



# 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 2<sup>nd</sup> 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.

## PowerEdge R640

Deliver fast performance and reduce latency with NVMe drives

# PowerEdge R640

| Features                     | Technical Specification                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                             |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor                    | Up to two 2 <sup>nd</sup> 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<br>Up to 12 NVDIMM, 192 GB Max<br>Up to 12 Intel® Optane™ persistent memory PMem, 6.14TB max, (7.68TB max with PMem + LRDIMM)<br>Supports registered ECC DDR4 DIMMs only                                                                                                                                                                                      |                                                                                                                                                                             |
| Storage controllers          | Internal Controllers: PERC H330, HBA330, HBA350i (adapter only), H730P, H740P, H750 (adapter only)<br>External Controllers: H840, 12 Gbps SAS HBA, HBA355e (adapter only, non-RAID)<br>Software RAID: S140                                                                                                                                                                                                                                |                                                                                                                                                                             |
| Internal boot                | Boot Optimized Storage Subsystem (BOSS): HWRAID 2 x M.2 SSDs 240 GB, 480 GB<br>Internal Dual SD Module <sup>1</sup>                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                             |
| 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<br>Rear drive bays: Up to 2 x 2.5" SAS/SATA (HDD/SSD), NVMe SSD max 15.36TB<br>Optional DVD-ROM, DVD+RW                                                                                                                                                                   |                                                                                                                                                                             |
| Power supplies               | 495W Platinum<br>750W Platinum<br>750W 240HVDC Platinum*<br>1100W 48VDC<br>1100W Platinum<br>1100W 380HVDC Platinum*                                                                                                                                                                                                                                                                                                                      | 1600W Platinum<br>750W Titanium<br>Hot plug power supplies with full redundancy option<br>Up to 8 hot plugs fans with full redundancy<br>*Available in China and Japan only |
| Dimensions                   | Form factor: Rack (1U)                                                                                                                                                                                                                                                                                                                                                                                                                    | Height: 42.8mm (1.69")<br>Width*: 482.0mm (18.98")<br>Depth*: 808.5mm (31.8")<br>Weight: 21.9kg (48.3 lbs.)<br>*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<br>OpenManage Mobile                                                                                                                                                                                                                                                                                                                                                                                                | OpenManage Power Center                                                                                                                                                     |
| Integrations and connections | Integrations:<br>Microsoft® System Center<br>VMware® vCenter™<br>BMC Truesight<br>Red Hat Ansible Modules                                                                                                                                                                                                                                                                                                                                 | Connections:<br>IBM Tivoli® Netcool/OMNIBus<br>IBM Tivoli® Network Manager IP Edition<br>Micro Focus® Operations Manager I<br>Nagios® Core<br>Nagios® XI                    |
| Security                     | TPM 1.2/2.0, TCM 2.0 optional<br>Cryptographically signed firmware<br>Secure Boot                                                                                                                                                                                                                                                                                                                                                         | Silicon Root of Trust<br>Secure erase<br>System Lockdown (requires iDRAC Enterprise or Datacenter)                                                                          |
| I/O & Ports                  | Network Options: 4 x 1GbE<br>2 x 10GbE + 2 x 1GbE<br>4 x 10GbE<br>2 x 25GbE<br><br>Front Ports: 1 x Dedicated iDRAC direct USB<br>1 x USB 2.0<br>1 x USB 3.0 (optional)<br>1 x Video                                                                                                                                                                                                                                                      | Rear Ports: 1 x Dedicated iDRAC network port<br>1 x Serial<br>2 x USB 3.0<br>1 x Video<br><br>PCIe: 3 x Gen3 slots all x16<br>Video Card: 2 x VGA                           |
| Accelerator options          | Up to 3 single-width GPU (NVIDIA T4) or up to 1 FPGA                                                                                                                                                                                                                                                                                                                                                                                      | See <a href="https://www.dell.com/gpu">Dell.com/GPU</a> for latest information.                                                                                             |
| Supported operating systems  | Canonical® Ubuntu® LTS<br>Citrix® XenServer<br>Microsoft Windows Server® LTSC with Hyper-V<br>Red Hat® Enterprise Linux                                                                                                                                                                                                                                                                                                                   | SUSE® Linux Enterprise Server<br>VMware® ESXi<br>For specifications and interoperability details, see <a href="https://www.dell.com/OSsupport">Dell.com/OSsupport</a> .     |
| 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.<br>For more information, visit <a href="https://www.dell.com/OEM">Dell.com/OEM</a> .                                                                                                                                                                                                                                           |                                                                                                                                                                             |
| 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 <a href="https://www.dell.com/ServiceDescriptions">Dell.com/ServiceDescriptions</a> . |                                                                                                                                                                             |

<sup>1</sup> ESXi (only OS supported)

Learn more at [Dell.com/PowerEdge](https://www.dell.com/PowerEdge)

## End-to-end technology solutions

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