Dell PowerEdge R820

A high-performance four-socket, 2U rack server, the Dell PowerEdge R820 is designed for dense virtualization and scalable database applications.

Designed to excel at running a wide range of applications and virtualization environments for both midsized and large enterprises, the PowerEdge R820 rack server is a compute-intensive performance platform with highly scalable memory (up to 3TB) and impressive I/O capabilities to match. With the Intel® Xeon® processor E5-4600 and E5-4600 v2 product families, and the ability to support dual RAID controllers, the R820 can readily handle demanding, mission-critical workloads, like enterprise resource planning, data warehousing, e-commerce, Virtual Desktop Infrastructure (VDI), databases and data node high-performance computing (HPC).

Manage data overload

Keep pace with the data explosion of the virtual age with flexible and powerful I/O and storage capabilities. With up to 16 internal hard drives and integrated PCI Express® (PCIe) 3.0-enabled expansion slots, the R820 increases your capacity and offers optional hot-plug, front-access PCIe SSDs (up to four) to enable performance-enhancing, in-box storage tiering. And with Dell Select Network Adapters, our flexible embedded NIC technology, you can choose the right network fabric to match your needs, without using up a valuable PCIe slot.

Virtualize more

Maximize your data center's application capacity by expanding your virtual environment using the R820's large memory footprint, I/O options, flexible fabric choices and up to 32 cores in a four-processor configuration. Choose an industry-leading hypervisor and take advantage of our system management capability to manage both physical and virtual assets. The R820 can also help maximize your virtual machines' uptime using redundant failsafe hypervisors on its internal dual SD module.

Enterprise-wide systems management

PowerEdge embedded management technology, Integrated Dell Remote Access Controller 7 (iDRAC7) with Lifecycle Controller, helps IT administrators manage Dell servers in physical, virtual, local and remote environments — agent-free or in-band with a systems management software agent installed. **iDRAC7 Enterprise** features include a multi-administrator virtual console, virtual media and remote file share that enable IT admins to operate servers "as if they were there," ensuring secure access to servers from anywhere in the world.

OpenManage Essentials, a comprehensive monitoring and management console available as a no-charge software download, simplifies and automates basic hardware management tasks while Dell SupportAssist helps you maintain a healthy and productive environment.

PowerEdge R820

- Up to 48 DIMMs

- PCIe 3.0-enabled expansion slots

- Choice of network fabric technologies

- Optional hot-plug, front-access PCIe SSDs

Feature	PowerEdge R820 technical specification	
Form factor	2U rack	
Processors	Intel® Xeon® processor E5-4600 and E5-4600 v2 product families	
Processor sockets	4	
Internal interconnect	2 Intel QuickPath Interconnect (QPI) links: 6.4GT/s, 7.2GT/s, 8.0GT/s	
Cache	2.5MB per core; core options: 4, 6, 8, 10, 12	
Chipset	Intel C602	
Memory[1]	Up to 3TB (48 DIMM slots): 2GB/4GB/8GB/16GB/32GB/64GB DDR3 up to 1866MT/s	
I/O slots	**7 PCIe slots:** • 2 x16 half-length, full-height • 1 x8 half-length, full-height • 3 x8 half-length, half-height • 1 x8 half-length, full-height for the RAID controller	
RAID controllers	**Internal Controllers:** PERC H310 PERC H710 PERC H710P	**External HBAs (RAID):** PERC H810 **External HBAs (non-RAID):** 6Gbps SAS HBA
Drive bays	Up to 16 2.5" hot-plug SAS, SATA or SSD	
Maximum internal storage[1]	16TB	
Hard drives	**Hot-plug hard drive options** 2.5" PCIe SSD, SAS SSD, SATA SSD, SAS (15K, 10K), nearline SAS (7.2K), SATA (7.2K) Self-encrypting drives available	
Embedded NIC	Broadcom® 5720 quad-port 1GbE Base-T (no TOE or iSCSI offload) Broadcom 57800S dual-port 10GbE Base-T with 2 1GbE (TOE and iSCSI offload available on 10GbE ports) Broadcom 57800S dual-port 10GbE SFP+ with 2 1GbE (TOE and iSCSI offload available on 10GbE ports) Broadcom 57840S quad-port 10GbE SFP+ Rack NDC (NPAR1.0, SRIOV, DCB, iSCSI and FCoE offloads and CEM) Intel I350 quad-port 1GbE Base-T (no TOE or iSCSI offload) Intel X540 dual-port 10GbE Base-T with 2 1GbE (FCoE capability enabled on the 10GbE ports)	
Power supplies	Titanium efficiency 750W AC power supply; auto-ranging Platinum efficiency 750W or 1100W AC power supply; 1100W DC power supply	
Availability	High-efficiency, hot-plug, redundant power supplies; hot-plug drive bays; TPM; dual internal SD support; hot-plug redundant fan; optional bezel; information tag; ECC memory, interactive LCD screen; extended thermal support; ENERGY STAR® compliant, extended power range; switch independent partitioning	
Remote management	iDRAC7 with Lifecycle Controller iDRAC7 Express (default), iDRAC7 Enterprise (upgrade option) 8GB vFlash media (upgrade option), 16GB vFlash media (upgrade option)	
Systems management	IPMI 2.0 compliant Dell OpenManage Essentials Dell OpenManage Mobile Dell OpenManage Power Center Dell OpenManage Integrations: • Dell OpenManage Integration Suite for Microsoft® System Center • Dell OpenManage Integration for VMware® vCenter™ Dell OpenManage Connections: • HP Operations Manager, IBM Tivoli® Netcool®, and CA Network and Systems Management • Dell OpenManage Plug-in for Oracle Database Manager	
Rack support	ReadyRails™ sliding rails with optional cable management arm for 4-post racks (optional adapter brackets required for threaded hole racks)	
Operating systems	Microsoft Windows® Server® 2012 R2 (includes Hyper-V®) Microsoft Windows Server 2012 (includes Hyper-V) Microsoft Windows Server 2008 R2 SP1, x64 (includes Hyper-V) Novell® SUSE® Linux Enterprise Server Red Hat® Enterprise Linux®	**Virtualization options**: Citrix® XenServer® VMware vSphere® ESXi™ Red Hat Enterprise Virtualization® For more information on the specific versions and additions, visit Dell.com/OSsupport.

Global services and support

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