Smarter technology for all

Servicing the ThinkSystem SD535 V3 and D3 chassis

ES72621B
April 2025

Prerequisites

- ES42430 – AMD EPYC processor architecture for ThinkSystem V3 servers
- ES51757B – Introducing ThinkSystem tools
- ES52374 – ThinkSystem tools for the ThinkSystem V3 platform
- ES41759C – Introducing ThinkSystem problem determination
- ES51780C - Servicing ThinkSystem storage controllers
- ES42190 - Servicing the ThinkSystem 4350/5350/9350 RAID/HBA series adapters

Objectives

After completing the course, you will be able to:

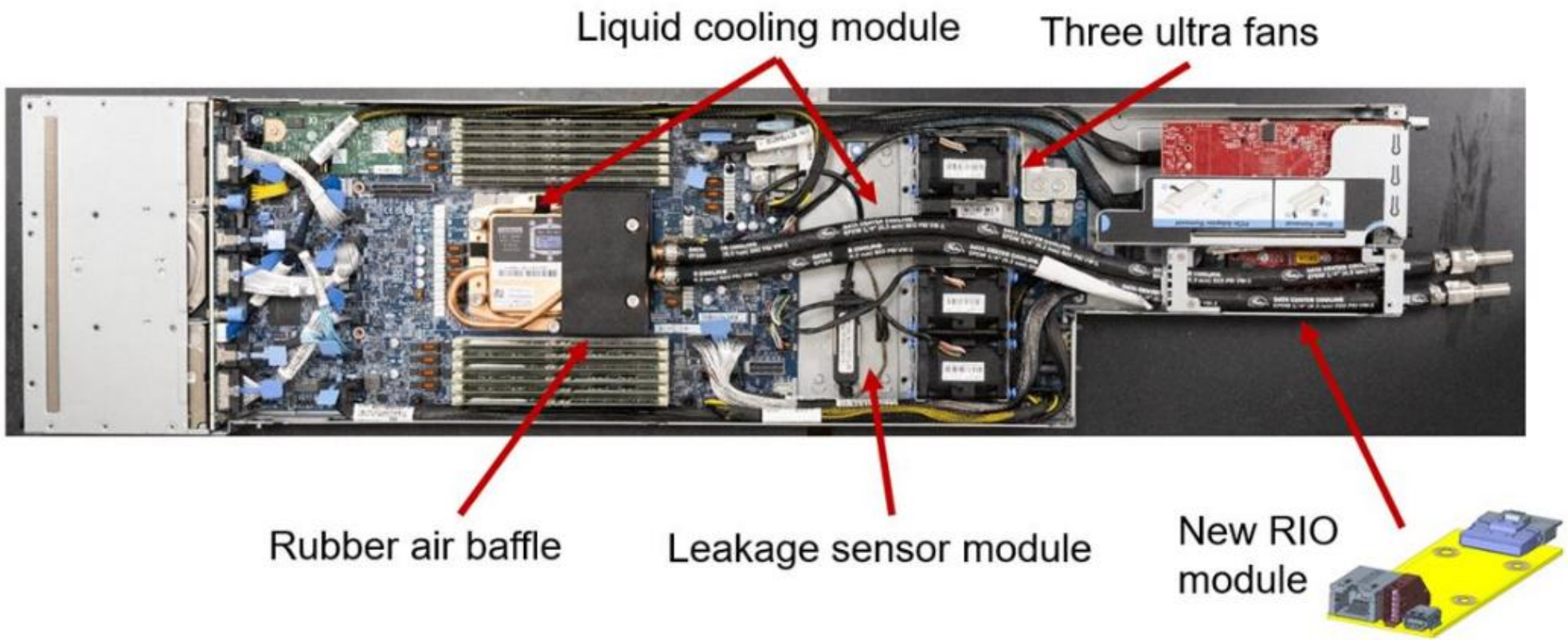
- Describe the ThinkSystem SD535 V3 and D3 chassis, and their components
- List the SD535 V3 and D3 chassis specifications
- Describe the SD535 V3 and D3 chassis configurations and block diagrams
- Describe the SD535 V3 and D3 chassis management tools
- Describe the problem determination steps and explain how to troubleshoot issues with the SD535 V3 and D3 chassis

What’s new

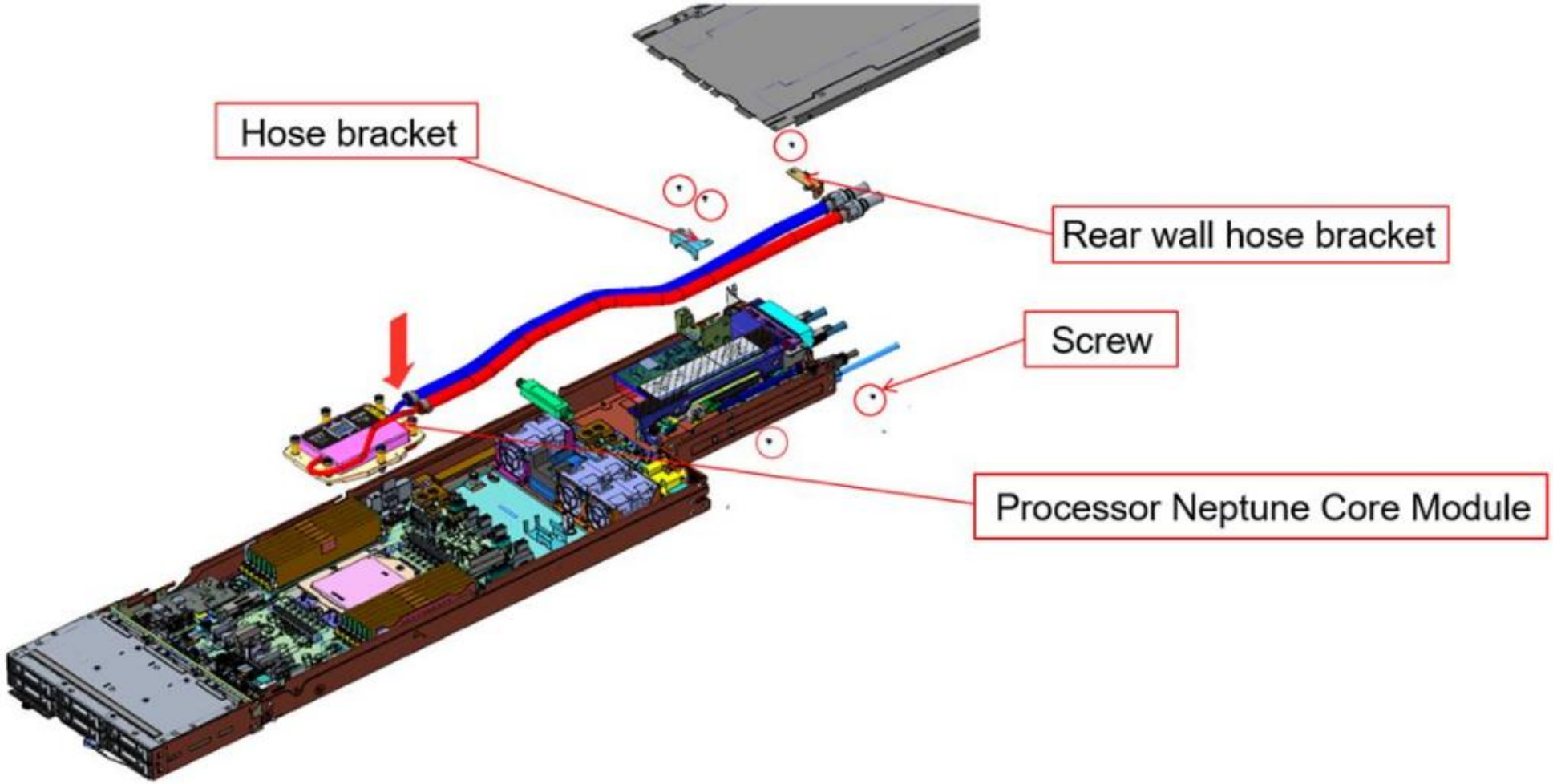
Support for the Processor Neptune Core Module

From April 2025, the SD535 V3 will support the Neptune Liquid Cooling system. The Processor Neptune Core Module will be supported on systems installed with an AMD CPU.

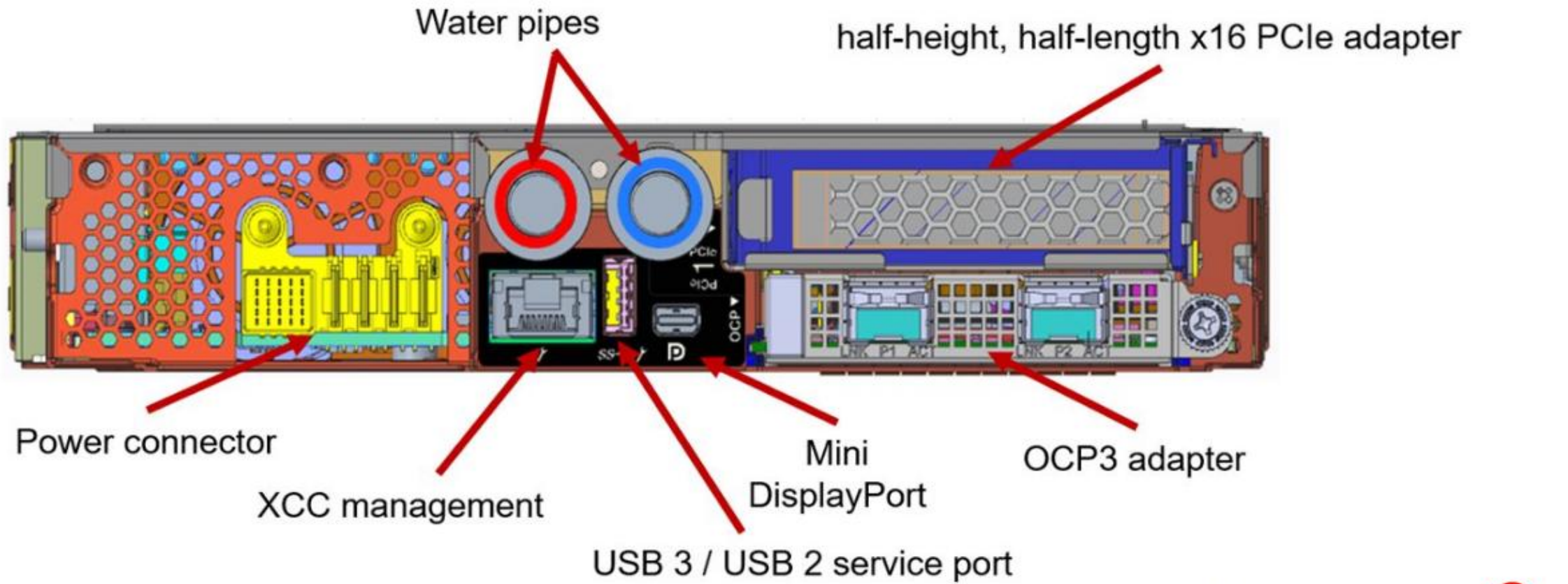
SD535 V3 with a Processor Neptune Core Module – internal view



SD535 V3 with a Processor Neptune Core Module – exploded view

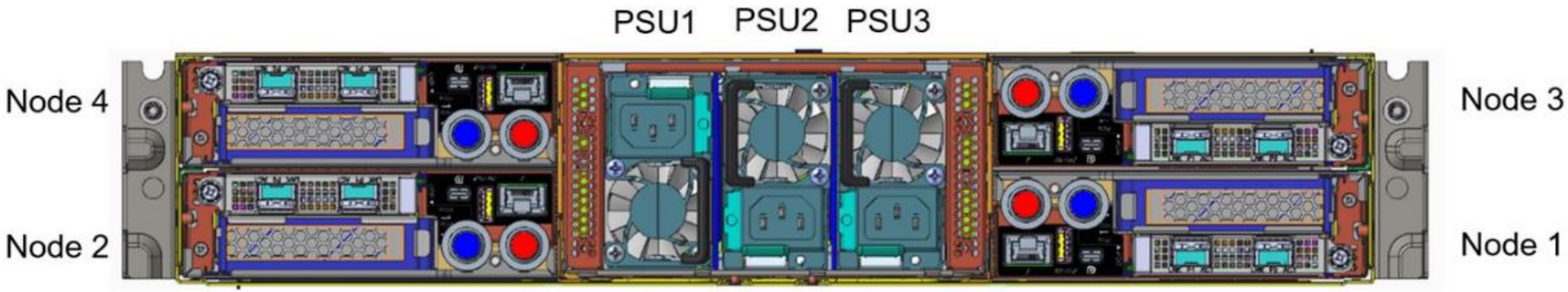


SD535 V3 with a Processor Neptune Core Module – rear view



- Water flow inlet:
- Water flow outlet:

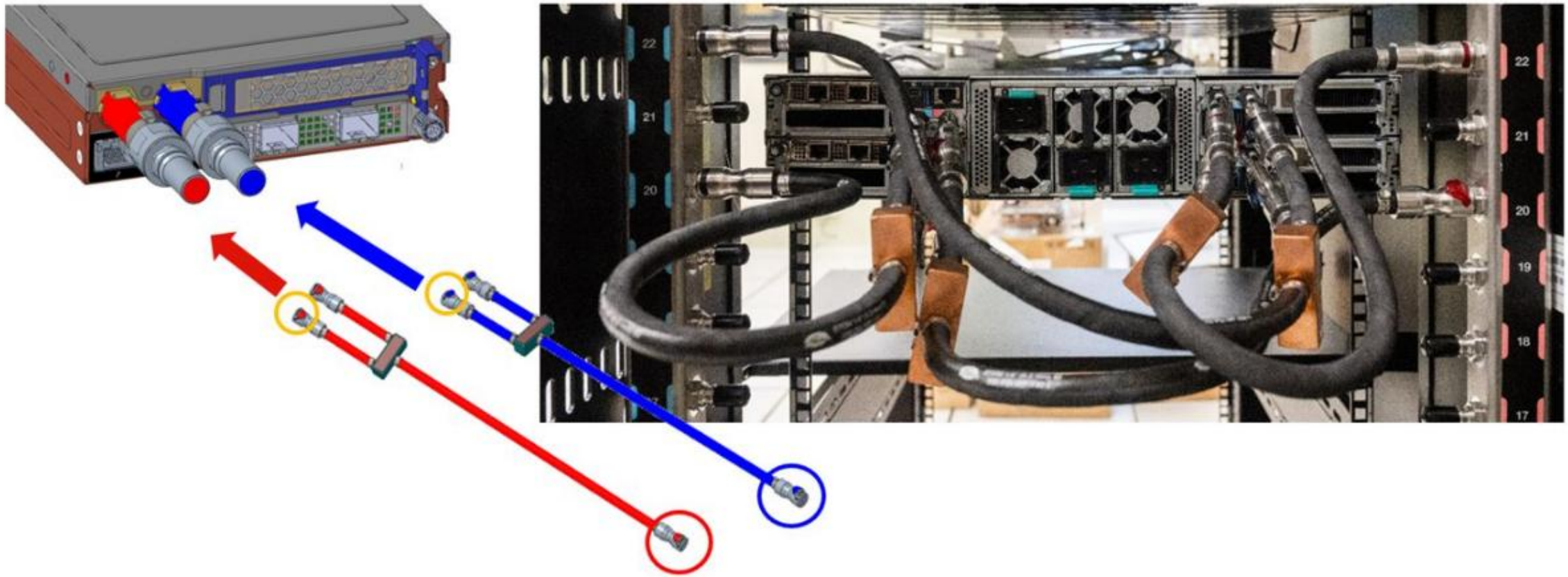
D3 chassis with four SD535 V3 water cooled nodes – rear view



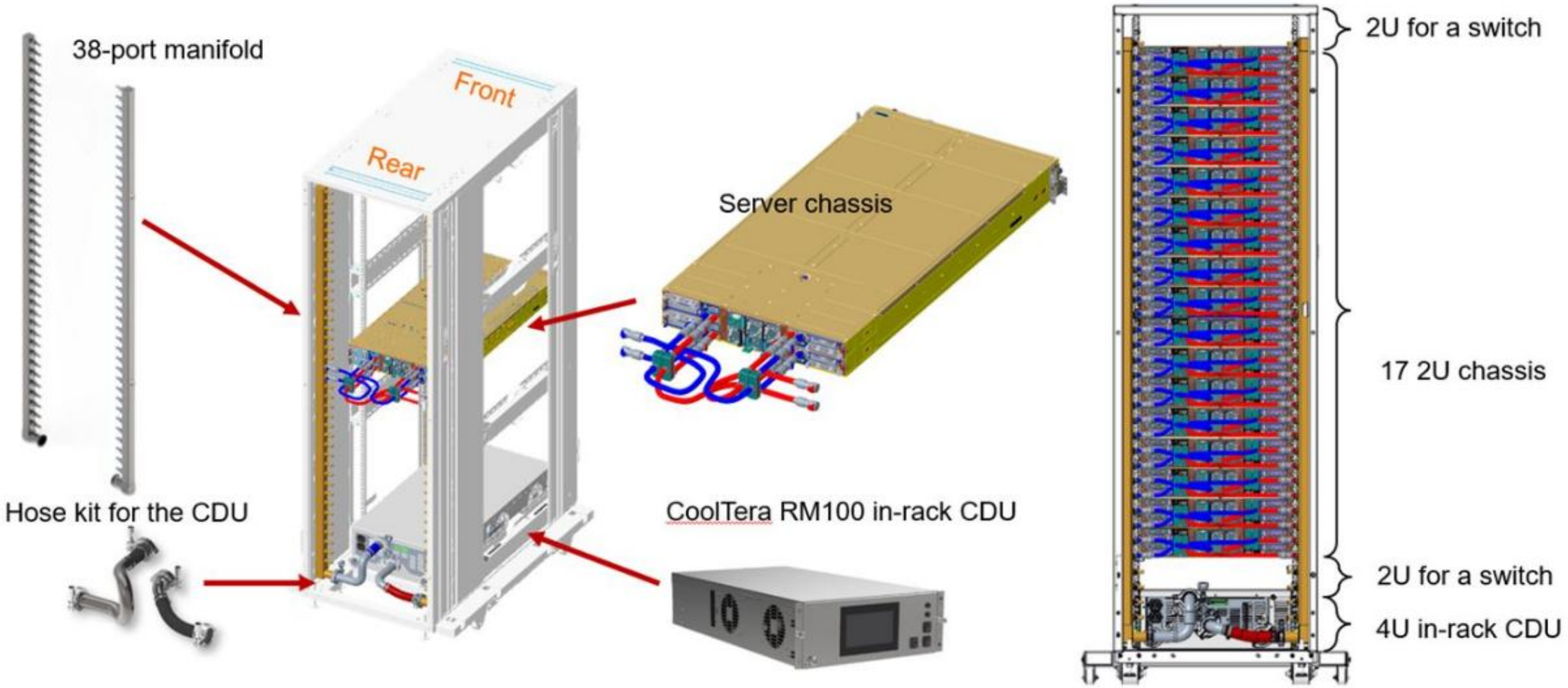
Note: Node 2 and node 4 must be installed upside down.

D3 Chassis water-loop piping

The individual inlet and outlet pipes support two nodes. Pay attention to the red and blue connectors during installation.



42U rack with an in-rack coolant distribution unit and D3 chassis



SD535 V3 specification comparison

Feature	Air-cooling SD535 V3 400 W node	Air-cooling SD535 V3 500 W node	Water-cooling SD535 V3 500 W node
Form factor	1U half-width node tray (1S computing Node) in 2U4N D3 Chassis		
Processor	One Genoa/Bergamo/Genoa-X/Turin CPU up to 400 W	One Genoa/Bergamo/Genoa-X/Turin CPU up to 500 W	
Memory	Genoa/Bergamo/Genoa-X: 12 DDR5 up to 4800 MT/s RDIMM ECC Turin: 12 DDR5 6400 MT/s RDIMM ECC up to 6000 MT/s Supported DIMM capacities: 16 GB, 32 GB, 48 GB, 64 GB, 96 GB, 128 GB		
Storage	• Up to six (SAS/SATA/NVMe U.2) front SSDs • Two on-board SATA/NVME M.2 boot drives • PCIe RAID adapter (540-8i) or CFF HW RAID adapter (5350-8i or 9350 -8i) • Two SATA/NVME M.2 on M.2 boot adapters (B540i-2i)	• Up to two (SAS/SATA/NVMe U.2) front SSDs with selected 500 W CPUs • Two on-board SATA/NVME M.2 boot drives • PCIe RAID adapter (540-8i) or CFF HW RAID adapter (5350-8i, 9350-8i) • Two SATA/NVME M.2 on M.2 boot adapters (B540i-2i)	• Up to six (SAS/SATA/NVMe U.2) front SSDs • Two on-board SATA/NVME M.2 boot drives • PCIe RAID adapter (540-8i) • Does not support CFF RAID adapers or M.2 boot adapters
PCIe	One single-width HHHL x16 PCIe Gen 5 slot		

Note: Node 2 and node 4 must be installed upside down.

SD535 V3 specification comparison

Feature	Air-cooling SD535 V3 400 W node	Air-cooling SD535 V3 500 W node	Water-cooling SD535 V3 500 W node
	• Two SATA/NVME M.2 on M.2 boot adapters (B540i-2i)	adapters (B540i-2i)	
PCIe	One single-width HHHL x16 PCIe Gen 5 slot		
OCP	One OCP 3.0 Slot (Gen 5) with NCSI to BMC		
Front access	Power Button w/ LED, NMI button, UID button with LED, system error LED		
Rear access	RJ45 (XCC management port), USB3, USB2 and XCC service port, Mini-DP		RJ45 (XCC management port), USB3 backward compatible to USB2 and XCC service port, Mini-DP
Management and TPM	Redfish, OneCLI, XClarity Controller (XCC), TPM 2.0/TCM for PRC/HW RoT		
Power	Three PSUs at the rear (1300 W/1600 W/2000 W/2700 W), non-redundant, N+1 redundancy		
Cooling	Four high performance fans	Four Ultra fans	Water cooling for processor and four 4056 Ultra fans

Note: Node 2 and node 4 must be installed upside down.