Performance and Value for Real-World Workloads

The Dell PowerEdge server family offers a solid portfolio of powerful AMD processor-based servers that can help simplify and lower the cost of managing your IT environment. Purpose-built to provide a reliable foundation and balanced with the latest AMD Opteron processor technology designed for stability, consistency and superior value for today and tomorrow, Dell PowerEdge servers featuring AMD Opteron 6100 and 4100 Series processors are designed from the ground up for outstanding price for performance, providing an ideal platform for customers looking to maximize data center performance and budget. Whether you need systems for your small business or to help run an enterprise-class data center, the Dell PowerEdge server family has a solution that is “right” for you.

AMD Opteron™ 6100 Series Processor-based Dell™ PowerEdge™ Servers

The industry's first 12-core x86 processor

The AMD Opteron 6100 Series processors are the server platform you can count on as real-world workloads become increasingly complex and demanding. Based on the next-generation AMD Direct Connect Architecture 2.0 with up to 48 total cores in a 4P configuration, this platform more than doubles the memory bandwidth and provides nearly 2x the I/O bandwidth of previous-generation 2P and 4P servers, helping your business tackle complex jobs with greater throughput, exceptional value and readiness to scale.

PowerEdge™ Rack Servers

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<tr>
<th>PowerEdge™</th>
<th>Form Factor</th>
<th>Benefits</th>
<th>Processor(s)</th>
<th>RAM (Min/Max)</th>
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<tr>
<td>R815</td>
<td>2U Rack</td>
<td>4-basket performance in a 2U form factor, ideal for virtualization, medium-sized databases, high-performance computing, and other highly threaded application implementations</td>
<td>Up to four Eight- or Twelve-Core AMD Opteron 6100 Series processors</td>
<td>Up to 512GB (32 DIMM slots)</td>
<td>6 PCIe slots + 1 storage slot</td>
<td>PERC H200, PERC H700</td>
<td>PERC H800, SAS 5/E with 512MB battery-backed cache, 6GBs SAS HBA, LSI2032 PCIe SCs 64-channel SAS HBA</td>
<td>SAS, SATA, or SSD drives</td>
<td>PERC H200, PERC H700, PERC H800, SAS 5/E with 512MB battery-backed cache, PERC 6/E with 512MB battery-backed cache, 6GBs SAS HBA</td>
<td>3TB</td>
<td>SAS, SCSI, iSCSI and Fibre Channel storage systems</td>
<td>Hot-pluggable hard drives, hot-pluggable redundant power supply, dual SD modules, ECC memory, interactive LCD screen, IDRAC8, Baseboard Management Controller with IPMI 2.0, tool-less chassis</td>
</tr>
<tr>
<td>R715</td>
<td>2U Rack</td>
<td>Well-balanced for business growth</td>
<td>Up to two Eight- or Twelve-Core AMD Opteron 6100 Series processors</td>
<td>Up to 512GB (32 DIMM slots)</td>
<td>6 PCIe slots + 1 storage slot</td>
<td>PERC H200, PERC H700</td>
<td>PERC H800, SAS 5/E with 512MB battery-backed cache, PERC 6/E with 512MB battery-backed cache, 6GBs SAS HBA</td>
<td>SAS, SATA, or SSD drives</td>
<td>PERC H200, PERC H700, PERC H800, SAS 5/E with 512MB battery-backed cache, PERC 6/E with 512MB battery-backed cache, 6GBs SAS HBA</td>
<td>3TB</td>
<td>SAS, SCSI, iSCSI and Fibre Channel storage systems</td>
<td>Hot-pluggable hard drives, hot-pluggable redundant power supply, dual SD modules, ECC memory, interactive LCD screen</td>
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### AMD Opteron™ 4100 Series Processor-based Dell™ PowerEdge™ Servers

The world's lowest power per core server processor

The AMD Opteron™ 4100 Series processor sets the foundation for cloud workloads and affordability for mainstream infrastructure servers. AMD has leapfrogged its own leading-edge power efficient server processor designs by being the first to break the 6 watt/core barrier – allowing you to double the number of servers, within the same power budget, compared to previous generations.

### PowerEdge R415

**Form Factor:** 1U Rack  
**Benefit:** Versatile Value in a compact 1U design  
**Processor(s):** 4 & 6 core - with AMD Opteron 4100 series (Lisbon) processors  
**RAM (Min/Max):** 8 R-DIMM 64GB DDR3 ECC or B U-DIMM 32GB DDR3 ECC  
**PCI Slots:** 1x 16 + 1x storage  
**Internal Controllers:** PERC H200, PERC H700 (6Gb/s), SAS 6/iR, PERC S300 (software based)  
**Integrated NIC:** One Dual-Port Broadcom 5716 Gigabit NIC  
**Max Internal Storage:** 8TB  
**External Controllers:** PERC H200 (6Gb/s), PERC H700 (6Gb/s), PERC S300 (based on 6 HDD chassis only)  
**Availability Features:** Hot-plug hard drives, Hot-plug redundant power supplies and cooling-standard, ECC memory, and Quad-pack LED diagnostic or interactive LCD only with hot-swap HDD chassis

### PowerEdge R515

**Form Factor:** 2U Rack  
**Benefit:** Maximum Storage Density and value in a 2U rack server  
**Processor(s):** 4 & 6 core - with AMD Opteron 4100 series (Lisbon) processors  
**RAM (Min/Max):** B R-DIMM 64GB DDR3 ECC or 8 U-DIMM 32GB DDR3 ECC  
**PCI Slots:** 5 risers, Max: 3 PCIe + 1x storage  
**Internal Controllers:** PERC H200, PERC H700  
**Integrated NIC:** One Dual-Port Broadcom 5716 Gigabit NIC  
**Max Internal Storage:** 16-25TB depending on chassis model  
**External Controllers:** SAS, SCSI, iSCSI and Fibre Channel storage systems  
**Availability Features:** Hot-plug hard drives, Hot-plug redundant power supplies and cooling-standard, ECC memory, and Quad-pack LED diagnostic or interactive LCD (only with B HDD chassis)

### PowerEdge R610

**Form Factor:** 2U Rack  
**Benefit:** Maximum performance per watt per dollar  
**Processor(s):** Up to four 2-socket servers, 4 or 6 cores per AMD Opteron 4100 series processor  
**RAM (Min/Max):** Up to 96GB  
**PCI Slots:** 1PCIe x8 mezzanine daughtercard slot and x16 riser slot  
**Internal Controllers:** PERC H200, PERC H700  
**Integrated NIC:** LSI 5308 and LSI 9260-8i  
**Max Internal Storage:** 24TB  
**External Controllers:** C410x  
**Availability Features:** Hot-plug redundant power supplies/fans and each independent server node is hot-serviceable

### C6105

**Form Factor:** 2U  
**Benefit:** 4-node 2U shared infrastructure AMD based hyperscale server designed to maximize performance per watt per dollar  
**Processor(s):** Up to two Quad-Core AMD Opteron 4100 series processors  
**RAM (Min/Max):** 8GB  
**PCI Slots:** 3 risers, Max: 3x PCIe + 1x storage  
**Internal Controllers:** PERC H200, PERC H700  
**External Controllers:** PERC H200 (6Gb/s), PERC H700 (6Gb/s), PERC S300 (software based/6 HDD chassis only)  
**Availability Features:** Hot-plug hard drives, Hot-plug redundant power supplies and cooling-standard, ECC memory, and Quad-pack LED diagnostic or interactive LCD only with hot-swap HDD chassis

### Six-Core AMD Opteron™ Processor-based Dell™ PowerEdge™ Servers

**Maximize Performance and Availability**

### PowerEdge™ Rack Servers

Ideal for customers with multiple servers or with limited storage space, AMD Opteron™ processor-based PowerEdge™ rack servers feature excellent performance functionality and outstanding reliability.

### PowerEdge 2970

**Form Factor:** 2U Rack  
**Benefit:** Performance and availability with configuration flexibility  
**Processor(s):** Up to two Six-Core AMD Opteron Processors or up to two Quad-Core AMD Opteron Processors  
**RAM (Min/Max):** 1GB – 643GB DDR2 SDRAM  
**PCI Slots:** Three PCIe, 2 x8, 1 x4  
**Drive Controllers:** PERC 6/i, PERC 5/i, SAS 6/iR RAID or SAS 5/i  
**RAID Controller:** Optional PERC 5/E or PERC 6/E, SAS 5/E; Optional Integrated PERC 5/i or 6/i  
**Integrated NIC:** Dual-embedded Broadcom Gigabit NICs — TOE enabled  
**Max Internal Storage:** Up to 6TB  
**External Storage:** SAS, SCSI, and Fibre Channel storage systems, PowerVault MD3000i iSCSI SAN Array, EqualLogic PS5000E, EqualLogic PS6000X, EqualLogic PS5000VX, PowerVault RD1000 disk-based backup system, PowerVault NX1950 Unified Storage Solution, PowerVault MD3000 Modular Disk Storage Array, PowerVault MD1000 SAS external storage system  
**Availability Features:** Hot-pluggable hard drives, hot-pluggable redundant power supplies, hot-pluggable redundant cooling, ECC memory, Spare Row, Single Device Data Correction (SDDC), RAID controller w/ battery-backed cache, high availability failover cluster support, DRAC 5, support for internal tape device or internal disk drive backup unit, tool-less chassis, Cluster support
# PowerEdge™ Blade Servers

Built for high-density computing, the AMD Opteron™ processor-based Dell™ PowerEdge™ M-Series blade servers address the challenges of an evolving IT environment by delivering leading enterprise-class features and functionality.

<table>
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<tr>
<th>Model</th>
<th>Form Factor</th>
<th>Benefits</th>
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<th>Integrated NIC</th>
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<td>PowerEdge M905</td>
<td>Full-height blade; up to eight fit into an M1000e enclosure</td>
<td>Full-height blade doubles I/O throughput while offering physical consolidation benefits over rack-mount servers</td>
<td>Up to four Six-Core AMD Opteron Processors or up to four Quad-Core AMD Opteron Processors</td>
<td>10GB – 128GB 667MHz DDR2</td>
<td>Four mezzanine card slots for up to two fully redundant, highly available, high-speed mezzanine card I/O fabrics</td>
<td>SAS 6/iR or CERC 6/i</td>
<td>SAS 6/iR (no RAID), RAID 0/1, CERC 6/i (RAID 0/1), PERC 6i Modular (RAID 0/1 with battery-backed cache), PERC 6.2 Firmware</td>
<td>Four embedded Broadcom® Gigabit NICs with TOE and iSCSI Firmware Boot</td>
<td>2 x 300GB = 600GB SAS</td>
<td>iSCSI and Fibre Channel storage; PowerVault™ Unified Storage Solution</td>
<td>Three USB 2.0 bootable ports on front panel for floppy, CD/DVD, memory key, keyboard/mouse; embedded ATI RN50 video controller with 32MB memory; Integrated Dell Remote Access Controller (iDRAC); flexible I/O options include 1/10 Gigabit Ethernet, 4/8Gb Fibre Channel, and DDR or QDR Infiniband; Integrated Persistent Storage for Virtualization</td>
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<tr>
<td>PowerEdge M805</td>
<td>Full-height blade; up to eight fit into an M1000e enclosure</td>
<td>Full-height blade doubles I/O throughput while offering physical consolidation benefits over rack-mount servers</td>
<td>Up to two Six-Core AMD Opteron Processors or up to two Quad-Core AMD Opteron Processors</td>
<td>8GB – 128GB 667MHz DDR2</td>
<td>Four mezzanine card slots for up to two fully redundant, highly available, high-speed mezzanine card I/O fabrics</td>
<td>SAS 6/iR, CERC 6/i</td>
<td>SAS 6/iR (no RAID), RAID 0/1, CERC 6/i (RAID 0/1), PERC 6i Modular (RAID 0/1 with battery-backed cache), PERC 6.2 Firmware</td>
<td>Four embedded Broadcom Gigabit NICs with TOE and iSCSI Firmware Boot</td>
<td>2 x 300GB = 600GB SAS</td>
<td>iSCSI and Fibre Channel storage; PowerVault™ Unified Storage Solution</td>
<td>Three USB 2.0 bootable ports on front panel for floppy, CD/DVD, memory key, keyboard/mouse; embedded ATI RN50 video controller with 32MB memory; Integrated Dell Remote Access Controller (iDRAC); flexible I/O options include 1/10 Gigabit Ethernet, 4/8Gb Fibre Channel, and DDR or QDR Infiniband; Integrated Persistent Storage for Virtualization</td>
</tr>
<tr>
<td>PowerEdge M605</td>
<td>Half-height blade; up to 16 fit into an M1000e enclosure</td>
<td>Complete server-class features combined with increased density and power efficiency over traditional 1U rack servers</td>
<td>Up to two Six-Core AMD Opteron Processors or up to two Quad-Core AMD Opteron Processors</td>
<td>8GB – 128GB 667MHz DDR2</td>
<td>Two mezzanine card slots for flexible I/O options</td>
<td>SATA Repeater, SAS 6/iR, CERC 6/i</td>
<td>SAS 6/iR (no RAID), RAID 0/1, CERC 6/i (RAID 0/1)</td>
<td>Two embedded Broadcom Gigabit NICs with TOE and iSCSI Firmware Boot</td>
<td>2 x 300GB = 600GB SAS, 2 x 500GB = 1TB SATA, SSD options also available</td>
<td>iSCSI and Fibre Channel storage; PowerVault™ Unified Storage Solution</td>
<td>Two USB 2.0 bootable ports on front panel for floppy, CD/DVD, memory key, keyboard/mouse; embedded ATI RN50 video controller with 32MB memory; Integrated Dell Remote Access Controller (iDRAC); flexible I/O options include 1/10 Gigabit Ethernet, 4/8Gb Fibre Channel, and DDR Infiniband</td>
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Quick Features

**Direct Connect Architecture**
- Choice of 8 or 12 Cores for Quad Channel Memory Support
- Choice of 4 or 6 Cores for Dual Channel Memory Support
- Support for up to DDR3 1333 (1.333 GHz) Memory
- HyperTransport™ Technology Assist (HT Assist)
- HyperTransport™ 3.0 Technology (HT3)

**AMD Virtualization™ (AMD-V™) Technology 2.0**
- I/O Level Virtualization
- AMD-V with Rapid Virtualization Indexing
- Tagged TLB
- AMD Extended Migration

**AMD-P 2.0 Power Savings**
- Advanced Platform Management Link (APML)
- AMD CoolSpeed Technology
- New CIE Low Idle State for Processor(s)
- Support for LV-DDR3 Memory
- AMD Smart Fetch Technology

### End-User Benefits of AMD Opteron™ Processors

- **Optimal balance of price/performance, energy efficiency and time to benefit**
  - **Energy Efficient** – technology that enables new levels of power efficiency to help reduce energy consumption
  - **Price/Performance** – performance that matters to efficiently drive business-critical applications at a reasonable cost
  - **Time to Benefit** – common socket approach allows fast path to productivity with minimized disruption to IT Infrastructure

- **Virtualization innovation gives users superior value from their computing resources**
  - **Architectural features** that support optimized virtualized workloads like email, web serving and database
  - **Flexibility** – to manage, load balance and support live migration of virtual machines across five generations of AMD Opteron processor-based systems
  - **Price/Performance** – delivers the performance you need to run cost-effective virtual machines

For more information about Dell PowerEdge Servers, please visit [www.dell.com/poweredge/amd](http://www.dell.com/poweredge/amd)