DELL Technologies

Specification Sheet

PowerEdge XE8640

Drive AI, HPC modeling and simulation workloads with superior performance

Purpose-built performance

Accelerate traditional AI training and inferencing, modeling & simulation, and other HPC applications with optimized compute, turning data and automating insights into outcomes with a 4-way GPU platform in the XE8640 air-cooled server.

- Leverage a powerful architecture and the power of two 4th or 5th Generation Intel® Xeon® processors with high core count of up to 64 cores and the latest on-chip innovations to boost AI and ML operations
- Four (4) NVIDIA H100 Tensor core 700W SXM5 GPUs for extreme performance, fully interconnected with NVIDIA NVLink technology.
- Improve training performance with up to 900GB/s bandwidth for GPU-GPU communication, 1.5x more than the previous generation.
- Host multi-tenant environments using virtualization options like NVIDIA Multi-Instance GPU (MIG) capability.

Accelerated I/O throughput

Deploy latest generation technologies including DDR5, NVLink, PCIe Gen 5.0, and NVMe SSDs to push the boundaries of data flow and computing possibilities.

- Up to four PCIe Gen 5 slots and up to 8 drives enable optimal expansion for high-performance AI operations.
- Supports NVIDIA GDS (GPUDirect® Storage), a direct data path for direct memory access (DMA) transfers between GPU memory and storage, increasing system bandwidth and decreasing latency and utilization load on the CPU
- 4U air-cooled design chassis supports the highest wattage next-gen technologies in up to 35C ambient

Cyber Resilient Architecture for Zero Trust IT environment & operations

Security is integrated into every phase of the PowerEdge lifecycle, including protected supply chain and factory-to-site integrity assurance. Silicon-based root of trust anchors end-to-end boot resilience while Multi-Factor Authentication (MFA) and role-based access controls ensure trusted operations.

Increase efficiency and accelerate operations with an autonomous infrastructure

The Dell OpenManage™ systems management portfolio delivers a secure, efficient, and comprehensive solution for PowerEdge servers. Simplify, automate and centralize one-to-many management with the OpenManage Enterprise console and iDRAC.

Sustainability

From recycled materials in our products and packaging, to thoughtful, innovative options for energy efficiency, the PowerEdge portfolio is designed to make, deliver, and recycle products to help reduce the carbon footprint and lower your operation costs. We even make it easy to retire legacy systems responsibly with Dell Technologies Services.

Rest easier with Dell Technologies Services

Maximize your PowerEdge Servers with comprehensive services ranging from Consulting, to ProDeploy and ProSupport suites, Data Migration and more – available across 170 countries and backed by our 60K+ employees and partners.

PowerEdge XE8640

The Dell PowerEdge XE8640 is a high-performance server designed and optimized for use cases like

- HPC modeling and simulation
- AI/ML/DL training

NOTE: * indicates Coming soon.

Feature	Technical Specifications**	
Processor	Two 4th Generation Intel Xeon Scalable processors with up to 56 cores per processor	
	Two 5th Generation Intel Xeon Scalable processors with up to 64 cores per processor	
Memory	• 32 DDR5 DIMM slots, supports RDIMM 4 TB max, speeds up to 5600 MT/s • Supports registered ECC DDR5 DIMMs only	
GPU	• 4 NVIDIA HGX H100 80GB 700W SXM5 GPUs, fully interconnected with NVIDIA NVLink technology	
Storage controllers	• Internal controller: PERC H965i • Internal boot: Boot Optimized Storage Subsystem (NVMe BOSS-N1): HWRAID 1, 2 x M.2 SSDs • Software RAID: S160	
Drive bays	Front Bays • Up to 8 x 2.5-inch SATA/SAS/NVMe SSD max 122.88 TB • Up to 8 x E3.S NVMe SSD max 122.88 TB	
Power Supplies	2800W Titanium 200-240 VAC or 240 VDC, redundant, hot swap	
	3200W Titanium 277 VAC or 260-400 VDC redundant, hot swap	
Cooling Options	• Air cooling for Processors • Liquid Assisted Air Cooling for GPU **Note:** No facility water to rack required.	
Chipset	Intel® C741 chipset	
PCIe	2 CPU configuration: Up to 4 PCIe slots (4 x16 Gen5)	
Embedded NIC	2 x 1 GbE	
Network Options	1 x OCP 3.0 (x8 PCIe lanes)	
Fans	• Up to 6 Standard (STD) fans installed in mid tray • Up to 5 High performance (HPR) gold grade fans installed on the front of the system • All are hot swap fans	
Dimensions and weight	• Height — 174.3 mm (6.86 inches) • Width — 481.91 mm (18.97 inches) • Depth — 901.4 mm (35.48 inches) with bezel — 865.54 mm (34.07 inches) inch without bezel • Weight — 61.4 kg (135.36 pounds)	
Form Factor	4U rack server	
Embedded Management	• iDRAC9 • iDRAC Direct • iDRAC RESTful API with Redfish • iDRAC Service Module	
Bezel	Optional LCD bezel or security bezel	
OpenManage Software	• CloudIQ for PowerEdge plug in • OpenManage Enterprise • OpenManage Enterprise Integration for VMware vCenter • OpenManage Integration for Microsoft System Center	• OpenManage Integration with Windows Admin Center • OpenManage Power Manager plugin • OpenManage Service plugin • OpenManage Update Manager plugin
OpenManage Integrations	• BMC Truesight • Microsoft System Center • OpenManage Integration with ServiceNow	• Red Hat Ansible Modules • Terraform Providers • VMware vCenter and vRealize Operations Manager
Security	• Cryptographically signed firmware • Data at Rest Encryption (SEDs with local or external key mgmt) • Secure Boot • Secured Component Verification (Hardware integrity check)	• Secure Erase • Silicon Root of Trust • System Lockdown (requires iDRAC9 Enterprise or Datacenter) • TPM 2.0 FIPS, CC-TCG certified, TPM 2.0 China NationZ
Ports	Front ports • 1 x iDRAC Direct (Micro-AB USB) port • 1 x USB 2.0 • 1 x VGA	Rear ports • 1 x USB 2.0 • 1 x USB 3.0 • 1 x VGA • 1 x RJ45 iDRAC9 ethernet port
Operating Systems and Hypervisors	• Canonical Ubuntu Server LTS • Red Hat Enterprise Linux For specifications and interoperability details, see Dell.com/OSsupport.	
OEM-ready version available	From bezel to BIOS to packaging, your servers can look and feel as if they were designed and built by you. For more information, visit Dell.com > Solutions > OEM Solutions.	

NOTE: ** indicates Additional features Coming Soon.

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