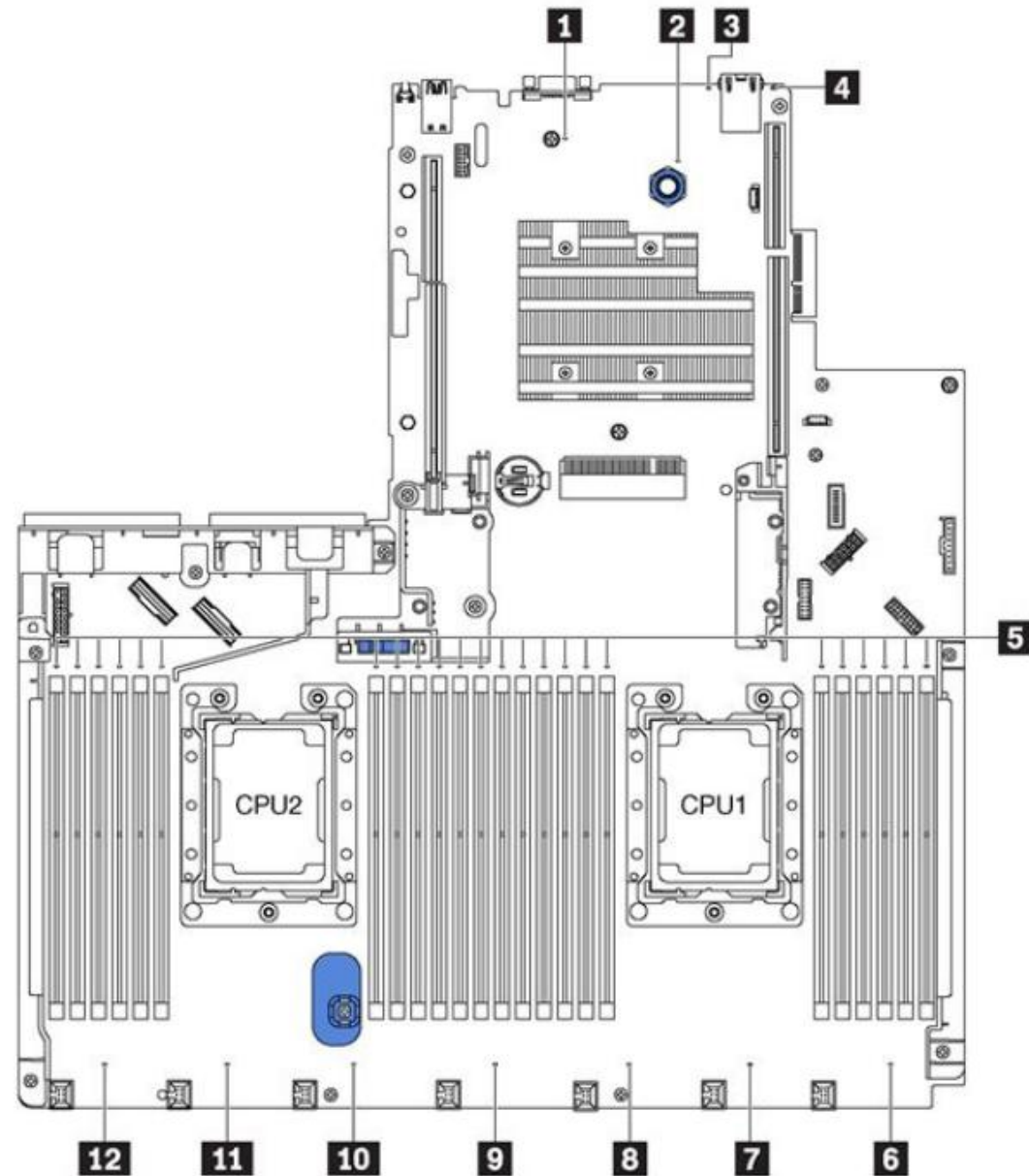
System board components

- | | |
|---|--|
| 1 Serial-port-module connector | 14 System fan 1 connector |
| 2 RAID adapter slot (slot 4) | 15 System fan 2 connector |
| 3 BIOS ROM programming connector | 16 System fan 3 connector |
| 4 Riser 1 slot | 17 System fan 4 connector |
| 5 LOM adapter connector | 18 System fan 5 connector |
| 6 IMM ROM programming connector | 19 System fan 6 connector |
| 7 Front USB connector | 20 System fan 7 connector |
| 8 Operator-information-panel connector | 21 Processor 2 socket |
| 9 Rear-backplane power connector | 22 Front-backplane power connector |
| 10 Front VGA connector | 23 NVMe 2-3 connector |
| 11 Trusted Cryptography Module (TCM) connector (only available in China) | 24 NVMe 0-1 connector |
| 12 Processor 1 socket | 25 CMOS battery |
| 13 DIMM slots (24) | 26 M.2 module slot (SATA/PCIe slot 5) |
| | 27 Riser 2 slot |



System board LEDs

- 1** Power LED
- 2** Heartbeat LED
- 3** System error LED
- 4** System ID LED
- 5** DIMM error LEDs
- 6** System fan 1 error LED
- 7** System fan 2 error LED
- 8** System fan 3 error LED
- 9** System fan 4 error LED
- 10** System fan 5 error LED
- 11** System fan 6 error LED
- 12** System fan 7 error LED



System board jumpers

Callout	Jumper	Setting
1	J50: Override power-on password jumper	Pins 1 and 2: The jumper is in default setting. Pins 2 and 3: Override the power-on password.
2	J46: TPM/TCM physical presence jumper * TPM: Trusted Platform Module* TCM: Trusted Cryptography Module (for China only)	Pins 1 and 2: The jumper is in default setting. Pins 2 and 3: TPM/TCM physical presence is asserted.
3	J45: Force XCC update jumper	Pins 1 and 2: The jumper is in default setting. Pins 2 and 3: Force the XCC to update to the latest version.
4	J181: Force XCC reset jumper	Pins 1 and 2: The jumper is in default setting. Pins 2 and 3: Reset the XCC.
5	J95: Clear CMOS jumper	Pins 1 and 2: The jumper is in default setting. Pins 2 and 3: Clear the real-time clock (RTC) registry.

