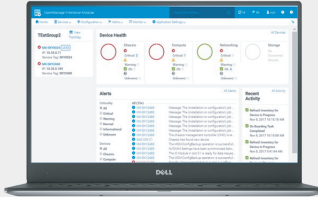# PowerEdge

DELLTechnologies

POWEREDGE MODULAR INFRASTRUCTURE

Dell PowerEdge Modular Infrastructure is built from the ground up for the software defined data center. The PowerEdge platform is designed to support the right balance of density, capacity, and flexibility to meet the needs of both traditional and emerging workloads. Hosts flexible blocks of server with storage resources while providing outstanding efficiencies through shared power, cooling, networking, I/O and management within the chassis itself. And the OpenManage portfolio delivers innovative systems management that makes you more efficient and your infrastructure more productive and reliable. Choose PowerEdge Modular Infrastructure for worry free IT that is secure and scalable - without compromises.

Dell offers a range of modular solutions to meet the needs of any environment or workload.

Dell PowerEdge servers and OpenManage systems management solutions deliver intelligent automation directly into your data center.

PowerEdge MX	PowerEdge XR4000	PowerEdge XR8000
PowerEdge MX modular integrated infrastructure, designed for the modern software-defined data center, delivers optimal utilizaiton, productivity and efficiency. With an industy-leading no midplane and scalable fabric architecture, PowerEdge MX will support new processor technologies, new storage types, and new connectivity innovations well into the future. This modular 7U integrated solution designed for enterprise data center density with easy deployment and management is ideal for a variety of workloads including dense virtualization, software-defined workloads, including SDS and HCI, and big data environments.	This high-performance multi-node server was purpose-built to address the demands of today's retail, manufacturing, and defense customers. The XR4000 is designed around a unique chassis and compute sled(s) concept. The chassis consists of two 14"-depth chassis form factors, referred to as "rackable" and "stackable." The actual compute resides in modular sleds coming in 1U or 2U form factors; with power being the only shared component between the sleds. XR4000 delivers even more innovation with the addition of an optional nano server sled. Replacing the need for a virtual witness node, the Nano Server can function as an in-chassis witness node, allowing for native, 2-node vSAN cluster in even the 14" x 12" stackable server chassis. As a MIL/NEBS tested server, XR4000 can operate in temperatures from -5°C to 55°C, withstanding most levels of shock and vibration, and handle the extremes of remote field deployments or Black Friday shopping crowds.	Experience ultimate performance and reliability in even the harshest environments with the XR8000. This Class 1 server features a compact, short-depth design that maximizes efficiency without compromising power. With its innovative sled-based architecture, this purpose-built server offers exceptional versatility for a wide range of workloads, from RAN at the cell site to AI/ML applications on factory floors. The XR8000 series consists of one 2U chassis form factor and one 1U and one 2U half width sled form factors. The modular sleds house the powerful compute units, with power being the only shared component between them. This intelligent design ensures seamless scalability and easy maintenance. Built to withstand extreme conditions, the XR8000 is a NEBS tested server capable of operating in temperatures ranging from -5°C to 55°C. Whether you're facing challenging environments or demanding workloads, the XR8000 is built to deliver exceptional performance and reliability at the Edge.

Embedded Management

Dell PowerEdge servers feature powerful, built-in embedded management for modular infrastructures. Embedded management enables IT Pros to effortlessly deploy, update, manage and monitor everything within the chassis – servers, storage and switches. These management solutions work seamlessly with the agent-free integrated Dell Remote Access Controller (iDRAC) and Lifecycle Controller (LC).

OpenManage Enterprise – Modular Edition (OME-Modular)

OME-Modular helps you transform how you manage the infrastructure and enable the business quickly. A unified web/RESTful API interface manages all nodes including compute, storage and networking. This helps reduce costs, learning curve and consolidates multiple tools for ease of access and monitoring. Simplified administration helps deploy and monitor at scale, from one to many chassis, with support for remote management. Agile, intelligent automation drives faster hardware rollouts and reduces repetitive tasks for accelerated lifecycle management.

Advantages:
- Manage servers across multiple MX chassis
- Deploy faster with auto-chassis and node discovery
- Comprehensive RESTful API helps automate multiple tasks and integrate to third party tools
- Enhance management with redundant OME-Modular module, Touchscreen LCD and Quick Sync 2 options for remote access
- Expand management across all PowerEdge servers with OpenManage Enterprise

PowerEdge Architecture	PowerEdge MX
Form factor	7U enclosure with 8 slots
Description	Modular chassis that accommodates a variety of compute sled combinations, connected by high-speed fabrics, sharing power, cooling and managed by embedded OpenManage Enterprise – Modular Edition systems management
I/O slots	2 USB 2.0 Type A or KVM control (keyboard and mouse only) 1 Mini Display Port connector for video
Server Sleds	Up to 8 PowerEdge MX760c Up to 8 PowerEdge MX750c Up to 8 PowerEdge MX740c Up to 4 PowerEdge MX840c
Power Supplies	Up to 6 PSUs; Platinum rated – 3000W output with high line AC input; N+1 or Grid redundancy support
Fans	5x 80mm rear and 4x 60mm front hot-swappable Gen2 fans
I/O and Ports	Up to 2 pairs of redundant general-purpose switch or pass-through modular bays (Fabrics A and B); redundant pair of Fibre Channel switch bays (Fabric C) Up to 25Gbps/100Gbps Ethernet and 32Gbps Fibre Channel switching
Embedded Management	OpenManage Enterprise – Modular Edition (OME-Modular); running on up to 2 redundant MX9002m management modules Quick Sync 2 Bluetooth Low Energy (BLE)/wireless module option

PowerEdge MX Components	MX760c	MX750c	MX740c	MX840c
Form factor	Single-width, 2-socket server sled	Single-width, 2-socket server sled	Single-width, 2-socket server sled	Double-width, 4-socket server sled
Description	High-performance modular compute sled designed to take advantage of automation, provisioning, and deployment.	High-performance modular compute sled with exceptional scale	Efficient, feature-rich modular server for modern data center	Scalable, high-performance modular server for modern data center
Ideal workloads	Virtualization/Cloud, Software -defined, Big Data Analytics, AI Inferencing	Virtualization, power, thermal, system management, and usability workloads	Virtualization, software-defined, collaborative workloads	Software-defined and demanding, database-driven workloads
Chassis enclosure	Up to 8 sleds per MX7000 7U chassis	Up to 8 sleds per MX7000 7U chassis	Up to 8 sleds per MX7000 7U chassis	Up to 4 sleds per MX7000 7U chassis
Processor	2 x 4th Generation Intel Xeon Scalable processors with up to 56 cores per processor	2 x 3rd Generation Intel Xeon Scalable processors with up to 40 cores per processor	Up to two 2nd Generation Intel® Xeon® Scalable processors, with up to 28 cores per processor; TDP 70-205W	Two or four 2nd Generation Intel® Xeon® Scalable processors, with up to 28 cores per processor; TDP 70-205W
Memory	32 DDR5 DIMM slot, supports RDIMM max 8 TB, speeds up to 4800 MT/s	32 DDR4 DIMM slots, supports RDIMM max 2TB or LRDIMM max 4TB, speeds up to 3200 MT/s. Up to 16 Intel Persistent Memory 200 series (BPS) slots, max 8TB	24 DDR4 DIMM slots, supports RDIMM max 1.5TB, LRDIMM max 3TB, NVDIMM-N max 192GB, speeds up to 2933 MT/s	48 DDR4 DIMM slots, RDIMM max 3 TB, LRDIMM max 6.1TB, NVDIMM-N max 192GB, speeds up to 2933 MT/s
Storage	4 x 2.5-inch or 6 x 2.5-inch NVMe/SAS/SATA (HDD/SSD) or 8 x E3.s NVMe PCIe Gen 5 SSD drives, plus up to two M.2 NVMe boot devices, with RAID options	4 x 2.5-inch or 6 x 2.5-inch SAS/SATA or NVMe PCIe Gen 4 SSD drives, plus up to two M.2 NVMe boot devices, with RAID options.	Up to 6 x 2.5" SAS/SATA (HDD/SSD) or NVMe PCIe SSD drives plus optional M.2 boot.	Up to 8 x 2.5" SAS/SATA (HDD/SSD) or NVMe PCIe SSD drives plus optional M.2 boot.
PCIe slots	1 x16 PCIe Gen4 slot for Mezz A 1 x16 PCIe Gen5 slot for Mezz B 1 x16 PCIe Gen4 slot for mini-Mezz card 1 x16 PCIe Gen4 slot for PERC	2 x16 PCIe Gen4 slot for Mezz A and B 1 x16 PCIe Gen4 slot for mini-Mezz card 1 x16 PCIe Gen4 slot for PERC	2 PCIe 3.0 x16 mezzanine slots (Fabric A and B) 1 PCIe 3.0 x16 mini-mezzanine slot (Fabric C)	4 PCIe 3.0 x16 mezzanine slots (Fabric A and B) 2 PCIe 3.0 x16 mini-mezzanine slot (Fabric C)
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	TPM 1.2/2.0 FIPS, CC-TCG certified, TPM 2.0 China NationZ, Digitally Signed Firmware, Chassis Intrusion Alert, Secure Boot, Secure Erase, Silicon Root of Trust, System Lockdown (requires iDRAC Enterprise or Datacenter)	TPM 1.2/2.0 optional Cryptographically signed firmware Silicon Root of Trust, Secure Boot, System Lockdown (requires iDRAC Enterprise or Datacenter), Secure Erase	

PowerEdge XR4000 Components	PowerEdge XR4510c	PowerEdge XR4520c	PowerEdge XR4000w
Form factor	1U, single-width, 1-processor server sled	2U, single-width, 1-processor server sled	2U, single-width 1-processor witness sled
Description	The smallest form-factor compute sled for the XR4000, perfect for adding compute density into small spaces.	The larger form-factor compute sled adding 2 PCIe risers to the 1U sled. These PCIe slots are FHFL and allow for the addition of storage, GPUs, and/or networking cards.	Enables a fully virtualized solution integrating storage, servers and networking within one blade chassis
Ideal workloads	vSAN, video surveillance, point-of-sale, digital signage, and data compression.	vSAN, video surveillance, point-of-sale, digital signage, and data compression.	VDI, vSAN or VM
Chassis enclosure	Up to 4 sleds per PowerEdge XR4000r and up to 2 sleds per XR000z chassis.	Up to 2 sleds per PowerEdge XR4000r and one sled per XR000z chassis.	One optional witness sled per PowerEdge XR4000r and XR000z.
Processor	One 3rd Generation Intel Xeon D Scalable processor with up to 20 cores	One 3rd Generation Intel Xeon D Scalable processor with up to 20 cores	One Intel Atom C3508 series processor
Memory	4 x DDR4 DIMM slots, supports RDIMM 256 GB max and LRDIMM 512 GB max, with speeds up to 3200 MT/s	4 x DDR4 DIMM slots, supports RDIMM 256 GB max and LRDIMM 512 GB max, with speeds up to 3200 MT/s	16GB DDR4 ECC DIMMs (soldered on system board)
Storage	2 x M.2 NVMe SSDs on BOSS-N1 card 4 x M.2 NVMe SSDs on M.2 riser module (2280 and 22110)	2 x M.2 NVMe SSDs on BOSS-N1 card 4 x M.2 NVMe SSDs on M.2 riser module (2280 and 22110) 8 x M.2 NVMe SSDs on PCIe Add-in card	1 x M.2 NVMe SSD (2280)
PCIe slots	Not Applicable	Up to 2 x 16 PCIe (Gen 4) Full height, full length	Not Applicable
Security	Cryptographically signed firmware Secure Boot 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	Cryptographically signed firmware Secure Boot 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	Not Applicable

PowerEdge XR8000 Components	PowerEdge XR8620t	PowerEdge XR8620t
Form factor	2U, single-width, 1-processor server sled	1U, single-width, 1-processor server sled
Description	This general purpose compute sled offers three FHFL PCIe slots.	This dense compute optimized sled offers one FHFL PCIe slot.
Ideal workloads	Distributed Unit (DU), Centralized Unit (CU), vRAN and Open RAN, Distributed RAN, Network Edge and MEC, Cloud Services, AI Inferencing, Field Operations	Distributed Unit (DU), Centralized Unit (CU), vRAN and Open RAN, Distributed RAN, Network Edge and MEC, Cloud Services, AI Inferencing, Field Operations
Chassis enclosure	Up to 2 sleds per PowerEdge XR8000r chassis.	Up to 4 sleds per PowerEdge XR8000r chassis.
Processor	One 5th Generation Intel Xeon Scalable processor with up to 16 cores or 4th Generation Intel Xeon Scalable processor with up to 32 cores with optional vRAN boost	One 5th Generation Intel Xeon Scalable processor with up to 16 cores or 4th Generation Intel Xeon Scalable processor with up to 32 cores with optional vRAN boost
Memory	8 x DDR5 DIMM slots, supports RDIMM 512 GB max, with speeds up to 5600 MT/s	8 x DDR5 DIMM slots, supports RDIMM 512 GB max, with speeds up to 5600 MT/s
Storage	2 x M.2 2280 or 22110 direct connect NVMe drives with dual M.2 NVMe direct riser module (non-RAID) and 2 x M.2 2280 with BOSS-N1 card	2 x M.2 2280 SSDs on BOSS-N1 card
PCIe slots	1 CPU configuration: Up to 3 PCIe slots: (3 x16 Gen5)	1 CPU configuration: 1 PCIe slot: (1 x16 Gen5)
Security	Cryptographically signed firmware Secure Boot Secure Erase Silicon Root of Trust Secured Component Verification (Hardware integrity check) System Lockdown (requires iDRAC9 Enterprise or Datacenter) TPM 2.0 FIPS, CC-TCG certified, TPM 2.0 China NationZ	Cryptographically signed firmware Secure Boot Secure Erase Silicon Root of Trust Secured Component Verification (Hardware integrity check) System Lockdown (requires iDRAC9 Enterprise or Datacenter) TPM 2.0 FIPS, CC-TCG certified, TPM 2.0 China NationZ

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.

With OpenManage Enterprise with Power Manager, you can genuinely benefit from datacenter level cooling efficiency by monitoring power usage. When you can manage your server thermals you will reduce energy waste, reduce wear, tear on your equipment, and extend the life of your investment.

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.

Discover more about PowerEdge servers

Learn more about our PowerEdge servers

Learn more about our systems management solutions

Search our Resource Library

Follow PowerEdge servers on Twitter

Contact a Dell Technologies Expert for Sales or Support

Follow PowerEdge servers on Linkedin