

DELL™ POWEREDGE™ HALF-HEIGHT M610 AND FULL-HEIGHT M710 BLADE SERVERS



The Dell PowerEdge M-Series blade servers help cut operating expenses through energy efficiency, product flexibility, and efficient use of data center space. When combined with Dell's world-class storage, management, and support offerings, the result is a total enterprise solution that can help you simplify and save on IT expenses.



STRONG IT FOUNDATION

To build the most efficient data center solutions, Dell sought input from IT professionals. You asked for reliability, scalability, energy efficiency, and a lower total cost of ownership. Our next-generation M610 and M710 blade servers deliver, becoming the cornerstone of a high-performance data center capable of keeping pace with your changing business demands.

PURPOSEFUL DESIGN

Designed with your needs in mind, these M-Series blades use the Intel® Xeon® 5500 Series Processor. This processor series adapts to your software in real time, processing more tasks simultaneously. Using Intel Turbo Boost Technology, the M-Series blades can increase performance during peak usage periods. When demand decreases, Intel Intelligent Power Technology helps reduce operating costs and energy usage by proactively putting your server into lower power states.

To enhance virtualization and database performance, the M610 is designed with 50% more memory capacity than its predecessor. This increased memory capacity saves money by enabling you to use smaller, less-expensive DIMMs to meet your computing needs.

Today's data center demands high availability and redundancy. The new Full-Height PowerEdge M710 delivers full-fabric redundancy (on all three fabrics) for exceptional I/O capacity. Dell's innovative expansion to a full-height form factor enables a significant increase in the total memory capacity of the M710: 18 DIMMs slots and up to 144GB of total RAM. The M710 Blade Server allows quick virtualization with software from leading industry vendors using an SD card or internal USB for embedded hypervisors.

SCALABILITY FOR GROWTH

As your application needs increase, M-Series blades allow you to scale up to 128 cores and 1536GB of memory per 10U chassis, with opportunities for even greater capacities in the future.

To keep pace with changing requirements, you can effectively scale I/O application bandwidth with end-to-end 10Gbe or FC8 solutions. Virtualize I/O within your M-Series chassis using Cisco's Virtual Blade Switch technology, and manage up to nine Cisco Ethernet switches as a single switch. Additionally, use NPIV and Port Aggregator modes on a variety of switches to virtualize Ethernet or Fibre Channel ports for integration into heterogeneous fabrics. By harnessing Dell's FlexIO modular switches, you can scale your I/O needs cost effectively, adding ports and functionality through switch modules, including 10Gb uplinks and stacking ports instead of needing to buy complete new switches.

COMPLETE STORAGE SOLUTIONS

Easily change your storage infrastructure to meet fluctuating business needs using Dell™ storage solutions. With the virtualized architecture of the EqualLogic® PS Series, you can help ensure maximum flexibility while maintaining your consolidation strategy. EqualLogic lets you deploy and redeploy physical storage arrays and shift workloads (data volumes) between pools or tiers of storage without application downtime. With the addition of a PS6000, your administrators can move database applications from PS5000 or previous arrays to high-performance SSD systems online or shift applications requiring the extra bandwidth of the PS6000 Series.

Tuned to the needs of today's rapidly changing businesses, Dell provides a range of solutions for building on your investment to avoid costly "rip and replace" scenarios.

SMART INVESTMENT

Global economic challenges are increasing the pressure on corporate revenues. CIOs are evaluating IT budgets seeking to increase productivity and lower costs. The M-Series is a smart solution that helps protect your infrastructure investments, simplify your IT environment, and drive real and sustainable savings in power efficiency and productivity. An M-Series investment can free up time and money previously needed for maintenance so you can use it for true innovation.

The Dell M-Series Blades offer the lowest Total Cost of Ownership (TCO) compared to HP and IBM blade solutions.¹

- **A future-ready, passive midplane capable of supporting multiple generations of blade servers and a full array of upcoming I/O technologies**
- **FlexIO technology to eliminate "rip and replace" blade switch upgrades; modularity is built into the switches**
- **FlexAddress to simplify efforts and interactions between server and networking teams by providing slot-assigned, persistent WWN/MAC/iSCSI for maintenance, without additional management tools or proprietary hardware**
- **Energy Smart Technologies, including low-flow fans and highly efficient power supplies for outstanding energy efficiency**

SIMPLIFIED SYSTEMS MANAGEMENT

The next generation Dell OpenManage™ suite offers enhanced operations and standards-based commands designed to integrate with existing systems for effective control.

LIFECYCLE CONTROLLER

Lifecycle Controller is the engine for advanced systems management integrated on the server. Lifecycle Controller simplifies administrator tasks to perform a complete 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 eliminates the need to use and maintain multiple pieces of disparate CD/DVD media.

DELL MANAGEMENT CONSOLE (DMC)

The new Dell Management Console, powered by Altiris from Symantec, delivers a single view and a common data source into the entire infrastructure. Dell Management Console is built on the Symantec™ Management Platform (formerly Altiris® Notification Server), an easily extensible, modular foundation that can provide basic hardware management or more advanced functions such as asset and security management. Dell Management Console helps reduce or eliminate manual processes so less time and money is spent keeping the lights on and more time can be spent on strategic uses of technology.

DELL GLOBAL SERVICES

Dell Global Services simplify the management of your IT environment so you get up and running quickly, with lower deployment costs, fewer hassles, and less time spent on non-strategic tasks. You pay only for the services you need, gain instant access to the latest innovations without additional infrastructure investment, and take your business from maintenance to momentum.

Many IT services today are outdated, expensive, inflexible, and people-intensive. As a result, businesses can be burdened with lengthy contracts, trapped in old technology and spending much more than is necessary just to keep the lights on. Dell is changing all of that by integrating cutting-edge technologies into our products and global service infrastructure to forever change the way services are delivered, purchased, and managed. Tapping directly into Dell's world-class capabilities, resources, and platform in this way will make it easier to reclaim valuable IT time and resources.

Many of the service investments Dell has made are available through or in conjunction with Dell's global network of PartnerDirect channel partners. For more information, please visit DELL.COM/Services or contact your local Dell PartnerDirect Registered partner.

| FEATURES | M610 | M710 |
|---|--|---|
| Processors | Dual-Core and Quad-Core Intel® Xeon® 5500 Processor Series 60W, 80W, and 95W TDP options | Dual-Core and Quad-Core Intel Xeon 5500 Processor Series 75W, 55W TDP options |
| Memory | 12 DIMM slots 1GB/2GB/4GB/8GB/16GB ECC DDR3 Support for up to 192GB using 18 x 16GB DIMMs | 18 DIMM slots 1GB/2GB/4GB/8GB/16GB ECC DDR3 Support for up to 288GB using 18 x 16GB DIMMs |
| Chipset | Intel 5520 | Intel 5520 |
| Embedded Hypervisor via SD card (optional) | Citrix® XenServer® Microsoft® Windows Server® 2008, with Hyper-V™ VMware® ESXi v3.5 | |
| Operating Systems | <p>Factory Installed O/S: Microsoft® Windows Server® 2008, Standard and Enterprise Edition x32 Windows Server 2008, Standard and Enterprise Edition x64, including Hyper-V Windows Server 2008 x64 Data Center Edition with Hyper-V Windows Server 2008 x64, Web Edition x32 and x64 Windows Server 2003 R2, Standard and Enterprise Edition x32 and 64 Windows Server 2003 R2 x64, Standard and Enterprise Edition Microsoft Windows Server 2008 SP2 Red Hat Linux Enterprise v5.3 Red Hat® Linux® Enterprise v5, x32 and 64 Red Hat Linux Enterprise v4.5, AS, ES RHEL 5AP Novell SUSE Linux Enterprise Server 11 Novell® SUSE® Linux Enterprise Server 10, x86-64</p> <p>Supported O/S SUSE Linux Enterprise Server 9 Sun Solaris™ VMware® Infrastructure 3, Standard or Enterprise VMware 3.0 VMware 3.5</p> | |
| Communications | Two embedded Broadcom® NetXtreme II™ 5709 Gigabit Ethernet NICs with failover and load balancing TOE (TCPIP Offload Engine) supported on Microsoft Windows Server 2003, SP1 or higher with Scalable Networking Pack. | Four embedded Broadcom NetXtreme II 5709 Gigabit Ethernet NICs with failover and load balancing TOE (TCPIP Offload Engine) supported on Microsoft Windows Server 2003, SP1 or higher with Scalable Networking Pack. |
| | iSCSI Offload supported on Windows Server 2008, Windows Server 2003 SP1 or higher, Red Hat Linux Enterprise 5, and Novell SUSE Linux Enterprise Server 10. Scalable Networking Pack for Windows Server 2003 is not required. Boot from SAN (iSCSI and FC) supported Optional add-in NICs: See I/O Mezzanine Card Options Optional add in HBAs: See I/O Mezzanine Card Options Fully populated mezz card slots and switch modules will yield 3 highly available, redundant I/O fabrics for each blade. | |
| I/O Mezzanine Card Options | Four total PCIe x8 Mezzanine Card slots per M710 blade (optional) Available Options for all 4 slots: Dual-Port Gb Ethernet w/ TOE (New Broadcom 5709) Mellanox ConnectX Dual-Port Quad Data Rate (QDR) InfiniBand (Fabric C only) Mellanox ConnectX Dual-Port Dual Data Rate (DDR) InfiniBand (Fabric C only) Dual-Port 10Gb Ethernet Broadcom 57710 Dual-Port FC8 QLogic QME2572 Dual-Port FC8 Emulex LPe1205-M | |
| Drive Bays | M610 Two 2.5" SAS/Solid State hot-swappable drives | M710 Four 2.5" SAS/Solid State hot-swappable drives |
| Storage | <p>Internal Hot-Swappable Drives 2.5" SAS (10K RPM): 36GB, 73GB, 146GB, 300GB 2.5" SAS (15K RPM): 36GB, 73GB 146GB² Solid State Drives (SSD): 25GB², 50GB² Maximum Internal Storage: Up to 1.2TB via 4 x 300GB SAS Hard Drives</p> <p>External Storage: Disk Storage Options Dell EqualLogic® PS6000 Series PowerVault™ NX1950 Unified Storage Solution PowerVault MD3000i</p> <p>Dell/EMC products: Dell/EMC fibre channel and/or iSCSI external storage, including Dell/EMC CX300, CX3-10c, CX3-20, CX3-40, and CX3-80; CX4-120, CX4-240, CX4-480, and CX4-960</p> | |
| RAID Controller Options | SAS6/IR (Raid 0/1) hardware based CERC6/IR (Raid 0/1 w/ Cache) PERC 6i Modular (RAID 0/1 w/ battery-backed cache) PERC 6.2 Firmware | |

| FEATURES | M610 | M710 |
|-----------------------|--|---|
| Power | Supplied by Dell's M1000e Blade Chassis | |
| Graphics/Video | Matrox G200 with 8MB of cache | |
| Chassis | The PowerEdge™ M610 and M710 blade servers only fit in the M1000e blade enclosure. A total of 8 x M710s or 16 x M610s can fit into every M1000e enclosure. Full-height and half-height blades can be mixed in M1000e enclosures with no limitations. | |
| | M610 physical dimensions: Height: 18.9 cm (7.4 in) Width: 5cm (2") Depth: 48.6 cm (19.2 in) Weight: 11.1kg (24.5lb.) (Maximum Configuration): 5.2-6.4 kg (11.5-14.0 lb) | M710 physical dimensions: Height: 38.5cm (15.2") Width: 5cm (2") Depth: 48.6cm (19.2") Weight: 11.1kg (24.5lb.) – Maximum configuration |
| | Half height blades fit inside the M1000e Blade Chassis. Maximum of 16 per blade chassis. | Full height blades fit inside the M1000e Blade Chassis. Maximum of 8 per blade chassis. |
| Management | Dell OpenManage™ software tools Dell Management Console Integration with 3rd party management solutions via Dell's Certified Partner Program Altiris® Deployment Solution for Dell Blade Servers Designed to help reduce deployment time from hours to minutes Integrated Dell Remote Access Controller (iDRAC) with: Out of Band alerting, status, inventory, and troubleshooting via Secure Web GUI / CLI (telnet/SSH) Console Redirection (Virtual KVM (vKVM) and Remote Virtual Media (vMedia) vMedia (virtual media) Map media from remote workstation/network to the blade Console Redirection - vKVM (virtual KVM) out of band remote console, supports Java or ActiveX plug-ins IPMI 2.0 support | |
| Environmental | Operating Temperature: 10° C to 35° C (50° F to 95° F) ⁶ Storage Temperature: -40° C to 65° C (-40° F to 149° F) Operating Relative Humidity (non-condensing twmax=29C): 8% to 80% non- Maximum humidity gradient: 10% per hour, operational and non-operational conditions. Storage Relative Humidity: 5% to 95% non-condensing (twmax=38C) Operating Vibration: 0.26Grms at 10Hz to 350Hz for 15 minutes Storage Vibration: 1.54Grms Random Vibration at 10Hz to 250Hz for 15 minutes Operating Shock: 1 shock pulse of 41G for up to 2ms Storage Shock: 6 shock pulses of 71G for up to 2ms Operating Altitude: -16 to 3,048m (-50 ft to 10,000 ft) Storage Altitude: -16m to 10,600m (-50 ft to 35,000 ft) http://www.dell.com/content/topics/global.aspx/corp/environment/en/index?c=us&l=en&s=corp | |
| Regulatory | FCC (U.S. only) Class A ICES (Canada) Class A CE Mark (EN 55022 Class A, EN55024, EN61000-3-2, EN61000-3-3) VCCI (Japan) Class A BSMI (Taiwan) Class A C-Tick (Australia/New Zealand) Class A SABS (South Africa) Class A CCC (China) Class A MIC (Korea) Class A UL 60950-1 CAN/CSA C22.2 No. 60950-1 EN 60950-1 IEC 60950-1 Dell Regulatory Compliance Home Page Dell Regulatory Datasheet Home Page | |

SIMPLIFY YOUR NETWORK AT DELL.COM/PowerEdge



1. Based on Principled Technologies report "Total cost of ownership (TCO) of Dell, HP, and IBM blade solutions" commissioned by Dell in September 2008. TCO includes hardware, support, management software, IO virtualization, power, cooling, network ports, and data center space.