DELL Technologies

Specification Sheet

PowerEdge XE9680

Experience extreme acceleration for Generative AI and ML/DL training with Dell's first 8-way GPU server

No compromise AI infrastructure

The Dell XE9680 6U server is Dell's first 8x GPU platform. It is engineered to significantly enhance application performance by driving the most complex GenAI, Machine Learning, Deep Learning (ML/DL) and High Performance Computing workloads (HPC). This server features up to 64-core 5th generation Intel Xeon processors and offers the highest GPU memory capacity and bandwidth currently available, making it capable of managing extremely large and complex models and datasets.

Tailor your configuration with your choice of GPU modules

- Offering either eight NVIDIA H100 or eight H200 SXM5 700W GPUs, or H20 SXM5 500W GPUs, fully interconnected with NVLink, or eight AMD Instinct MI300X 750W OAM GPUs fully interconnected with Infinity Fabric links or eight Intel Gaudi 3 900W OAM accelerators with ethernet connectivity w/ embedded RoCE ports.
- Improve generative AI training performance with GPU-GPU communication and up to 1.5TB* shared coherent GPU memory integrated into these offers.

Accelerated I/O throughput

- Deploy latest generation technologies including DDR5, PCIe Gen 5.0, and NVMe SSDs to push the boundaries of data flow and computing possibilities.
- Up to 10 front-facing PCIe Gen 5 slots** and up to 16 drives enable optimal expansion for high-performance real-time AI operations.
- Dell Validated Designs for Generative AI and comprehensive Dell Services offerings take the guesswork out of infrastructure and workflow integration

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.

*AMD Instinct MI300X only

** 8 PCIe slots with Intel Gaudi 3

PowerEdge XE9680

The Dell PowerEdge XE9680 is a high-performance server designed and optimized for AI training & HPC use cases like

- Large language Models
- Recommendation engines
- Molecular Dynamics and Genome Sequencing

Feature	Technical Specifications	
Processor	• Two 5th Generation Intel Xeon Scalable processors with up to 64 cores per processor • Two 4th Generation Intel Xeon Scalable processors with up to 56 cores per processor	
Memory	• 32 DDR5 DIMM slots, supports RDIMM 4 TB max, • Speeds up to 5600 MT/s on the 5th Generation Intel Xeon Scalable processors • Speeds up to 4800 MT/s on the 4th Generation Intel Xeon Scalable processors • Supports registered ECC DDR5 DIMMs only	
GPU	• 8 NVIDIA HGX H100 80GB 700W SXM5 GPUs, fully interconnected with NVIDIA NVLink technology or • 8 NVIDIA HGX H200 141GB 700W SXM5 GPUs, fully interconnected with NVIDIA NVLink technology or • 8 NVIDIA HGX H20 96GB 500W SXM5 GPUs, fully interconnected with NVIDIA NVLink technology or • 8 AMD Instinct MI300X 192GB 750W OAM accelerator with AMD Infinity Fabric connectivity or • 8 Intel Gaudi 3 128GB 900W OAM accelerator with embedded RoCE ports for ethernet connectivity	
Storage controllers	• Internal Controllers (RAID): PERC H965i (Not supported with Intel Gaudi3) • Internal boot: Boot Optimized Storage Subsystem (NVMe BOSS-N1): HWRAID 1, 2 x M.2 SSDs • Software RAID: S160	
Front bays	• Up to 8 x 2.5-inch NVMe/SAS/SATA SSD drives max 122.88 TB • Up to 16 x E3.S NVMe direct drives max 122.88 TB Note: Only 8 x 2.5-inch NVMe SSD drives are supported with Intel Gaudi3.	
Power Supplies	• 3200W Titanium 277 VAC or 260-400 VDC, hot swap redundant (only available in the US & Canada) • 2800W Titanium 200-240 VAC or 240 VDC, hot swap redundant	
Cooling Options	Air cooling	
Chipset	Intel® C741 chipset	
PCIe	Up to 10 x16 Gen5 (x16 PCIe) full-height, half-length (8 PCIe slots with Intel Gaudi 3)	
Embedded NIC	2 x 1 GbE	
Embedded OSFP	6 x 800 Gb (available only with Intel Gaudi 3)	
Network Options	1 x OCP 3.0 (x8 PCIe lanes)	
Fans	• Up to six high performance (HPR) gold grade fans installed in mid tray • Up to ten high performance (HPR) gold grade fans installed on the rear of the system (up to 12 fans with Intel Gaudi 3) • All are hot swap fans	
Dimensions and weight	• Height — 263.2 mm (10.36 inches) • Width — 482.0 mm (18.97 inches)	• Depth — 1008.77 mm (39.71 inches) with bezel — 995 mm (39.17 inches) without bezel • Weight — up to 114.05 kg (251.44 pounds)
Form Factor	6U 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 Service plugin	• OpenManage Power Manager plugin • OpenManage Update Manager plugin
OpenManage Integrations	• BMC Truesight • OpenManage Integration with ServiceNow	• Red Hat Ansible Modules • Terraform Providers
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
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	• SUSE Linux Enterprise Server • VMware ESXi
	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.	

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