Product overview

Product description and front, rear, and inside views

ThinkSystem SR630 V3 product overview

The SR630 V3 (machine types 7D72 and 7D73) is a 1U two-socket (1U2S) rack server that features 4th Generation Intel Xeon Scalable processors (Intel code name: Sapphire Rapids) and is the successor to the SR630 V2 server. The chassis supports either 3.5-inch or 2.5-inch hard drives, and an expander can be used to support rear drives (2.5-inch or 3.5-inch). Up to three single-width GPUs are also supported with limitations.

SR630 V3 specifications

Scroll down for more information

Attribute	Specifications
Form factor	1U2S rack mount
Processor	One or two 4th Generation Intel Xeon Scalable processors (codename: Sapphire Rapids) – Bronze, Silver, Gold, or Platinum level, up to 350 W. Up to 4 UPI links between processors at 16 GT/s.
Memory	Up to 32 DIMM slots (16 DIMMs per processor) • Eight channels per CPU • Two DIMMs per channel • 32 DDR5 DIMMs – 1DPC 4800 MHz , 2DPC 4400 MHz
Disk drive bays	Front bay: • 10 2.5-inch hot-swap: All AnyBay • 10 2.5-inch hot-swap: All NVMe • 10 2.5-inch hot-swap: 6 SAS/SATA + 4 AnyBay • 10 2.5-inch hot-swap: 6 SAS/SATA + 4 NVMe • 10 2.5-inch hot-swap: 6 SAS/SATA + 2 AnyBay + 2 NVMe • Eight 2.5-inch hot-swap SAS/SATA • 16 EDSFF E1.S form factor hot-swap drives • Four 3.5-inch hot-swap SAS/SATA • Four 3.5-inch hot-swap AnyBay

Note: For the latest specifications, refer to the Lenovo Press product guide.

SR630 V3 specifications

Scroll down for more information

Attribute	Specifications
	Rear bay: • Two 2.5-inch hot-swap SAS/SATA bays • Two 2.5-inch hot-swap NVMe bays • Two 7 mm 2.5-inch hot-swap SATA bays • Two 7 mm 2.5-inch hot-swap NVMe bays Internal M.2 module supporting up to two M.2 drives for OS boot and drive storage support
Network interface	Dedicated OCP 3.0 SFF slot with PCIe 5.0 x16 host interface – supports a variety of two-port and four-port adapters with 1, 10, 25, and 100 GbE network connectivity.
PCIe expansion slots	Supports up to three PCIe slots (two PCIe 5.0 and one PCIe 4.0) plus one OCP NIC 3.0
GPU support	Three single-width GPUs with limitations
Cooling	Eight hot-swap fans – either standard or high-performance, depending on the system configuration
Power supplies	Two hot-swap redundant power supplies
Storage controller	• 12 Onboard SATA ports (non-RAID) • Up to 16 onboard NVMe ports (non-RAID) • NVMe retimer adapter (non-RAID)

Note: For the latest specifications, refer to the Lenovo Press product guide.

SR630 V3 specifications

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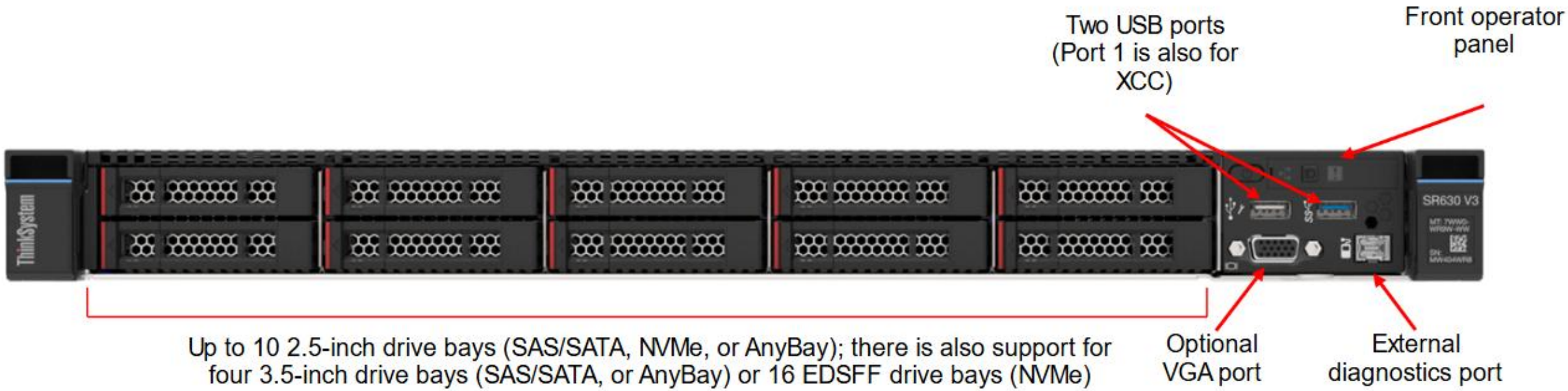
Attribute	Specifications
	with 1, 10, 25, and 100 GbE network connectivity.
PCIe expansion slots	Supports up to three PCIe slots (two PCIe 5.0 and one PCIe 4.0) plus one OCP NIC 3.0
GPU support	Three single-width GPUs with limitations
Cooling	Eight hot-swap fans – either standard or high-performance, depending on the system configuration
Power supplies	Two hot-swap redundant power supplies

Storage controller	• 12 Onboard SATA ports (non-RAID)
	• Up to 16 onboard NVMe ports (non-RAID)
	• NVMe retimer adapter (non-RAID)
	• 12 Gb SAS/SATA RAID adapters
	  • 8, 16, or 32 ports
	  • Up to 8 GB of flash-backed cache
	  • PCIe 4.0 or PCIe 3.0 host interface
	• 12 Gb SAS/SATA HBA (non-RAID)
	  • 8-port and 16-port
	  • PCIe 4.0 or PCIe 3.0 host interface

Note: For the latest specifications, refer to the Lenovo Press product guide.

Front view

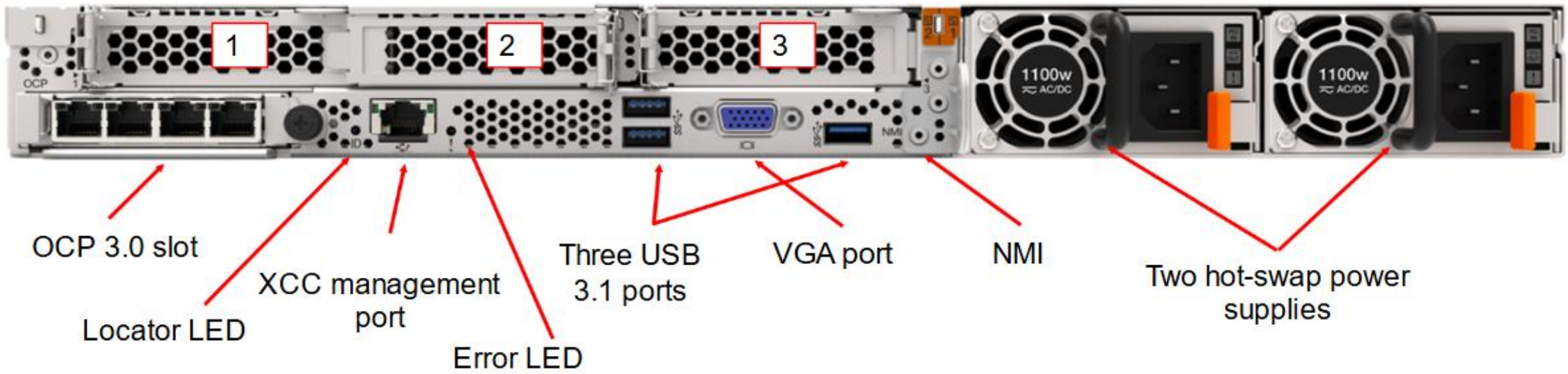
This figure shows the configuration with 10 2.5-inch drives. The other front drive configurations will be shown in the System configurations and diagrams section.



Note: For additional front hot-swap drive and PCIe slot configuration information, refer to the Front drive bay configurations page.

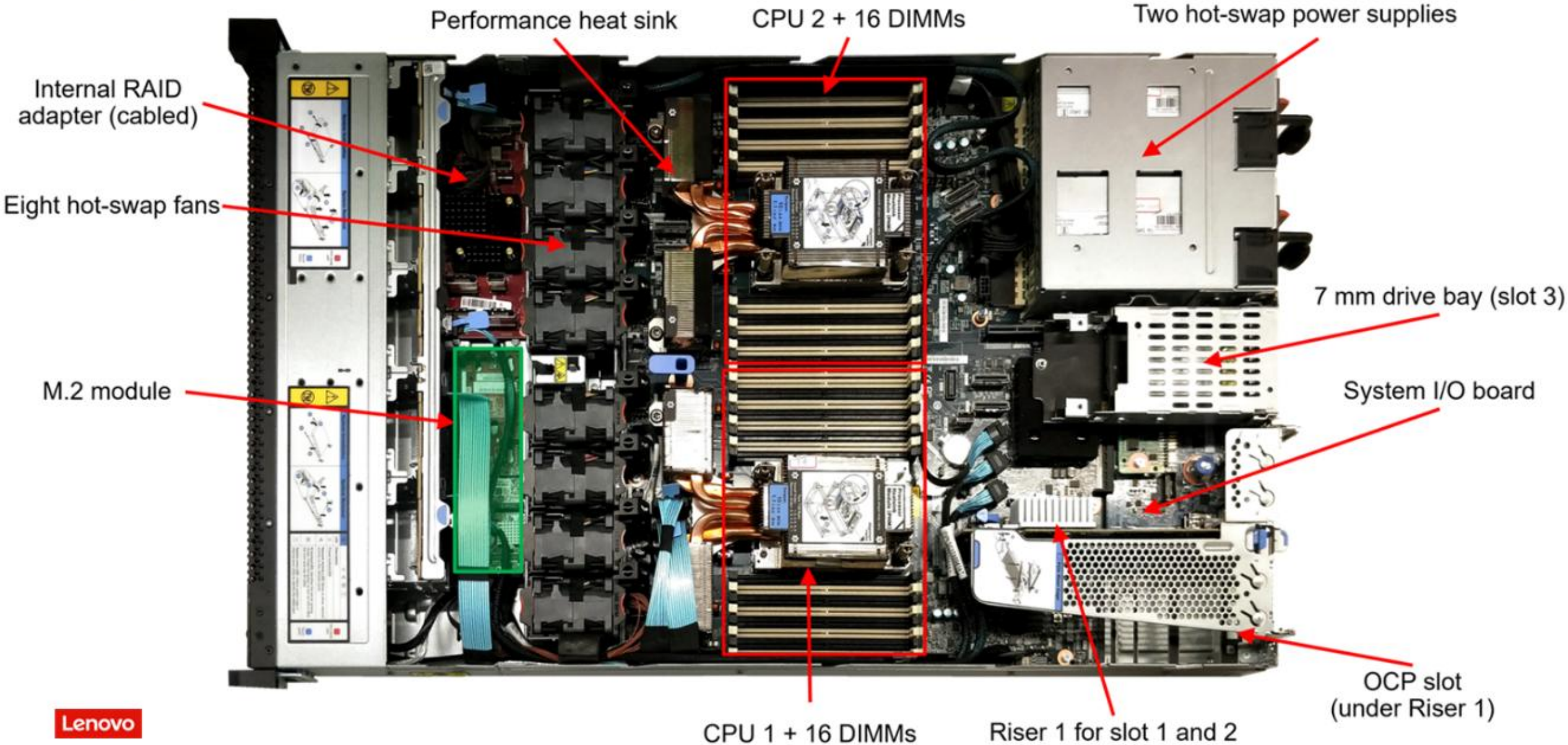
Rear view

This figure shows the configuration with three PCIe slots. The other rear configurations will be shown in the System configurations and diagrams section.

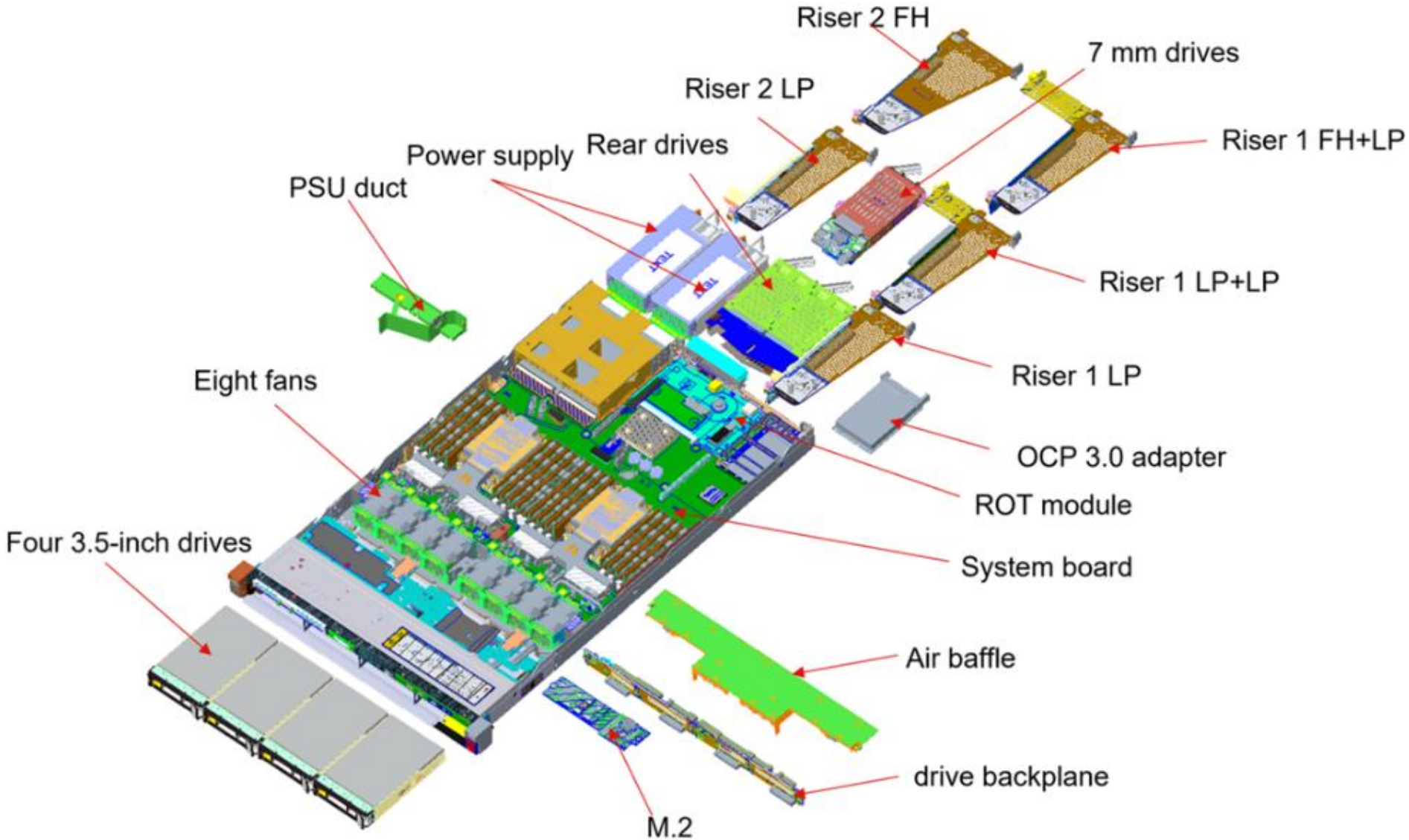


Note: For additional rear hot-swap drive and PCIe slot configuration information, refer to the Rear drive bay configurations page.

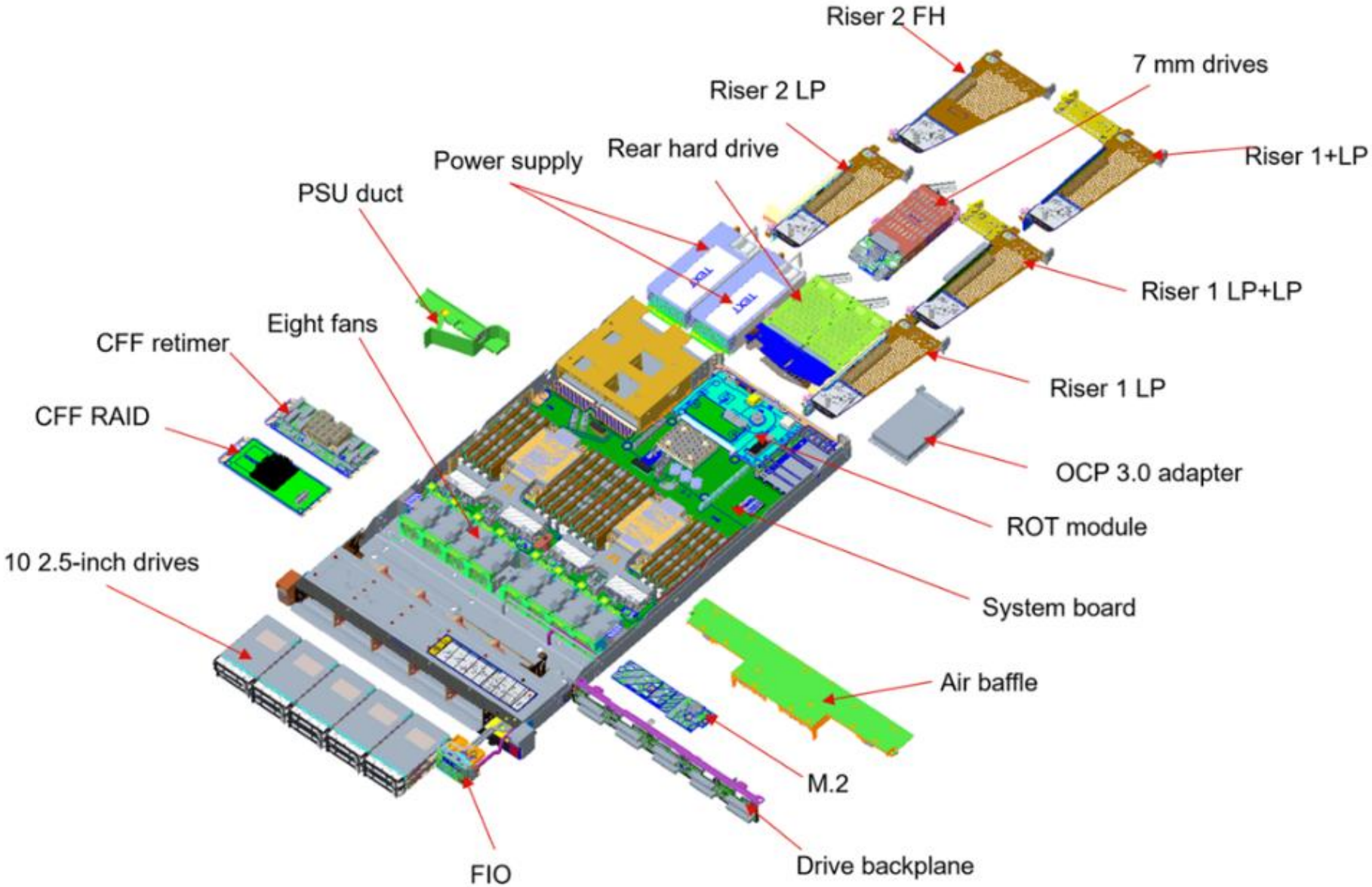
Inside view


Performance heat sink
CPU 2 + 16 DIMMs
Two hot-swap power supplies
Internal RAID adapter (cabled)
Eight hot-swap fans
7 mm drive bay (slot 3)
M.2 module
System I/O board
OCP slot (under Riser 1)
CPU 1 + 16 DIMMs
Riser 1 for slot 1 and 2

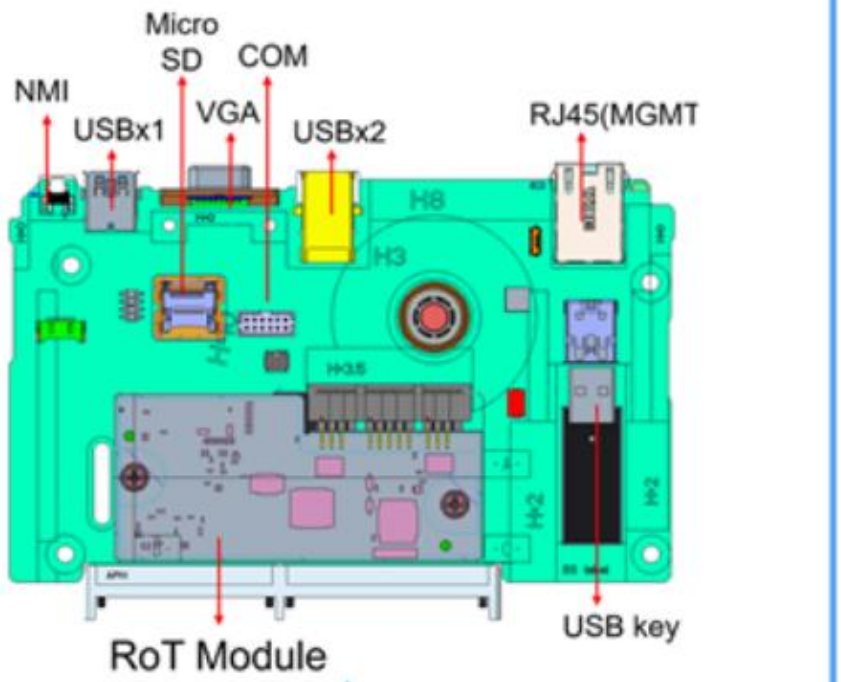
Exploded view - 3.5 inch system



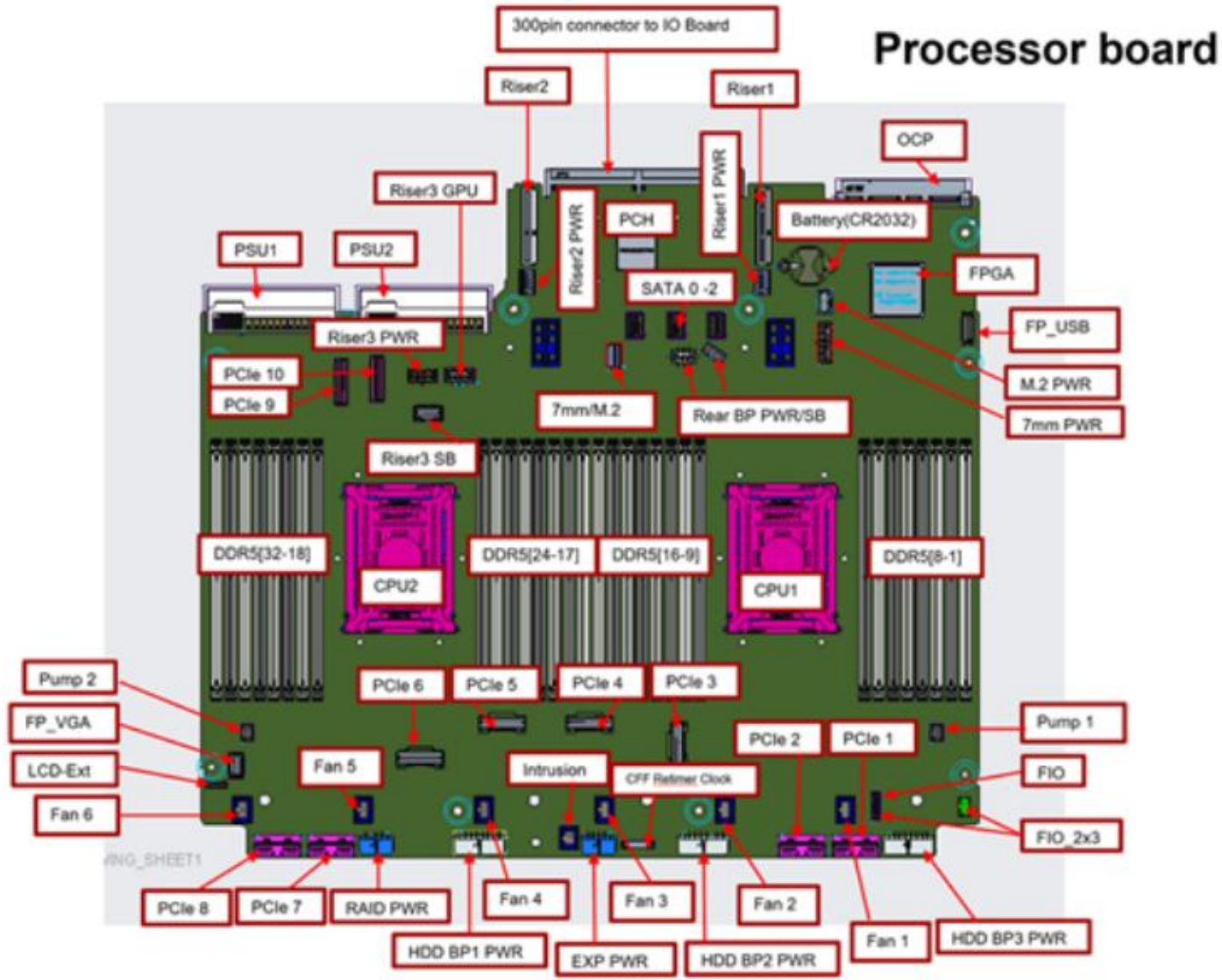
Exploded view - 2.5 inch system



Processor and I/O board connectors



System I/O board



Processor board

BMC I/O board and RoT module

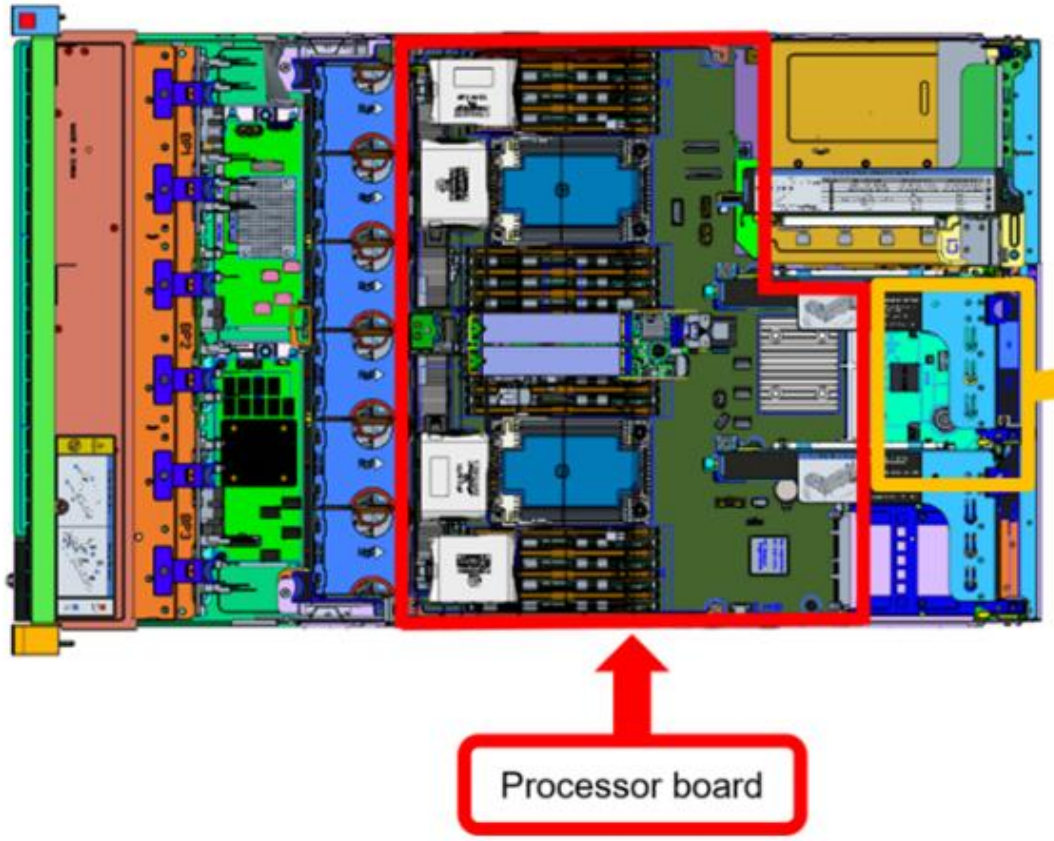
The SR630 V3 system board has three components

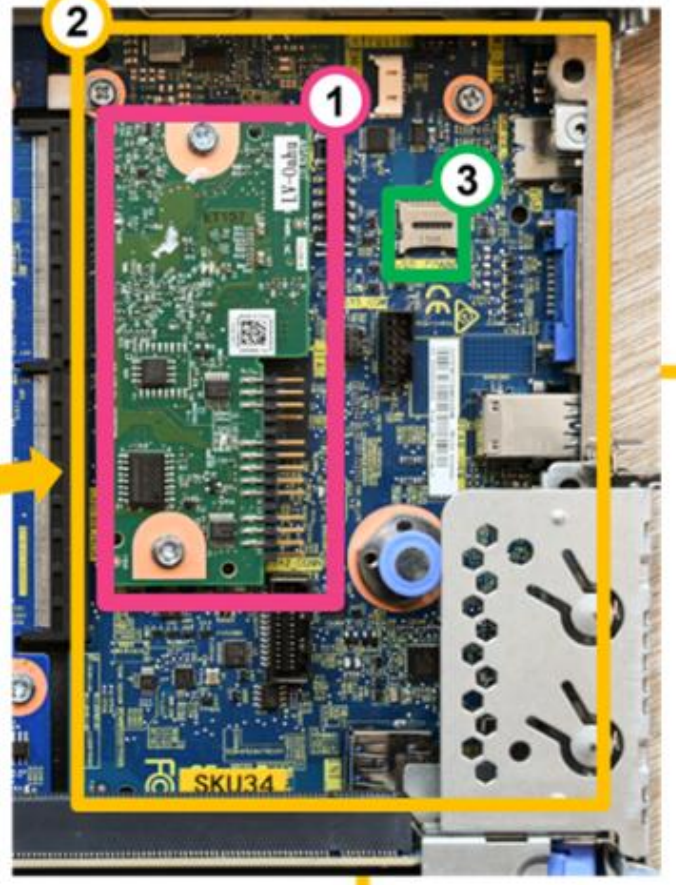
- Processor board
  - A board containing CPU sockets, PCIe slots, memory slots, and other server component connectors
- System I/O board
  - A board containing the system BMC (XCC2) management port, USB ports, and a VGA connector
  - A Micro SD card slot to extend XCC2 storage space for the backup of firmware and for remote console virtual media
- Firmware and Root of Trust security module (RoT module)
  - A mezzanine card containing the Trusted Platform Module (TPM), UEFI firmware, XCC2 firmware, and a silicon Root of Trust

Click HERE to see the processor board, BMC I/O board, and RoT module locations

Processor board, system I/O board, and RoT module

The SR630 V3 system board has three components

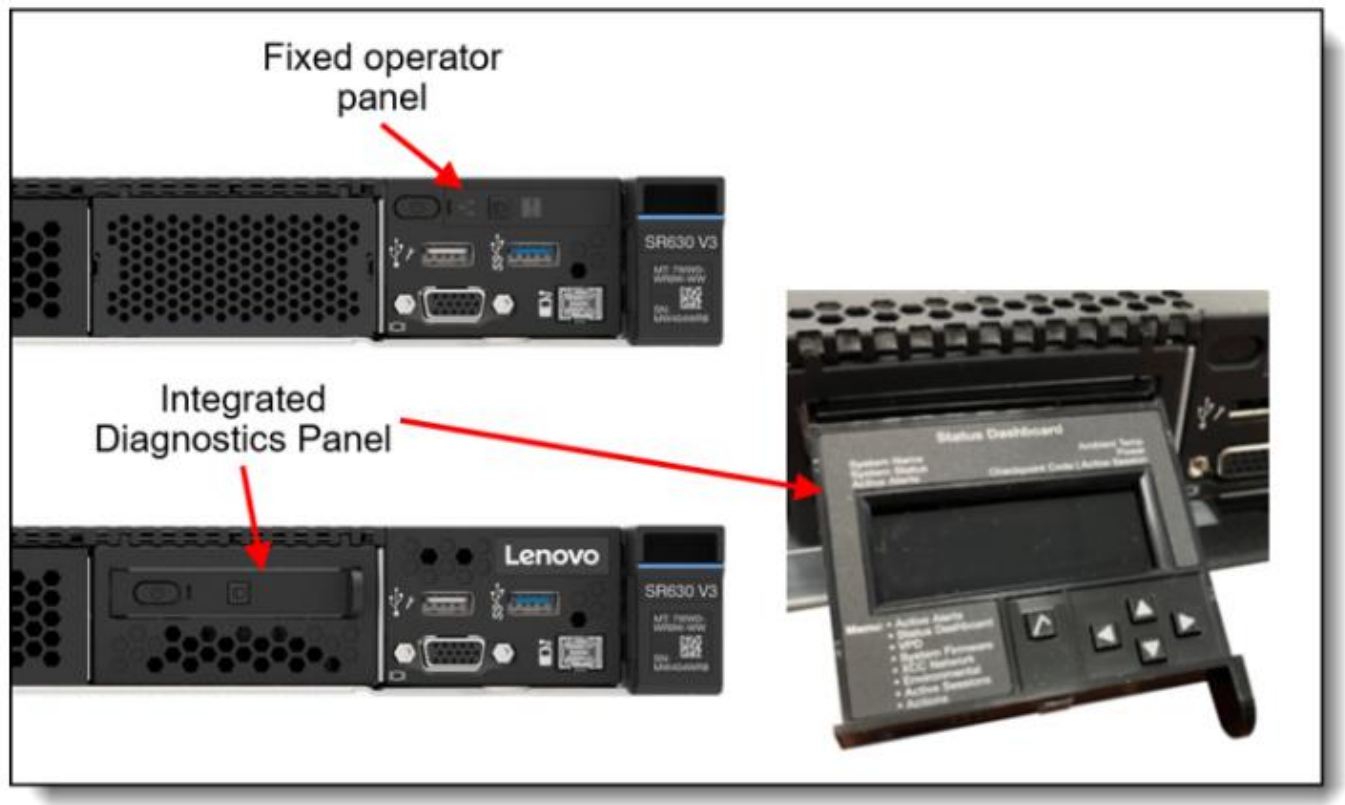




1. RoT module
2. System I/O board
3. Micro SD card slot

Integrated diagnostics panel

For configurations with 2.5-inch drive bays or EDSFF drive bays at the front, the server can be configured with the optional pull-out integrated diagnostics panel. The following figure shows the standard, fixed operator panel and the optional integrated diagnostics panel.



External diagnostics handset

The SR630 V3 supports the external and integrated LCD diagnostic panels. Either of the panels can be used to quickly access system information, such as active errors, system health status, firmware version, network connection status, and health information. A demo video is available on the course landing page.

Tri-Mode storage support

If installed with a RAID 940-8i or RAID 940-16i adapter, the SR630 V3 also supports NVMe through a feature called Tri-Mode support (or Trimode support). This feature enables the use of NVMe U.3 drives at the same time as SAS and SATA drives.
The following hardware components are required for Tri-Mode support:

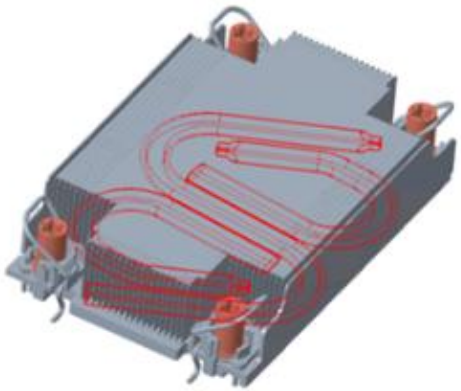
- AnyBay backplane
- RAID 940 series adapter
- U.3 drives: Only NVMe drives with a U.3 interface are supported – U.2 drives are not supported

ThinkSystem 2.5-inch
U.3 NVMe PCIe 4.0 x4
HS SSD

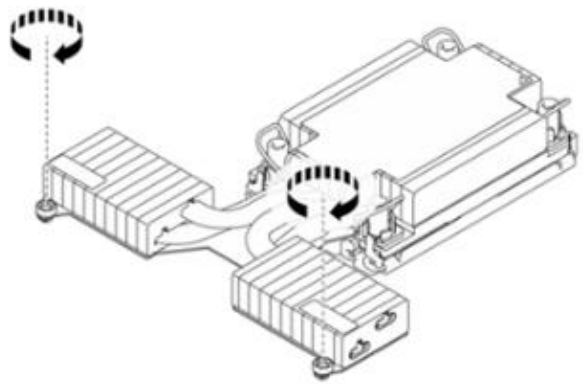
ThinkSystem RAID
940-16i Flash PCIe 4.0
12 Gb Adapter

SR630 V3 processor heat sink

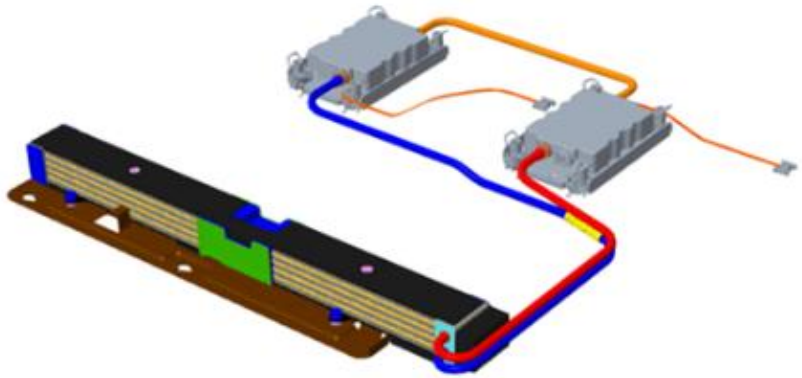
The SR630 V3 supports three types of heat sink: standard, performance, and closed-loop liquid-cooled



Standard heat sink
For processors with a TDP of less than 250 W



Performance heat sink
For processors with a TDP between 250 W and 300 W



Closed-loop liquid-cooled heat sink
For processors with a TDP of more than 300 W

Note: The closed-loop liquid-cooled heat sink is due for release in Q3 2023.