QUANT HYPERRACK XR61720

6U 72-BAY ENTERPRISE STORAGE SERVER FOR AI, BIG DATA & CLOUD INFRASTRUCTURE

The Quant HyperRack XR61720 is a 6U, 72-bay ultra-high-density enterprise storage platform designed for AI pipelines, high-performance computing (HPC), virtualization, and large-scale object storage.

With dual Intel® Xeon® Scalable processors, 64 GB DDR4 ECC and up to 4 TB memory, and 72 hot-swappable 3.5-inch drive bays, it delivers unmatched capacity — up to 1.728 petabytes (raw) — in a single enclosure, equivalent to Dell PowerVault ME5084 or HPE Apollo 4510 Gen11 class systems. Engineered for continuous 24 × 7 operation, the XR61720 features redundant power and cooling, dual expander backplanes, and IPMI 2.0 remote management to ensure mission-critical uptime for modern data-center workloads.

KEY FEATURES

- Extreme Capacity Density — 72 × 24 TB = 1.728 PB raw capacity per chassis
- Dual Intel® Xeon® Scalable Processors (up to 40 cores total, 205 W TDP each)
- Intel® C621 Chipset + AST2500 BMC for enterprise-class reliability and management
- 64 GB DIMM slots support up to 4 TB DDR4-2933 ECC RDIMM/LRDIMM
- 6 PCIe 3.0 slots (3 × x16 + 3 × x8) for RAID, HBA, or GPU cards
- 2 × M.2 (PCIe x4) for OS or cache acceleration
- 1 + 1 Redundant 1600 W Platinum PSUs + Hot-Swappable PWM Fans
- Dual expander architecture for balanced I/O and multi-path redundancy
- ASPEED AST2500 BMC with IPMI 2.0 / KVM-over-LAN for remote administration

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ARCHITECTURE & PERFORMANCE

- Built on the Intel® Multi-course 64 bit processor, the XR61720 balances compute and throughput for mixed workloads such as AI training, analytics, and backup. Dual UPI links (10.4 GT/s) deliver high-speed inter-socket bandwidth, while a dual-expander SAS backplane ensures consistent multi-lane performance across all 72 drives.
- Typical metrics with enterprise SAS HDDs:
- Sequential read > 10 GB/s, write > 8 GB/s
- Random I/O > 850 K IOPS with SSD tiering
- RAID-6 latency < 2 ms under full load

TECHNICAL SPECIFICATIONS

FEATURE	DESCRIPTION
Model	Quant HyperRack XR61720
Form Factor	6U Rackmount High-Density Storage Server
Chipset	Intel® Multi-course 64 bit processor
Processor	Dual Intel® Xeon® Scalable (2nd Gen, Cascade Lake), ≤ 205 W each
Memory Capacity	64Gb (Expandable up to 1 TB)
Drive Bays	Front: 72 × 3.5″/2.5″ Hot-Swap SAS
Max Raw Capacity	≈ 1.728 PB (72 × 24 TB HDD)
Backplane Design	Dual 12 Gb/s SAS expander backplane with multi-path redundancy
RAID Controller	Broadcom MegaRAID 9460-16i (4 GB cache) / RAID 0, 1, 5, 6, 10, 50, 60
PCIe Expansion	3 × PCIe 3.0 x16 + 3 × PCIe 3.0 x8
M.2 Interface	2 × M.2 (PCIe 3.0 x4 / SATA 6 Gb/s, 2280/22110)
Network Ports	4 × 1 GbE (Intel® i210) + 1 × IPMI Management Port

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TECHNICAL SPECIFICATIONS

FEATURE	DESCRIPTION
Front I/O	2 × USB 3.0, Power/Reset Buttons, Status LEDs
Rear I/O	1 × VGA, 1 × COM, 4 × USB 3.0, 2 × AC Power Inlets
Power Supply	AC 100V～127V/200V～240V; 60Hz/50Hz, supports 1+1 hot-swappable redundant
Cooling	Hot-swappable PWM fans with auto speed control
Operating Temperature	10 °C – 35 °C (50 °F – 95 °F)
Non-Operating Temperature	–40 °C – 60 °C (–40 °F – 140 °F)
Humidity (Operating)	8 % – 90 % (non-condensing)
Altitude (Operating)	0 – 3000 m (9,840 ft)
AC Input Voltage	100 – 240 V AC (autosensing)
Efficiency	80 PLUS Platinum (≥ 94 %)
Power Consumption	≤ 1000 W at full load (72 HDDs)
Management	IPMI 2.0 / BMC (ASPEED AST2500) with remote KVM over LAN
Supported OS	Windows Server 2019, Linux (RHEL/Ubuntu/SUSE), VMware ESXi
Dimensions (W × D × H)	440 mm × 680 mm × 175 mm (6U)
Weight	60 kg
Certifications	CE, UL, FCC, ISO 14001:2015
Country of Origin	Malaysia
Warranty	3 Years

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RELIABILITY & MAINTAINABILITY

- N + 1 Redundant Fans with dynamic thermal zones
- Hot-Swap Power Modules & Expander Boards
- Independent Power Rails for Logic & Drives
- Predictive SMART and IPMI Alarms for drive, temperature, and power events
- Tool-less Drive Access and slide-rail mount support

APPLICATIONS

- AI & Machine Learning — Dataset storage for GPU training clusters
- Big Data & Analytics — Data Lake and object storage nodes
- Video Surveillance / Broadcast — High-density media archive and retrieval
- Enterprise Backup & DR — Centralized replication and long-term retention
- Cloud & Virtualization — Shared storage for VM and container environments