Dell PowerEdge R510

The Dell™ PowerEdge™ R510 is a multipurpose 2-socket 2U high-capacity rack server offering an excellent balance of internal storage, redundancy, and value.

The Dell PowerEdge R510 was developed with a purposeful design, energy-optimized technology, the performance of the Intel® Xeon® processors and enterprise-class manageability. It is ideal for customers needing large amounts of internal storage capacity and/or seeking a multi-purpose core application server.

Right-Sized, Flexible Technology and Business Value

The PowerEdge R510 was designed to meet the needs of many IT environments with advanced systems management capabilities, a compact chassis, high-availability and redundancy features, and large amounts of internal storage capacity. The R510 is an excellent platform for core business applications such as Microsoft® SQL Server® and Microsoft® Exchange.

Dell aims to add value to your business by including the features you need for your specific IT environment. Our goal is to deliver value through tailored solutions based on industry standards, as well as innovative design of our servers. For example, the PowerEdge R510 solution (8HDD option) supports up to 10 times the mailbox size while delivering equivalent performance and significantly less power usage than the legacy HP ProLiant DL385 solution.[1]

Purposeful Design

The PowerEdge R510 follows the 11th generation PowerEdge portfolio specifications and features the same system design commonality and reliability true to the entire portfolio. All 11th generation servers are designed to make the experience easier. We put all external ports, power supplies, LCD screens, and LED lights in the same location for familiar experience as well as easy installation and deployment. Robust, metal hard drive carriers and organized cabling are designed to help improve component access and airflow across the server.

In addition, the R510 is also available with 4, 8, or 12 hard drive chassis options, providing choice of the design and feature set that is most appropriate for your IT environment.

Energy-Optimized Technology

The PowerEdge R510 incorporates Energy Smart design using logical component layout of the internal components which aids with airflow direction, helping to keep the server cool. The PowerEdge R510 solution uses up to 50 percent less power than the legacy HP ProLiant DL385 solution.[2]

Simplified Systems Management

With the optional advanced embedded systems management capabilities of Lifecycle Controller, Dell provides comprehensive enterprise-class manageability already on the motherboard. Lifecycle Controller is delivered as part of the optional iDRAC Express or iDRAC Enterprise in the PowerEdge R510. It helps to simplify administrator tasks by performing a comprehensive set of provisioning functions such as system deployment, system updates, hardware configuration and diagnostics from a single intuitive interface called Unified Server Configurator (USC) in a pre-OS environment. This helps eliminate the need to use and maintain multiple pieces of disparate CD/DVD media.

Also part of the Dell OpenManage™ portfolio is the Dell Management Console which is included with every Dell server and provides IT administrators with a consolidated console view of their IT infrastructure.

Built with cost-effective RAID options to further protect your valuable data, new eSATA external storage connectivity options, and the latest Intel® Xeon® processor technology, the PowerEdge R510 is an ideal 2-socket 2U rack for companies needing flexibility and manageability.

Dell Services

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 TCO.

[1] Source: Based on the performance whitepaper commissioned by Dell, "Exchange 2010 migration: Dell PowerEdge R510 vs. legacy HP ProLiant DL385," November 2009, Principled Technologies, Inc. Actual performance will vary based on configuration, usage and manufacturing variability.
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The PowerEdge R510 is ideal for customers needing large amounts of internal storage capacity or a multi-purpose core application server such as remote sites, larger corporation departments, and small and medium businesses.

Feature	Technical Specification	
Form Factor	2U rack	
Processors	Latest quad-core or six-Core Intel® Xeon® processors 5500 and 5600 series	
Processor Sockets	2	
Front Side Bus or HyperTransport	Intel® QuickPath Interconnect (QPI)	
Cache	4MB and 8MB	
Chipset	Intel® 5500 Chipset	
Memory[1]	Up to 128GB (8 DIMM slots): 1GB/2GB/4GB/8GB/16GB DDR3 800MHz, 1066MHz or 1333MHz	
I/O Slots	**4 PCIe G2 slots:** One x8 slot Two x4 slot (both w/ x8 connectors) One Storage x4 slot (w/ x8 connector)	
RAID Controller	**Internal:** SAS 6/iR PERC 6/i PERC S100 (software based), Available on 4 HDD only PERC S300 (software based), Available on 4 and 8 HDD only PERC H200 (6GB/s) PERC H700 (6Gb/s) with 512MB battery-backed cache; 512MB, 1GB Non-Volatile battery-backed cache	**External:** PERC H800 (6Gb/s) with 512MB of battery-backed cache; 512MB, 1GB Non-Volatile battery-backed cache PERC 6/E with 256MB or 512MB of battery-backed cache SAS 5/E HBA LSI2032 PCIe SCSI HBA **External HBAs (non-RAID):** 6Gbps SAS HBA SAS 5/E HBA LSI2032 PCIe SCSI HBA
Drive Bays	Up to four cabled 3.5" SAS or SATA drives in 4 hard drive chassis Up to eight hot-swap 2.5"/3.5" SAS, SATA or SSD drives in 8 hard drive chassis Up to 12 hot-swap 2.5"/3.5" SAS, SATA or SSD drives in 12 hard drive chassis with 2 additional 2.5" internal cabled hard drives	
Maximum Internal Storage	8TB, 16TB or 24.6TB depending on chassis selected	
Hard Drives[1]	3.5" SATA (7.2K rpm) 160GB, 250GB, 500GB, 1TB, 2TB 3.5" Near Line SAS (7.2K rpm) 500GB, 1TB, 2TB 3.5" 6Gps SAS (7.2K): 2TB 3.5" SAS (15K rpm) 146GB, 300GB, 450GB, 600GB	3.5" SAS (10K rpm) 600GB 2.5" SAS (10K rpm), 146GB, 300GB, 600GB 2.5" SATA SSD 50GB, 100GB
Communications	Intel® 10G Base-T Single Port NIC Broadcom® BMC5710 10 Base-T Copper Single Port NIC Intel® PRO/1000 PT Single Port Adapter, Gigabit Ethernet NIC, PCIe x1 Intel® Gigabit ET Dual Port Adapter, Gigabit Ethernet NIC, PCIe x4 Broadcom® NetXtreme™ 5709 Dual Port Gigabit Ethernet NIC, Copper, w/TOE PCIe x4	Broadcom® NetXtreme™ 5709 Dual Port Gigabit Ethernet NIC, Copper, TOE/iSCSI PCIe x4 Intel Gigabit ET Quad Port Adapter, Gigabit Ethernet NIC, PCIe x4 Brocade® CNA Dual-port adapter Emulex® CNA iSCSI HBA stand up adapter OCE10102-IX-D Brocade® FC4 and 8 GB HBAs Brocade® CNA BR1020
Power Supply	**4 hard drive configuration:** • Non-redundant 480W power supply **8 hard drive configuration:** • One non-redundant 750W hot-plug power supply • One non-redundant 1100W hot-plug power supply • Two redundant 750 hot-plug power supplies • Two redundant 1100W hot-plug power supplies	**12 hard drive configuration:** • One non-redundant 750W hot-plug power supply • Two redundant 750 hot-plug power supplies **Uninteruptible Power Supplies:** • 1000W-5600W • 2700W-5600W High Efficiency Online • Extended Battery Module (EBM) • Network Management Card
Availability	Hot-plug hard drives, Hot-plug redundant power, ECC memory, Quad-Pack LED lights, LCD display screen, and redundant cooling. (Availability of some features dependent on chassis selected)	
Video	Matrox® G200eW w/ 8MB memory	
Remote Management	iDRAC6 optional	
Systems Management	BMC, IPMI 2.0 compliant Dell™ OpenManage™ featuring Dell Management Console Unified Server Configurator Lifecycle Controller enabled via optional: iDRAC6 Express, iDRAC6 Enterprise and Vflash	
Rack Support	ReadyRails™ sliding rails with optional cable management arm for 4-post racks (optional adapter brackets required for threaded hole racks); ReadyRails™ static rails for 2-post and 4-post racks	
Operating Systems	Microsoft® Windows® Small Business Server 2008 Microsoft® Windows® Essential Business Server 2008 Microsoft® Windows Server® 2008 SP2, x86/x64 (x64 includes Hyper-V™) Microsoft® Windows Server® 2008 R2, x64 (includes Hyper-V™ v2) Windows® HPC Server 2008 R2 Novell® SUSE® Linux® Enterprise Server Red Hat® Enterprise Linux® **Optional Embedded Hypervisors:** VMware® vSphere™ 4.1 (including VMware ESX® 4.1 or VMware ESXi™ 4.1) For more information on the specific versions and additions, visit www.dell.com/OSsupport.	
Featured Database Application	Microsoft® SQL Server® solutions (see Dell.com/SQL)	

[1] GB means 1 billion bytes and TB equals 1 trillion bytes; actual capacity varies with preloaded material and operating environment and will be less.

OEM Ready Models Available

OEM Ready platforms are grab-and-go products for OEM customers delivering a fast and simple path to a custom-branded solution. For more information, please visit dell.com/OEM.

Learn more at Dell.com/PowerEdge