



Fabric-Integrated Expansion Chassis

Simplified Resource Composability


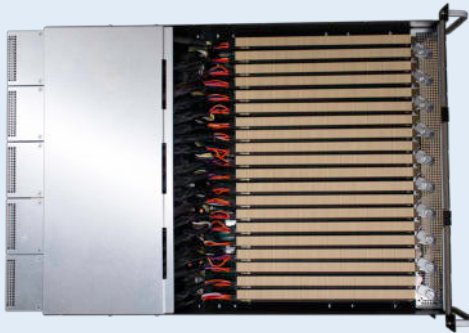
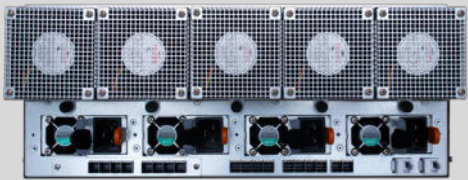
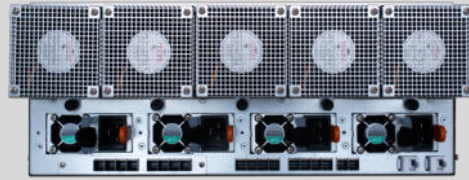
The Liqid EX-4400 Series are the world's first fabric-integrated CDI enclosures. With a design goal of further improving the simplicity and economics of CDI, with the EX-4400 Series, no standalone PCIe switch is required to deploy a complete CDI solution. Powered by Matrix Software, the EX-4400 are integrated solutions that expand server resources in seconds via software to help organizations reduce IT complexity and improve operational efficiency.

The EX-4400 Series consists of two high-density, 4U PCIe Gen 4.0 expansion chassis that support GPU, FPGA,

NVMe SSD, Storage Class Memory and NICs. The EX-4410 supports up to 10x double-width FHFL PCIe devices, and the EX-4420, supports up to 20x single-width FHFL PCIe devices.

Fabric-integration in both enclosures allows for up to 16x servers to connect directly to 16x on-board 8GB/sec PCIe Gen 4.0 interface ports. Should workload bandwidth requirements increase, single server CDI bandwidth can be quickly scaled to 16GB/s or 32GB/s.



Model	Liqid EX-4410 Expansion Chassis	Liqid EX-4420 Expansion Chassis
PCIe Gen 4.0 Device Density	 <p data-bbox="560 1619 933 1646">10x Gen 4.0 x16 FHFL Double Wide</p>	 <p data-bbox="1089 1619 1442 1646">20x Gen 4.0 x8 FHFL Single Wide</p>
Integrated PCIe Fabric	 <p data-bbox="625 1906 868 1934">16x 16GB/s PCIe Ports</p>	 <p data-bbox="1144 1906 1388 1934">16x 16GB/s PCIe Ports</p>

Technical Specifications







Model	Liquid EX-4410 Expansion Chassis	Liquid EX-4420 Expansion Chassis
Description	10x Slot Expansion Chassis (PCIe Gen 4)	20x Slot Expansion Chassis (PCIe Gen 4)
Device Types Supported	GPU AIC SSD FHFL FPGA DPU	GPU AIC SSD FHFL FPGA DPU
Max Supported PCIe Devices	10x Gen 4.0 x16 FHFL Double Wide	20x Gen 4.0 x8 FHFL Single Wide
Integrated PCIe Interface Ports	4x PCIe Gen 4.0 x16 (16x total ports)	4x PCIe Gen 4.0 x16 (16x total ports)
External Bandwidth - Single Port	Up to 64 GB/s – Full Duplex Bidirectional	Up to 64 GB/s – Full Duplex Bidirectional
External Bandwidth - Total Ports	Up to 256 GB/s – Full Duplex Bidirectional	Up to 256 GB/s – Full Duplex Bidirectional
PCIe Fabric Latency	105 ns	105 ns
PCIe Switch Chip	3x Broadcom Atlas	3x Broadcom Atlas
Liquid Management Port	2x Gen4 x1 Ports, 2x 1GbE RJ45 Ports	2x Gen4 x1 Ports, 2x 1GbE RJ45 Ports
Eco Feature	Independent Device Power-down	Independent Device Power-down
Chassis Cables	PCIe: MiniSAS HD	PCIe: MiniSAS HD
Power - Chassis	4 x 2400W 2+2 hot swap redundant 80 Plus Platinum	4 x 2400W 2+2 hot swap redundant 80 Plus Platinum
Power - PCIe Device	Up to 425W Each with independent power protection	Up to 250W Each with independent power protection
Input Voltage	200-240 VAC or 100-277 VAC	200-240 VAC or 100-277 VAC
Operating Temperature	0°C to 35°C	0°C to 35°C
Operating Humidity	20% to 80%	20% to 80%
Cooling	5x 80mm Hot-swap cooling fans	5x 80mm Hot-swap cooling fans
Dimensions	17.25" x 7" x 23.7"	17.25" x 7" x 23.7"
Weight	40 lbs	40 lbs
Cerifications	FCC, CE, UL, cUL, RoHS3	FCC, CE, UL, cUL, RoHS3

Expansion Chassis

Disaggregated Resource Consolidation for Composable Infrastructure

Liquid expansion chassis are designed to consolidate disaggregated PCIe-connected devices that are composed by Liquid Matrix software to deploy and scale bare metal servers in seconds. Liquid’s expansion chassis are designed to accommodate 8-32 PCIe devices each with support for both PCIe Gen 3 and 4. Disaggregate GPUs, FPGAs, NVMe

SSD, Intel Optane memory, and networking to deploy and scale bare metal servers that meet the most demanding workload requirements. PCIe and Ethernet connectivity options provide multi-fabric support for increased deployment flexibility.

Description	32x Slot Expansion Chassis (PCIe Gen 3)	8x Slot Expansion Chassis (PCIe Gen 4)
Model	LQD300x32P (PCIe) LQD300x32E (Eth)	LQD400x08P (PCIe)
Enclosure Front		
Enclosure Rear		
Feature Highlights	<ul style="list-style-type: none"> » Interface: PCIe Gen3 » Devices: 32x U.2 Drives » Port Bandwidth: Up to 32 GB/s » Total Bandwidth: Up to 128 GB/s » Port Latency: 150 ns » Form Factor: 1RU 	<ul style="list-style-type: none"> » Interface: PCIe Gen4 » Devices: 8x FHFL Double Wide or 10x FHFL Single Wide » Port Bandwidth: Up to 64 GB/s » Total Bandwidth: Up to 256 GB/s » Port Latency: 100 ns » Form Factor: 4RU



Description	32x Slot Expansion Chassis (PCIe Gen 3)	8x Slot Expansion Chassis (PCIe Gen 4)
Model Number	L300X-JBX032-330 (PCIe)	LQD400x08P (PCIe)
PCIe Generation	Gen 3	Gen 4
Connectivity	PCIe or Ethernet	PCIe
Device Types Supported	2.5" U.2 NVMe SSD	GPU FPGA AIC SSD FHFL
Device Quantity	32x U.2 NVMe SSD	8x Double Wide or 10x Single Wide
Device Interface	PCIe Gen 3.0 x16	PCIe Gen 4.0 x16
Internal PCIe Slots	2x Gen 3.0 x16	12 Gen 4.0 x16
Interface Ports	PCIe: Up to 4x Gen 3.0 x16 Eth: Up to 2x 200GbE NICs	PCIe: 2x Gen 4.0 x16 (expand 4x) Eth: NA
Bandwidth - Port	Up to 32GB/s – Full Duplex	Up to 64 GB/s – Full Duplex
Bandwidth - Total	Up to 128GB/s – Full Duplex	Up to 256 GB/s – Full Duplex
PCIe Fabric Latency	150 ns	100 ns
Liquid Management Port	N/A	2x PCIe ports
Chassis Monitoring	1x RJ45 for IPMI	1x RJ45 for IPMI
Chassis Cables	PCIe: MiniSAS HD	PCIe: MiniSAS HD
Power	Dual 1000W w/PMBus	Dual 1600W
Input Voltage	200–240Vac	208–240Vac
Operating Temperature	10°C to 35°C	0°C to 35°C
Operating Humidity	8% to 90%	10% to 90%
Cooling	8x 40mm Hot-swap cooling fans	3x 180CFM 120mm fans
Dimensions	17.25" x 1.71" x 31.95"	17.2" x 7" x 18.5"
Weight	49 lbs	38.5 lbs
Cerifications	RoHS, FCC, CE, VCCI, C-tick, UL Listed, CB/IEC	FCC, CE, UL, cUL, RoHS3