



## Dell PowerEdge R820

A high-performance 4-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 midsize and large enterprises, the Dell PowerEdge R820 rack server is a compute-intensive performance platform with highly scalable memory (up to 1.5TB) and impressive I/O capabilities to match. With four Intel® Xeon® E5 processors, and the ability to support dual RAID controllers, the R820 can readily handle very 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, 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.

### Accelerate the solution

Boost the performance of your HPC or 2D VDI environment by combining the R820's memory density with an optional GPU accelerator. Choose from a range of GPU options for greater assisted performance.

### 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.

### The PowerEdge portfolio

The PowerEdge family is engineered with the right combination of features and performance scalability to handle tough workloads for both large and small data center environments.

The Dell OpenManage systems management portfolio includes Integrated Dell Remote Access Controller 7 (iDRAC7) with Lifecycle Controller. This embedded feature helps IT administrators manage Dell servers in physical, virtual, local and remote environments, operating in-band or out-of-band, with or without a systems management software agent installed.

OpenManage iDRAC with Lifecycle Controller integrates and connects to leading third-party systems management solutions (such as those from Microsoft, VMware and BMC Software), so users can maintain a single point of control and capitalize on an existing systems management investment. OpenManage simplifies the lifecycle of deploying, updating, monitoring and maintaining Dell PowerEdge servers.

## PowerEdge R820

- Up to 48 DIMMs
- PCIe 3.0-enabled expansion slots
- Choice of network fabric technologies
- Optional hot-plug, front-access PCIe SSDs
- Support for internal GPU accelerators

Feature	PowerEdge R820 Technical Specification	
Form factor	2U rack	
Processors	Intel® Xeon® processor E5-4600 product family	
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	
Chipset	Intel C602	
Memory <sup>1</sup>	Up to 1.5TB (48 DIMM slots): 2GB/4GB/8GB/16GB/32GB DDR3 up to 1600MT/s	
I/O slots	<b>7 PCIe slots:</b> <ul style="list-style-type: none"> <li>• Two x16 half-length, full-height</li> <li>• One x8 half-length, full-height</li> <li>• Three x8 half-length, half-height</li> <li>• One x8 half-length, full-height for the RAID controller</li> </ul>	
RAID controllers	<b>Internal Controllers:</b> PERC H310 PERC H710 PERC H710P	<b>External HBAs (RAID):</b> 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 <sup>1</sup>	16TB	
Hard drives	<b>Hot-plug hard drive options</b> 2.5" PCIe SSD, SAS SSD, SATA SSD, SAS (15K, 10K), nearline SAS (7.2K), SATA (7.2K), SAS 512e (15K) 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	Auto-ranging 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 Power Center Dell OpenManage Connections: <ul style="list-style-type: none"> <li>• Dell OpenManage Integration Suite for Microsoft® System Center</li> <li>• Dell plug-in for VMware® vCenter™</li> <li>• HP Operations Manager, IBM Tivoli® Netcool®, and CA Network and Systems Management</li> </ul>	
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 Microsoft Windows Server 2008 R2 SP1, x64 (includes Hyper-V®) Novell® SUSE® Linux Enterprise Server Red Hat® Enterprise Linux®	<b>Virtualization options:</b> Citrix® XenServer® VMware vSphere® ESXi™ Red Hat Enterprise Virtualization® For more information on the specific versions and additions, visit <a href="http://Dell.com/OSsupport">Dell.com/OSsupport</a> .

<sup>1</sup> GB equals 1 billion bytes and TB equals 1 trillion bytes; actual capacity varies with preloaded material and operating environment and will be less.

## Global services and support

Dell Services can help reduce IT complexity, lower costs, and eliminate inefficiencies by making IT and business solutions work harder for you. The Dell Services team takes a holistic view of your needs and designs solutions for your environment and business objectives while leveraging proven delivery methods, local talent, and in-depth domain knowledge for the lowest total cost of ownership.

## 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](http://Dell.com/OEM).

Learn More at [Dell.com/PowerEdge](http://Dell.com/PowerEdge)

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