



# 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.<sup>1</sup>

## 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.<sup>2</sup>

## 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.

## 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  |  |
| Memory <sup>1</sup>              | Up to 128GB (8 DIMM slots): 1GB/2GB/4GB/8GB/16GB DDR3 up to 1333MHz  |  |
| I/O Slots                        | <b>3 PCIe G2 slots + 1 storage slot:</b><br>One x8 slot<br>Two x4 slots<br>One storage x4 slot   |  |
| RAID Controller                  | <b>Internal:</b><br>SAS 6/iR<br>PERC 6/i<br>PERC S100 (software based), Available on 4 HDD only<br>PERC S300 (software based), Available on 4 and 8 HDD only<br>PERC H200 (6Gb/s)<br>PERC H700 (6Gb/s) with 512MB battery-backed cache;<br>512MB, 1GB Non-Volatile battery-backed cache  | <b>External:</b><br>PERC H800 (6Gb/s) with 512MB of battery-backed cache;<br>512MB, 1GB Non-Volatile battery-backed cache<br>PERC 6/E with 256MB or 512MB of battery-backed cache<br>SAS 5/E HBA<br>LSI2032 PCIe SCSI HBA<br><b>External HBAs (non-RAID):</b><br>6Gbps SAS HBA<br>SAS 5/E HBA<br>LSI2032 PCIe SCSI HBA   |
| Drive Bays                       | Up to four cabled 3.5" SAS or SATA drives in 4 hard drive chassis<br>Up to eight hot-swap 2.5"/3.5" SAS, SATA or SSD drives in 8 hard drive chassis<br>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         | 12TB–37.8TB (depending on chassis)   |  |
| Hard Drives <sup>1</sup>         | <b>Hot-plug Hard Drive Options:</b><br>2.5" SAS SSD, SATA SSD, SAS (10K)<br>3.5" SAS (15K, 10K), nearline SAS (7.2K), SATA (7.2K)  | <b>Cabled Hard Drive Options:</b><br>2.5" SATA SSD, SAS (10K), nearline SAS (7.2K)<br>3.5" SAS (15K, 10K), nearline SAS (7.2K), SATA (7.2K)  |
| Communications                   | Intel® 10G Base-T Single Port NIC<br>Broadcom® BMC5710 10 Base-T Copper Single Port NIC<br>Intel® PRO/1000 PT Single Port Adapter, Gigabit Ethernet NIC, PCIe x1<br>Intel® Gigabit ET Dual Port Adapter, Gigabit Ethernet NIC, PCIe x4<br>Intel® Ethernet X520 DA2 Dual-Port 10 Gigabit Server Adapter<br>Intel® Gigabit ET Quad Port Adapter, Gigabit Ethernet NIC, PCIe x4<br>Emulex® CNA iSCSI HBA stand up adapter OCE10102-IX-D<br>Emulex® CNA iSCSI HBA stand up adapter OCE10102-FX-D | Broadcom® NetXtreme® 5709 Dual Port Gigabit Ethernet NIC, Copper, TOE/iSCSI PCIe x4<br>Broadcom® NetXtreme® II 57711 Dual-Port SFP+/Direct Attach 10Gb Ethernet PCI-Express Network Interface Card with TOE and iSCSI Offload<br>Broadcom® NetXtreme® 5709 Dual Port Gigabit Ethernet NIC, Copper, w/TOE PCIe x4<br>Brocade® CNA Dual-port adapter<br>Brocade® FC4 and 8 GB HBAs<br>Brocade® CNA BR1020                    |
| Power Supply                     | <b>4 hard drive configuration:</b> <ul style="list-style-type: none"> <li>• Non-redundant 480W power supply</li> </ul> <b>8 hard drive configuration:</b> <ul style="list-style-type: none"> <li>• One non-redundant 750W hot-plug power supply</li> <li>• One non-redundant 1100W hot-plug power supply</li> <li>• Two redundant 750 hot-plug power supplies</li> <li>• Two redundant 1100W hot-plug power supplies</li> </ul>  | <b>12 hard drive configuration:</b> <ul style="list-style-type: none"> <li>• One non-redundant 750W hot-plug power supply</li> <li>• Two redundant 750 hot-plug power supplies</li> </ul> <b>Uninterruptible Power Supplies:</b> <ul style="list-style-type: none"> <li>• 1000W-5600W</li> <li>• 2700W-5600W High Efficiency Online</li> <li>• Extended Battery Module (EBM)</li> <li>• Network Management Card</li> </ul> |
| 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               | Dell™ OpenManage™<br>BMC, IPMI 2.0 compliant<br>Unified Server Configurator<br>Lifecycle Controller enabled though 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 2011<br>Microsoft® Windows Server® 2008 SP2, x86/x64 (x64 includes Hyper-V™)<br>Microsoft® Windows Server® 2008 R2 SP1, x64 (includes Hyper-V™ v2)<br>Windows® HPC Server 2008 R2<br>Novell® SUSE® Linux® Enterprise Server<br>Red Hat® Enterprise Linux®  | <b>Virtualization Options:</b><br>VMware® vSphere™ 4.1 (including VMware ESX® 4.1 or VMware ESXi™ 4.1)<br><br>For more information on the specific versions and additions, visit <a href="http://www.dell.com/OSsupport">www.dell.com/OSsupport</a> .  |
| Featured Database Application    | Microsoft® SQL Server® solutions (see <a href="http://Dell.com/SQL">Dell.com/SQL</a> )   |  |

<sup>1</sup> 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](http://dell.com/OEM).

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

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