



Flagship Versatile Server R820 Z50M

Product Description

The R820 Z50M is a premium 2U rack server powered by 4th/5th Gen Intel® Xeon® Scalable processors. Designed for flexible resource allocation to meet diverse industry demands, it excels in cloud computing, HPC, cloud storage, big data, virtualization, enterprise systems, and more.

Key Features and Highlights

Extreme Performance with Scalability

- Supports 2*4th/5th Gen Intel® Xeon® Scalable processors, up to 64 cores per CPU for unparalleled computing power.
- 32*DDR5 DIMM slots, 5600MHz max frequency, 75% memory bandwidth increase.
- Up to 16*3.5" drives, NVMe SSD compatibility for customizable storage.
- Flexible expansion with OCP NICs and PCIe slots (supports PCIe 5.0, 100% faster transfer rates).

Simplified Operations and Intelligent Management

- Tool-Free Maintenance Design: Quick installation/removal of peripherals, minimizing downtime.
- Out-of-Band Visual Management: Remote physical device tracking for optimized efficiency.
- Automatic Logging: Real-time log viewing/download for precise fault diagnosis.
- Health Monitoring: Proactive status reporting for key components, enabling full lifecycle management.

Energy Efficiency and Advanced Cooling

- 15% Increased Airflow Area: Enhances cooling efficiency by 8%.
- Triple-Speed Dynamic Cooling: Adjusts fan speeds based on temperature and workload for optimal energy savings.
- Patented Custom Fans: 30% higher airflow, 15% lower power consumption, and 10% noise reduction.





Product Specifications

Processor	Supports 2*4th/5th Gen Intel® Xeon® Scalable Processors (TDP 385W).
Memory	32*DDR5 slots, up to 5600MHz. Supports memory mirroring, hot spare, fault isolation, and CXL expansion (additional 16 slots).
Storage Controller	Supports RAID 0/1/10/5/50/6/60. Features 4G/8G cache supercapacitor protection, disk roaming, remote Web configuration, secure boot, solid-state algorithms, and serial port remote debug.
Local Storage	Max 16*3.5" drives (12* NVMe compatible). Internal: 2*SATA/PCIe M.2, 1*onboard eMMC. Onboard support for 16*SATA drives (no external controller required).
Network Interfaces	1*OCF 3.0 slot with NCSI. Optional interfaces: 2*1GE, 2*10GE, 2*25GE, 2*100GE, 2*200GE.
PCIe Expansion	8*PCIe 5.0 slots + 1*OCF 3.0 slots.
Additional Interfaces	Rear: 1*RJ-45 management port, 2*USB 3.0, 1*VGA. Front: Optional 2*USB 3.0 + VGA or USB 2.0. Internal: 1*USB 3.0.
Power Supply	800W/1300W/2000W/2700W CRPS Titanium/Platinum PSU (hot-swappable, 1+1 redundant). Voltage: 100-240Vac (refer to nameplate).
Fans	6*hot-swappable fans (N+2 redundancy).
Management	Integrated BMC with 1Gbps RJ-45 port. Supports Redfish, SNMP, IPMI 2.0, HTML5/iKVM remote control. BMC dual-flash backup.
OS Support	Windows Server, RHEL, SLES, CentOS, Ubuntu, VMware ESXi, Kylin, RedFlag, etc.
Operating Temperature	5° C ~ 45° C
Chassis Dimensions	770mm (L)*446mm (W) (without ears) / 482mm (W) (with ears) *87mm (H).
Packaging Dimensions	1000mm (L)*600mm (W)*260mm (H).
Weight	Max 40kg (varies by configuration).

Ordering Information

Part Number	Product Configuration		
	Front Configuration	Rear Configuration	Kits
A12000 ABNN	12*3.5" drives (SATA/SAS) 2*USB3.0+1*VGA	➤ 4*x8+2*x16 PCIE 5.0 ➤ 1*RJ45 Management Interface ➤ 2*USB3.0 ➤ 1*VGA 1300W Redundant Power	➤ 2* Heat Sinks, TDP≥270W 2*raid card connection cable, adapted to 95 series raid cards 12*3.5 hard drive brackets, compatible with 2.5" drives
A12000 ABCN	12*3.5" drives (SATA/SAS) 2*USB3.0+1*VGA	➤ 6*x8+2*x16 PCIE 5.0 ➤ 1*RJ45 Management Interface ➤ 2*USB3.0 ➤ 1*VGA 1300W Redundant Power	➤ 2* Heat Sinks, TDP≥270W 2*raid card connection cable, adapted to 95 series raid cards 12*3.5 hard drive brackets, compatible with 2.5" drives
A12000 ABN2	12*3.5" drives (SATA/SAS) 2*USB3.0+1*VGA	➤ 2*2.5" drives (SATA/SAS) ➤ 4*x8+2*x16 PCIE 5.0 ➤ 1*RJ45 Management Interface ➤ 2*USB3.0 ➤ 1*VGA 1300W Redundant Power	➤ 2*heat sinks, TDP≥270W 2*raid card connection cable, adapted to 95 series raid cards 12*3.5 hard drive bracket, compatible with 2.5" drives 2*2.5 hard drive brackets
A12000 AB22	12*3.5" drives (SATA/SAS) 2*USB3.0+1*VGA	➤ 4*2.5" drives (SATA/SAS/NVME) 4*x8+2*x16 PCIE 5.0 ➤ 1*RJ45 management interface ➤ 2*USB3.0 ➤ 1*VGA 1300W redundant power	➤ 2* Heat Sinks, TDP≥270W 2*raid card connection cable, adapted to 95 series raid cards 12*3.5 hard drive bracket, compatible with 2.5" drives 4*2.5 inches hard bracket
A12000 ABC2 (Custom)	12*3.5" drives (SATA/SAS) 2*USB3.0+1*VGA	➤ 2*2.5" drives (SATA/SAS) ➤ 6*x8+2*x16 PCIE 5.0 ➤ 1*RJ45 management	➤ 2* Heat Sinks, TDP≥270W 2*raid card connection cable, adapted to 95 series raid cards



		interface ➤ 2*USB3.0 ➤ 1*VGA 1300W redundant power	12*3.5 hard drive brackets, compatible with 2.5" drives 2*2.5 hard drive brackets
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Part Number	Product Configuration		
	Front Configuration	Rear Configuration	Kits
E12000 ABNN	12*3.5" drives (SATA/SAS) EXP 2*USB3.0+1*VGA	➤ 4*x8+2*x16 PCIE 5.0 ➤ 1*RJ45 management interface ➤ 2*USB3.0 ➤ 1*VGA 1300W redundant power	➤ 2* Heat Sinks, TDP≥270W 1*raid card connection cable, adapted to 95 series raid cards 12*3.5 hard drive brackets, compatible with 2.5" drives
E12000 ABCN	12*3.5" drives (SATA/SAS) EXP 2*USB3.0+1*VGA	➤ 6*x8+2*x16 PCIE 5.0 ➤ 1*RJ45 management interface ➤ 2*USB3.0 ➤ 1*VGA 1300W redundant power	➤ 2* Heat Sinks, TDP≥270W 1*raid card connection cable, adapted to 95 series raid cards 12*3.5 hard drive brackets, compatible with 2.5" drives
E12000 ABN2	12*3.5" drives (SATA/SAS) EXP 2*USB3.0+1*VGA	➤ 2*2.5" drives (SATA/SAS) ➤ 4*x8+2*x16 PCIE 5.0 ➤ 1*RJ45 management interface ➤ 2*USB3.0 ➤ 1*VGA 1300W redundant power	➤ 2* Heat Sinks, TDP≥270W 1*raid card connection cable, adapted to 95 series raid cards 12*3.5 hard drive brackets, compatible with 2.5" drives 2*2.5 hard drive brackets
E12000 AB22	12*3.5" drives (SATA/SAS) EXP 2*USB3.0+1*VGA	➤ 4*2.5" drives (SATA/SAS/NVME) ➤ 4*x8+2*x16 PCIE 5.0 ➤ 1*RJ45 management interface ➤ 2*USB3.0 ➤ 1*VGA 1300W redundant power	➤ 2* Heat Sinks, TDP≥270W 1*raid card connection cable, adapted to 95 series raid cards 12*3.5 hard drive brackets, compatible with 2.5" drives 4*2.5 hard drive brackets
E12000 ABC2 (Custom)	12*3.5" drives (SATA/SAS) EXP 2*USB3.0+1*VGA	➤ 2*2.5" drives (SATA/SAS) ➤ 6*x8+2*x16 PCIE 5.0 ➤ 1*RJ45 management interface ➤ 2*USB3.0 ➤ 1*VGA 1300W redundant power	➤ 2* Heat Sinks, TDP≥270W 1*raid card connection cable, adapted to 95 series raid cards 12*3.5 hard drive brackets, compatible with 2.5" drives 2*2.5 hard drive brackets

Part Number	Product Configuration		
	Front Configuration	Rear Configuration	Kits
N12000 ABNN	12*3.5" drives (SATA/SAS/NVME) 2*USB3.0+1*VGA	➤ 4*x8+2*x16 PCIE 5.0 ➤ 1*RJ45 management interface ➤ 2*USB3.0 ➤ 1*VGA 1300W redundant power	➤ 2* Heat Sinks, TDP≥270W 2*raid card connection cable, adapted to 95 series raid cards 12*3.5 hard drive brackets, compatible with 2.5" drives
N12000 ABCN	12*3.5" drives (SATA/SAS/NVME) 2*USB3.0+1*VGA	➤ 6*x8+2*x16 PCIE 5.0 ➤ 1*RJ45 management interface ➤ 2*USB3.0 ➤ 1*VGA 1300W redundant power	➤ 2* Heat Sinks, TDP≥270W 2*raid card connection cable, adapted to 95 series raid cards 12*3.5 hard drive brackets, compatible with 2.5" drives
N12000 ABN2	12*3.5" drives (SATA/SAS/NVME) 2*USB3.0+1*VGA	➤ 2*2.5" drives (SATA/SAS) ➤ 4*x8+2*x16 PCIE 5.0 ➤ 1*RJ45 management interface ➤ 2*USB3.0 ➤ 1*VGA 1300W redundant power	➤ 2* Heat Sinks, TDP≥270W 2*raid card connection cable, adapted to 95 series raid cards 12*3.5 hard drive bracket, compatible with 2.5" drives 2*2.5 hard drive brackets



N12000 AB22	12*3.5" drives (SATA/SAS/NVME) 2*USB3.0+1*VGA	<ul style="list-style-type: none">➤ 4*2.5" drives (SATA/SAS/NVME) 4*x8+2*x16 PCIE 5.0➤ 1*RJ45 management interface➤ 2*USB3.0➤ 1*VGA1300W redundant power	<ul style="list-style-type: none">➤ 2* Heat Sinks, TDP\geq270W2*raid card connection cable, adapted to 95 series raid cards12*3.5 hard drive bracket, compatible with 2.5" drives4*2.5 hard drive brackets
N12000 ABC2 (Custom)	12*3.5" drives (SATA/SAS/NVME) 2*USB3.0+1*VGA	<ul style="list-style-type: none">➤ 2*2.5" drives (SATA/SAS)➤ 6*x8+2*x16 PCIE 5.0➤ 1*RJ45 management interface➤ 2*USB3.0➤ 1*VGA1300W redundant power	<ul style="list-style-type: none">➤ 2* Heat Sinks, TDP\geq270W2*raid card connection cable, adapted to 95 series raid cards12*3.5 hard drive bracket, compatible with 2.5" drives2*2.5 hard drive bracket