POWEREDGE R640

Uncompromising performance and density

The PowerEdge R640 is the ideal dual-socket, 1U platform for dense scale-out data center computing. The R640 combines density, performance and scalability to optimize application performance and data center density.

Maximize application performance and density

The scalable business architecture of the R640 is designed to maximize application performance and provide the flexibility to optimize configurations based on the application and use case. With the R640 you can create an NVMe cache pool and use either 2.5" or 3.5" drives for data storage. Combined with up to 24 DIMM's, 12 of which can be PMems or NVDIMMs, you have the resources to maximize application performance with the optimum configuration in only a 1U chassis.

- Simplify deployments and speed deployments with Dell EMC ready nodes for VSAN.

- Maximize storage performance with up to 10 NVMe drives or 12 2.5" drives.

- Scale compute resources with 2nd Generation Intel® Xeon® Scalable processors and tailor performance based on your unique workload requirements.

Automate maintenance with Dell EMC OpenManage

The Dell EMC OpenManage™ portfolio helps deliver peak efficiency for PowerEdge servers, delivering intelligent, automated management of routine tasks. Combined with unique agent-free management capabilities, the R640 is simply managed, freeing up time for high profile projects.

- Simplify management with the OpenManage Enterprise™ console, with customized reporting and automatic discovery.

- Take advantage of QuickSync 2 capabilities and gain access to your servers easily through your phone or tablet.

Guard your data center with built in security

Every PowerEdge server is designed as part of a cyber resilient architecture, integrating security into the full server life cycle. The R640 leverages new security features built-into every new PowerEdge server strengthening protection so you can reliably and securely deliver accurate data to your customers no matter where they are. By considering each aspect of system security, from design to retirement, Dell EMC ensures trust and delivers a worry-free, secure infrastructure without compromise.

- Rely on a secure component supply chain to ensure protection from factory to the data center.

- Maintain data safety with cryptographically signed firmware packages and Secure Boot.

- Protect your server from malicious malware with iDRAC9 Server Lockdown mode (requires Enterprise or Datacenter license).

- Wipe all data from storage media including hard drives, SSDs and system memory quickly and securely with System Erase.

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Deliver fast performance and reduce latency with NVMe drives

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Features	Technical Specification
Processor	Up to two 2nd Generation Intel® Xeon® Scalable processors, up to 28 cores per processor
Memory	24 DDR4 DIMM slots, Supports RDIMM /LRDIMM, speeds up to 2933 MT/s, 3TB max Up to 12 NVDIMM, 192 GB Max Up to 12 Intel® Optane™ persistent memory PMem, 6.14TB max, (7.68TB max with PMem + LRDIMM) Supports registered ECC DDR4 DIMMs only
Storage controllers Internal boot	Internal Controllers: PERC H330, HBA330, HBA350i (adapter only), H730P, H740P, H750 (adapter only) External Controllers: H840, 12 Gbps SAS HBA, HBA355e (adapter only, non-RAID) Software RAID: S140 Boot Optimized Storage Subsystem (BOSS): HWRAID 2 x M.2 SSDs 240 GB, 480 GB Internal Dual SD Module[1]
Drive bays	Front drive bays: Up to 10 x 2.5" SAS/SATA (HDD/SSD) with up to 8 NVMe SSD max 76.8TB or up to 10 NVMe drives max 64TB, or up to 4 x 3.5" SAS/SATA HDD max 64TB Rear drive bays: Up to 2 x 2.5" SAS/SATA (HDD/SSD), NVMe SSD max 15.36TB Optional DVD-ROM, DVD+RW
Power supplies	495W Platinum 750W Platinum 750W 240HVDC Platinum* 1100W 48VDC 1100W Platinum 1100W 380HVDC Platinum* 1600W Platinum 750W Titanium Hot plug power supplies with full redundancy option Up to 8 hot plugs fans with full redundancy *Available in China and Japan only
Dimensions	Form factor: Rack (1U) Height: 42.8mm (1.69") Width*: 482.0mm (18.98") Depth*: 808.5mm (31.8") Weight: 21.9kg (48.3 lbs.) *Dimensions include bezel.
Embedded management	iDRAC9, iDRAC Direct, iDRAC RESTful API with Redfish, Quick Sync 2 wireless module (optional)
Bezel	Optional LCD bezel or security bezel
OpenManage™ Software	OpenManage Enterprise OpenManage Mobile OpenManage Power Center
Integrations and connections	Integrations: Microsoft® System Center VMware® vCenter™ BMC Truesight Red Hat Ansible Modules Connections: IBM Tivoli® Netcool/OMNIbus IBM Tivoli® Network Manager IP Edition Micro Focus® Operations Manager I Nagios® Core Nagios® XI
Security	TPM 1.2/2.0, TCM 2.0 optional Cryptographically signed firmware Secure Boot Silicon Root of Trust Secure erase System Lockdown (requires iDRAC Enterprise or Datacenter)
I/O & Ports	Network Options: 4 x 1GbE 2 x 10GbE + 2 x 1GbE 4 x 10GbE 2 x 25GbE Front Ports: 1 x Dedicated iDRAC direct USB 1 x USB 2.0 1 x USB 3.0 (optional) 1 x Video Rear Ports: 1 x Dedicated iDRAC network port 1 x Serial 2 x USB 3.0 1 x Video PCIe: 3 x Gen3 slots all x16 Video Card: 2 x VGA
Accelerator options	Up to 3 single-width GPU (NVIDIA T4) or up to 1 FPGA See Dell.com/GPU for latest information.
Supported operating systems	Canonical® Ubuntu® LTS Citrix® XenServer Microsoft Windows Server® LTSC with Hyper-V 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/OEM.
Recommended support	Dell EMC ProSupport Plus for critical systems or Dell EMC ProSupport for premium hardware and software support for your PowerEdge. Consulting and deployment offerings are also available. Contact your Dell EMC representative today for more information. Availability and terms of Dell EMC Services vary by region. For more information, visit Dell.com/ServiceDescriptions.

[1] ESXi (only OS supported)

Learn more at Dell.com/PowerEdge

End-to-end technology solutions

Reduce IT complexity, lower costs and eliminate inefficiencies by making IT and business solutions work harder for you. You can count on Dell EMC for end-to-end solutions to maximize your performance and uptime. A proven leader in Servers, Storage and Networking, Dell EMC Services deliver innovation at any scale. And if you're looking to preserve cash or increase operational efficiency, Dell EMC Financial Services™ has a wide range of options to make technology acquisition easy and affordable. Contact your Dell EMC Sales Representative for more information.*

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