

Dell™ Enterprise
Portfolio | Issue 2



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Do more with efficient IT

Efficiency in information technology has emerged as a major priority for nearly every organisation, large or small, public or private. The emergence of technologies such as cloud computing and virtualisation, coupled with the need for anytime, anywhere access to information on an endless array of new devices, has resulted in a new “virtual era” and, with it, greater expectations for IT agility and innovation.

Dell helps organisations do more through IT efficiencies that can be reinvested in innovations and capabilities that drive even greater success. We do this by providing practical solutions that simplify, standardise and automate IT tasks so you can focus on the bigger picture.



**Anywhere, any time,
any device.**

Efficient IT provides a greater ability to empower workforce productivity via new devices, easier access and more centralised management and security. Dell's Enterprise Mobility Solutions help you balance the benefits of a more mobile workforce with the impact of mobile devices on IT infrastructures. From full desktop virtualisation to application design and deployment, efficient IT has the solutions you need to do more.



**Find the cloud you didn't
know you had.**

It's important to get the most out of your current IT infrastructure and build a solid path for the future. Dell's Virtualisation and Cloud Solutions can help you create a datacentre that does more by building on your existing infrastructure. Make IT more efficient by converging and unifying management, heterogeneous hardware and technology while maintaining choice – only from Dell.

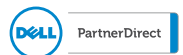


**Data storage that can
handle the data deluge.**

The amount and complexity of data keeps increasing. Instead of just adding more and more storage, make your data management more intelligent with efficient IT. Dell's storage solutions help intelligently manage and protect growing data volumes automatically, boosting the performance of virtualised environments without increasing workloads or costs.

Open, Flexible, Reliable, **Secure**

www.dell.com/emea/em



Dell PowerEdge Servers: With Dell, you can do more

Dell™ PowerEdge™ servers are built to support the work that IT organizations do. They are engineered to handle the most demanding business applications and designed with specific features to better run workloads like HPC, collaboration, database, ERP, business intelligence and data warehousing.

As the foundation for a complete, adaptive IT solution, Dell PowerEdge servers deliver dramatic performance and management advantages that more effectively and efficiently power the business applications our customers run most.

Combined with the innovative OpenManage™ systems management portfolio and industry-leading workload solutions, PowerEdge servers provide technology that is intelligent, yet simple, giving you the power to do more in even the most complex environments.

Achieve more: Increase application performance and availability while gaining scalability.

Maximize efficiency: Use IT to boost productivity and get the most out of every dollar.

Ensure business continuity: Provide secure, continual access to IT services that power your business.



The newest generation of PowerEdge servers. Engineered by Dell, designed by you.

PowerEdge servers are customer inspired and purpose built. We spend countless hours listening to customers and then put our time and expertise into giving you the features you need to accomplish more, improve efficiency, and ensure business continuity. Our latest generation of PowerEdge servers deliver innovations like:

Express Flash PCIe solid-state drives—offer more transactions per second, resulting in faster interactions

Agent-free server management—uses the integrated Dell Remote Access Controller (iDRAC) with Lifecycle Controller, providing significant reductions in administration time

The Dell fresh air program—allows servers to run at much higher ambient temperatures, saving tremendous operational costs

More widely integrated GPU technology—provides accelerated HPC research with high sustained GFlops

Our latest generation of servers responds to customer needs in the following areas:

Memory capacity and scalability—much larger memory footprints

Virtualization performance—more processor cores and denser memory

Systems management—complete lifecycle management using iDRAC with Lifecycle Controller and monitoring and update capabilities with OpenManage Essentials

Energy efficiency—comprehensive optimizations, including Dell OpenManage™ Power Center

Infrastructure flexibility—innovations like Select Network Adapters, offering more and better I/O options

Reliability—even more RAS features, including a failsafe hypervisor option on most servers

Dell PowerEdge servers deliver value by taking technology that was previously overpriced, complex and underutilized, and giving you the power to do more while saving time, money and resources.



Open, Flexible, Reliable, **Secure**

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PowerEdge blade servers

The Dell PowerEdge M-Series blade servers address the challenges of an evolving IT environment by delivering leading enterprise-class features and functionality. The M-Series delivers a unique array of options configured to meet the needs of your IT environment today and in the future.

Simple manageability:

Dell's blade solutions deliver an array of enterprise-class management capabilities, including centralized, chassis-based tools to maximize data center productivity.

Increased flexibility:

Designed to lead the industry in rapid deployment, Dell's fully modular blade enclosure provides an effective solution for scaling your I/O infrastructure that delivers savings in time, cabling and switch port costs.

Energy efficiency:

Dell M-Series blades are designed for energy efficiency and density to address growing power consumption and space constraints in your data center.



Latest Generation



PowerEdge M420

A quarter-height blade server that delivers unprecedented computational density, allowing up to 32 individually serviceable 2-socket blade servers per chassis, with no compromise on enterprise-class features.



PowerEdge M520

An enterprise-class 2-socket, half-height blade server that delivers an extraordinary balance of value and performance for mainstream business applications.



PowerEdge M620

An exceptionally feature-rich 2-socket blade server designed for maximum performance combined with extreme density and power efficiency.



PowerEdge M820

A full-height 4-socket blade server that delivers exceptional performance and scalability for core business applications or consolidated environments.



PowerEdge M610x

A full-height, 2-socket blade server with PCIe expansion capabilities that bring flexibility and performance to the Dell M-Series.



PowerEdge M710

A 2-socket, dual-and quad-core, full-height blade server that is ideal for I/O-intensive applications, virtualization and compute-intensive, business-critical applications.



PowerEdge M710HD

Virtualization-optimized, half-height 2-socket server that offers tremendous I/O throughput, maximized memory density and robust Intel® Xeon® processing power with hot-pluggable SAS or SSD hard drives.



PowerEdge M610

A 2-socket, half-height blade server designed for virtualization, mainstream business and database applications.



PowerEdge M910

A full-height, 4-socket blade server that allows deployment of large Enterprise-class applications, as well as the ability to support heavy virtualization or workload consolidation in maximum density.



PowerEdge M915

A full height, 4-socket AMD processor-based blade server with robust performance, flexibility and throughput for maximized performance per watt and cost.

PowerEdge blade enclosures

In talking about the benefits of Dell's blade servers, powered by Intel Xeon processors, it would be all too easy to reel off their impressive specs and features.

But that would be missing the point, which is that everything should begin not with bits and bytes, but with what our customers actually want and need.

So, then: what do customers look for in their server systems?

They tell us they want:

- High availability
- Great scalability
- Straightforward manageability
- Outstanding efficiency
- More computing power in less space

Let's take a look at each of these in turn.

High availability

Reliability comes as standard with our blades. They all give great uptime. They all have fully redundant I/O fabrics, and a 100% passive connective chassis infrastructure. And they all support hotplug hard drives and hardware RAID for simple swapouts.

Great scalability

The open standards on which our blades are based means not only that they can be seamlessly scaled into any LAN or SAN in line with growing customer needs, preserving investment in infrastructure, but that they can also support a broad range of network, storage and management environments.

Straightforward manageability

Customers moving up into storage server solutions don't always have the time or resources to support anything too complicated. Dell's new Chassis Management Controller (CMC) interface has been ranked number-one for usability, meaning management overheads are kept low, issues are identified and resolved more quickly, and deployments are completed swiftly and with a limited need for resources

Outstanding efficiency

Today, more than ever, businesses owe it to themselves and to the environment to keep power usage to a minimum. To deliver unique levels of efficiency, Dell blades employ features including:

- Industry-leading power and cooling infrastructure
- Superior fan efficiency and chassis design
- Industry-leading power-supply efficiency
- Granular power management

More computing power in less space













With space at a premium and data growing at unprecedented rates, businesses worldwide are realising the benefits of our blade approach. Customers double their performance and capacity while halving their server footprint. Integrated I/O, power efficiency and a compact infrastructure make blades ideal for consolidation – and virtualisation techniques mean several storage solutions can be sustained across fewer devices.

So, once again – what's so great about our blades? The answer is that we listened to our customers, and responded to their needs, not with technology for its own sake, but with solutions that met their requirements. For example Dell's PowerEdge M-Series, powered by Intel Xeon 5500/5600 series processors, comprises a modular family of blade servers designed to increase datacentre capacity, lower operating costs and deliver better performance per watt. What could be simpler?

But all of our blade servers are every bit as reliable, scalable, manageable, efficient, compact and virtualisable as people need.



Chassis enclosure	Cooling fans
<p>Form factor:</p> <p>10U modular enclosure holds up to 16 half-height blade servers</p> <p>44.0cm (17.3") H x 44.7cm (17.6") W x 75.4cm (29.7") D</p> <p>Weight:</p> <ul style="list-style-type: none"> • Empty chassis only – 44.5kg • Chassis with all rear modules (IOMs, PSUs, CMCs, KVM) – 80kg • Maximum fully loaded with blades and rear modules – 179kg 	<p>M1000e chassis comes as standard with nine hot-pluggable, redundant fan modules</p> <ul style="list-style-type: none"> • Based on Dell Energy Smart technologies, M1000e fans are a breakthrough in power and cooling efficiency • The fans deliver low power consumption, but also use next-generation fan technologies to ensure the lowest-possible amount of fresh air is consumed to cool the enclosure
Power supplies	Input devices
<p>Three (non-redundant) or six (redundant) 2700-watt hot-plug power supplies:</p> <ul style="list-style-type: none"> • Based on Dell Energy Smart technologies, the M1000e power supplies deliver greater levels of efficiency (>94%), even at low levels of utilisation • Redundant power supplies support 3+3 (AC redundancy), 3+1 (power-supply redundancy), or 3+0 (non-redundant) modes • System supports new Dynamic Power Supply Engagement functionality, which (if enabled) puts lightly-loaded power supplies into standby mode, driving up the utilisation and thus the efficiency on the active supplies • Power supplies require 200 V AC input; Dell offers a wide range of power-distribution options for the M1000e with 20A, 30A, 60A single-phase, or 30A three-phase options 	<p>Front control panel with interactive graphical LCD</p> <ul style="list-style-type: none"> • Supports initial configuration wizard • Local server blade, enclosure and module information, and troubleshooting <p>Two USB keyboard/mouse connections and one video connection (requires the optional Avocent® iKVM switch to enable these ports) for local front "crash cart" console connections that can be switched between blades</p>
External storage options	
<p>Dell EqualLogic™ PS Series, Dell Compellent™, PowerVault™ MD Series, PowerVault NX Series</p>	

Ethernet options				10 GbE options		10Gb DCB/FCoE	Fibre-channel options			InfiniBand® options	
Ethernet Passthrough	PowerConnect™ M6220	Cisco® 3032/3130G/3130X	PowerConnect M6348	10GbE Passthrough	PowerConnect M8024	M8428-k	FC4 Passthrough	Brocade® FC M4424	Brocade FCM5424	M2401G DDR InfiniBand	M3601Q QDR InfiniBand
											
<p>Up to six I/O modules in total for three fully redundant fabrics, featuring Ethernet FlexIO technology providing on-demand stacking and uplink scalability. Dell's FlexIO technology delivers a level of I/O flexibility, bandwidth, investment protection and capabilities unrivalled in the blade server market.</p> <p>FlexIO includes:</p> <ul style="list-style-type: none"> • Completely passive, highly available midplane that can deliver greater than 5TB/S of total I/O bandwidth • Support for up to two ports of up to 40Gbps from each I/O mezzanine card on the blade server <p>Dell Gigabit Ethernet Passthrough Module Supports 16 x 10/100/1000Mb copper RJ-45 connections</p> <p>PowerConnect M6220 Gigabit Ethernet Switch Includes 4 x fixed copper 10/100/1000Mb Ethernet uplinks as standard plus two of the following optional modules:</p> <ul style="list-style-type: none"> • 48Gb (full duplex) stacking module • 2 x 10Gb optical (XFP-SR/LR) uplinks • 2 x 10Gb copper CX4 uplinks <p>Cisco Catalyst® Blade Switch M 3032 Includes 4 x fixed copper 10/100/1000Mb Ethernet uplinks as standard plus two optional module bays, supporting 2 x 1Gb copper or optical SFPs each</p> <p>Cisco Catalyst Blade Switch M 3130G Includes 4 x fixed copper 10/100/1000Mb Ethernet uplinks, 64Gb (full duplex) StackWise® Plus stacking ports plus two optional module bays: each can support either two 1Gb copper or optical SFPs</p> <p>Cisco Catalyst Blade Switch M 3130X Includes 4 x fixed copper 10/100/1000Mb Ethernet uplinks, 64Gb full duplex StackWise Plus stacking ports, and support for two X2 modules for up to two 10Gb CX4 or SR/LRM uplinks</p> <p>PowerConnect M6348 Gigabit Ethernet Blade Switch Includes 16 external fixed 10/100/1000Mb Ethernet RJ-45 ports to support 32 internal server GbE connections supplied by quad-port Gigabit Ethernet mezzanine cards (Broadcom® 5709 or Intel ET 82572) plus up to 4 x 10Gb uplink ports: 2 x 10Gb optical SFP+ (SR/LR) and/or SFP+ DAC • 2 x 10Gb copper CX4 or 32Gb stacking for M6348</p> <p>Dell 10Gb DCB/DCoE (Datacentre Bridge/Fibre Channel over Ethernet) Robust I/O bandwidth solution with 28 active fixed ports. 16 internal server ports –8 external 10Gb SFP+ Ethernet uplinks.</p> <ul style="list-style-type: none"> • Short-wave optical transceivers/fibre • Long-wave optical transceivers/fibre • Direct-Attach copper (TwinAx) transceiver+cable (1m, 3m and 5m) –4 external 8Gbps SFP+ native Fibre Channel uplinks • Pre-installed 8Gbps short-wave SFP+ optical transceivers enable quick and easy cable-and-go connections • Long-wave SFP+ optical transceivers also available <p>Dell 4Gb Fibre Channel Passthrough Module 16 x FC 1/2/4Gb SFP ports</p> <p>Brocade M5424 8Gb Fibre Channel Switch Includes eight external SAN ports</p> <p>Mellanox® M2401G Dual Data Rate (DDR) InfiniBand Switch Eight copper or optical external 4 x Double Data Rate (DDR – 20Gb) InfiniBand ports</p> <p>Mellanox M3601Q Quad Data Rate (QDR) InfiniBand Switch Sixteen copper or optical external 4 x Quad Data Rate (QDR – 40Gb) InfiniBand ports</p>											

PowerEdge Blade servers

Dell PowerEdge M1000e blade enclosure

	Product	Description	Form factors	Power supplies	Cooling fans	I/O modules	Management modules	Management highlights
M1000e	Unrivaled power efficiency and I/O throughput for performance combined with scalability and flexibility to meet blade server needs for multiple generations.	Fully modular blade enclosure optimized for Dell blade servers	10U enclosure holds up to 16 blade servers	Choice of up to 6 hotpluggable power supplies	9 hot-pluggable, redundant fan modules all come standard	Up to 6 I/O modules for three redundant fabrics; available switches include Dell and Cisco® 1Gb/10Gb Ethernet with modular bays, Dell 10Gb Ethernet with modular bays, Dell Ethernet pass-through, Brocade® 8GbE Fibre Channel, Fibre Channel passthrough, Mellanox® DDR QDR and FDR InfiniBand	1 (standard) or 2 (redundant) Chassis Management Controllers (CMCs); optional integrated KVM switch for "crash cart" management	Dynamic power management allows for predefined power limits to individual lades; real-time reporting for enclosure and blade power consumption; real-time thermal monitoring; secure SSL and command line interfaces; front control panel with interactive LCD for module setup, info and troubleshooting

Dell PowerEdge blade servers

	Description	Form factor	Features	Processor(s)	Memory	Mezzanine slots	Embedded RAID controllers	Integrate NIC	Hard drives	Availability features
M915	The PowerEdge M915 is a full-height, 4-socket AMD processor-based blade server with robust performance, flexibility and throughput for maximized performance per watt and cost.	Full-height blade; Up to 8 fit into an M1000e enclosure	2- or 4-socket, 8- or 12- core AMD processors 32 DDR3 DIMM slots Two Flexible LOM Internal dual SD module for hypervisor redundancy Advanced embedded systems management	Up to four AMD Opteron 6100 and 6200 series processors	Up to 512GB Up to 1333MT/s	4 mezzanine card slots for up to 3 fully redundant, highly available I/O fabrics	PERC H200 (6Gb/s) PERC H700 (6Gb/s)	Four modular Broadcom BCM5709S Gigabit Ethernet NICs	Up to two 2.5" SAS or SSD hot-plug drives	Three USB 2.0 bootable ports on front panel for floppy, CD/ DVD, memory key, keyboard/ mouse; iDRAC with Lifecycle Controller, OpenManage Essentials; Optional Redundant Embedded Persistent Storage for Virtualization Hypervisor
M910	The PowerEdge M910 is an Intel processor-based high-performance 4-socket full-height blade server ideal for organizations that require maximum performance and scalability for core applications while minimizing their power and physical space requirements.	Full-height blade; Up to 8 fit into an M1000e enclosure	2- or 4-socket, 8- or 10-core Intel processors 32 DDR3 DIMM slots Unique Dell FlexMem Bridge memory expansion technology Internal dual SD module for hypervisor redundancy Advanced embedded systems management	Up to four 4-, 6-, or 8-core Intel Xeon processor 7500 series or up to two 4-, 6-, or 8-core Intel Xeon processor 6500 series	Up to 1TB Up to 1333MT/s	4 mezzanine card slots for up to 3 fully redundant, highly available I/O fabrics	PERC H200 (6 GB/s) PERC H700 (6GB/s)	Four embedded Broadcom Gigabit NICs	Up to two 2.5" SAS or SSD hot-plug drives	Three USB 2.0 bootable ports on front panel for floppy, CD/ DVD, memory key, keyboard/ mouse; Optional Redundant Embedded Persistent Storage for Virtualization Hypervisor; iDRAC with Lifecycle Controller, OpenManage Essentials
M820	The PowerEdge M820 is an Intel processor-based 4-socket, full-height blade server that delivers exceptional performance and scalability for core business applications or consolidated workloads.	Full-height blade; Up to 8 fit into an M1000e enclosure	4-socket, 4, 6, or 8-core Intel processors 48 DDR3 DIMM slots Up to 1.5TB of RAM per blade or 12TB per M1000e chassis Advanced embedded systems management and Internal dual SD module for hypervisor redundancy	Up to four 4-, 6-, or 8-core Intel Xeon processor E5-4600 product family	Up to 1.5TB Up to 1600MT/s	4 PCIe 3.0 mezzanine card slots for flexible I/O options	PERC H310 PERC H710 PERC H710P	Dual Select Network Adapter Broadcom, Brocade, QLogic Dual Port, 10GbE NICs	Up to four 2.5" SAS, SSD or PCIe Express Flash SSD hot-plug drives	Hot-plug hard drives ECC memory Single Device Data Correction (SDDC) supports memory demand and patrol scrubbing High availability failover cluster support; iDRAC with Lifecycle Controller, OpenManage Essentials

PowerEdge Blade servers

Dell PowerEdge blade servers

	Description	Form factor	Features	Processor(s)	Memory	Mezzanine slots	Embedded RAID controllers	Integrated NIC	Hard drives	Availability features
M710	The PowerEdge M710 is an Intel processor-based 2-socket, full-height blade server providing the bandwidth necessary for virtualization and performance-intensive business-critical applications.	Full-height blade; Up to 8 fit into an M1000e enclosure	2-socket, 4- or 6-core Intel processors 18 DDR3 DIMM slots Excellent memory scalability Advanced embedded systems management	Up to two 4- or 6-core Intel Xeon processor 5500 or 5600 series	Up to 288GB Up to 1333MT/s	4 mezzanine card slots for up to 2 fully redundant, highly available, high-speed mezzanine card I/O options	PERC H200 PERC H700 SAS 6/iR CERC 6/i PERC 6/i	Four embedded Broadcom Gigabit NICs	Up to four 2.5" SAS or SSD hot- plug drives	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; flexible I/O options include 1/10 Gigabit Ethernet, 4/8GbE Fibre Channel, and DDR or QDR InfiniBand; Integrated Persistent Storage for Virtualization; iDRAC with Lifecycle Controller, OpenManage Essentials
M710HD	The PowerEdge M710HD is an Intel processor-based 2-socket, half-height blade server with extensive I/O flexibility and robust memory scalability for virtualization and workload consolidation.	Half-height blade; Up to 16 fit into an M1000e enclosure	2-socket, 4- or 6-core Intel processors 18 DDR3 DIMM slots Excellent memory scalability Advanced embedded systems management	Up to two quad- core or six-core Intel Xeon Processor 5500 and 5600 Series	Up to 288GB Up to 1333MT/s	2 mezzanine card slots for flexible I/O options	PERC H200	Two embedded Broadcom 5709 Gigabit Ethernet NICs	Up to two 2.5" SAS or SSD hot- plug drives	Two USB 2.0 bootable ports on front panel for floppy, CD/ DVD, memory key, keyboard/ mouse; Optional redundant embedded persistent storage for virtualization hypervisor; iDRAC with Lifecycle Controller, OpenManage Essentials
M620	The PowerEdge M620 is an exceptionally feature-rich 2-socket blade server, and is designed for maximum performance combined with extreme density and power efficiency.	Half-height blade; Up to 16 fit into an M1000e enclosure	2-socket, 2-, 4-, 6-, or 8-core Intel processors Up to 24 DIMM slots Advanced embedded systems management	Intel Xeon processor E5-2600 product family	Up to 768GB Up to 1600 MT/s	2 PCIe 3.0 mezzanine card slots for flexible I/O options	PERC S110 PERC H310 PERC H710 PERC H710P	Select Network Adapter – minimum configuration: 2 x 10GbE	Up to two 2.5" SAS, SATA, SSD hot- plug drives or Up to two 2.5" Express Flash PCIe SSDs	Hot-plug hard drives ECC memory Single Device Data Correction (SDDC) supports memory demand and patrol scrubbing High availability failover cluster support; iDRAC with Lifecycle Controller, OpenManage Essentials
M610	The PowerEdge M610 is an Intel processor-based 2-socket, half-height blade server built for virtualization, mainstream business applications and front-end database workloads.	Half-height blade; Up to 16 fit into an M1000e enclosure	2-socket, 4- or 6-core Intel processors 12 DDR3 DIMM slots Advanced embedded systems management	Up to two quad- core or six-core Intel Xeon Processor 5500 or 5600 Series	Up to 192GB Up to 1333 MT/s	2 mezzanine card slots for flexible I/O options	PERC H200 PERC H700 SAS 6/iR CERC 6/i PERC 6/i	Two embedded Broadcom 5709 Gigabit NIC	Up to two 2.5" SAS or SSD hot- plug drives	Two full-height, full-length 2nd Generation x16 PCIe expansion slots; Two USB 2.0 bootable ports on front panel for floppy, CD/ DVD, memory key, keyboard/mouse; Optional embedded persistent storage for virtualization hypervisor; iDRAC with Lifecycle Controller, OpenManage Essentials
M610x	The PowerEdge M610x is an Intel processor-based 2-socket, full-height blade server ideal for organizations with unique I/O or computational needs requiring industry-standard PCIe slots.	Full-height blade; Up to 8 fit into an M1000e enclosure	2-socket, 2-, 4-, 6-, or 8-core Intel processors 12 DDR3 DIMM slots PCIe expansion module for added flexibility Advanced embedded systems management	Up to two quadcore or six-core Intel Xeon Processor 5500 and 5600 Series	Up to 192GB Up to 1333 MT/s	2 mezzanine card slots for flexible I/O options	PERC H200 PERC H700	Two embedded Broadcom 5709 Gigabit Ethernet NICs	Up to two 2.5" SAS or SSD hotplug drives	Hot-plug hard drives ECC memory Single Device Data Correction (SDDC) supports memory demand and patrol scrubbing High availability failover cluster support; iDRAC with Lifecycle Controller, OpenManage Essentials
M520	The PowerEdge M520 is an Intel processor-based 2-socket, half-height blade server built for virtualization, mainstream business applications and front-end database workloads.	Half-height blade; Up to 16 fit into an M1000e enclosure	2-socket, 2-, 4-, 6-, or 8-core Intel processors 12 DDR3 DIMM slots Advanced embedded systems management	Up to two 2-, 4-, 6-, 8-core Intel Xeon Processor E5-2400 product family	Up to 192GB Up to 1600 MT/s	2 PCIe 3.0 mezzanine card slots for flexible I/O options	PERC S110 PERC H310 PERC H710 PERC H710P	x Two embedded Broadcom 5720 Ethernet Gigabit NICs	Up to two 2.5" SAS or SATA SSD hot- plug drives	Hot-plug hard drives ECC memory Single Device Data Correction (SDDC) supports memory demand and patrol scrubbing High availability failover cluster support; iDRAC with Lifecycle Controller, OpenManage Essentials
M420	The PowerEdge M420 is an Intel processor-based ultra-dense 2-socket, quarter-height blade server that allows up to 32 serviceable blade servers per chassis, offering an unprecedented high-performance computing environment.	Quarterheight blade; Up to 32 fit into an M1000e enclosure	Scaling up to 16-core processors 6 DDR3 DIMM slots Advanced embedded systems management	Up to 16-core Intel Xeon Processor E5- 2400 product family	Up to 192GB Up to 1600 MT/s	1 PCIe 3.0 mezzanine card slots for flexible I/O options	PERC H310	Two embedded Broadcom 57810S Gigabit Ethernet NICs	Up to two 1.8" SSD hot- plug drives	Hot-plug hard drives ECC memory Single Device Data Correction (SDDC) supports memory demand and patrol scrubbing High availability failover cluster support; iDRAC with Lifecycle Controller, OpenManage Essentials

PowerEdge rack servers



At Dell, we engineer our rack servers to streamline intensive database, application and virtualisation workloads.

Utilising the latest technology and employing sophisticated management features, each server is designed to deliver exceptional network availability, scalability and storage capacity.

Dell PowerEdge rack servers, powered by Intel Xeon processors, help deliver enterprise-level performance and efficiency in a space-saving design. They're the ideal solution for businesses aiming to maximise performance and productivity, while helping to minimise costs.

Latest Generation



PowerEdge R320

An enterprise-class, 1-socket, 1U rack-mount server, with the right computing power, scalability and value balanced in a high-performance, dense chassis.



PowerEdge R420

A 2-socket, 1U rack-mount server that delivers mainstream performance and density combined with internal expandability for customized workloads.



PowerEdge R520

A powerful, 2-socket, 2U rackmount server that balances performance with storage expandability for data-intensive applications.



PowerEdge R820

A high-performance, 4-socket, 2U rack-mount server designed for dense virtualization and scalable database applications for both mid-size and large enterprise environments.



PowerEdge R620

A hyper-dense 2-socket, 1U rack-mount server with a large memory footprint and impressive I/O options that make it an exceptional platform for space-sensitive environments.



PowerEdge R720xd

An ultra-dense, 2-socket, 2U rack-mount server with massive internal storage and performance balanced for dataintensive operations.



PowerEdge R720

Setting the standard for feature flexibility in a 2-socket, 2U rack-mount server and built to run complex workloads using its highly scalable memory, I/O capacity and flexible network options.



PowerEdge R210 II

PowerEdge R210 II is an entry-level, yet enterprise ready, ultra-dense 1-socket 1U rack server that is well suited for single-tier architectures, workloads and SMB applications.



PowerEdge R310

A high-performance, 1-socket 1U rack server with flexible computing power, business scalability, simplified management, data protection and security options ideal for small- to mid-size businesses, remote offices and enterprises.



PowerEdge R410

A powerful 2-socket, 1U server ideal for compute-intensive applications in space-constrained data centers and HPC environments.



PowerEdge R510

A multi-purpose 2-socket, 2U core application rack server offering an excellent balance of internal storage, redundancy and value in a compact, 24" deep chassis.



PowerEdge R610

A 2-socket, 1U rack server great for corporate data centers and remote sites that require exceptional virtualization, system management, density and energy efficiency.



PowerEdge R710

A 2U rack server created to efficiently address a wide range of key business applications which can help lower TCO with enhanced virtualization capabilities, improved energy efficiency and innovative system management tools.

PowerEdge R815

A 4-socket rack server offering the latest AMD Opteron processors with up to 64 processor cores and an excellent balance of advanced manageability, memory scalability, I/O and redundancy in a space-saving 2U form factor.



PowerEdge R715

PowerEdge R715 is an entry-level, yet enterprise ready, ultra-dense 1-socket 1U rack server that is well suited for single-tier architectures, workloads and SMB applications.



PowerEdge R910

A scalable 4U, 4-socket server offering performance and reliability while allowing large workload consolidation or max virtualization machine density.



PowerEdge R810

A scalable 2U, 2- or 4-socket server offering performance and rack density that allows workload consolidation or high virtualization machine density.

Dell PowerEdge rack servers

Dell PowerEdge rack servers

	Description	Form factor	Features	Processor(s)	Memory	Mezzanine slots	Embedded RAID controllers	Integrated NIC	Hard drives	Availability features
R910	The PowerEdge R910 is an Intel processor-based, 4-socket, 4U rack server for mission-critical applications in corporate data centers and workloads needing the highest performance, reliability and I/O scalability.	4U	4-socket, up to 10-core Intel processors Up to 16 hard drives 64 DDR3 DIMM slots Advanced systems management Redundancy options	Intel Xeon processor 7500 series Intel Xeon processor E7-4800 and E7-8800 product families	Up to 2TB Up to 1066 MT/s	Up to 10 PCIe 2.0 + 1 storage	PERC H200 PERC H700 PERC H800	Two embedded Broadcom® 5709C dual-port NICs	Up to sixteen hot-plug 2.5" SATA SSD, SAS, nearline SAS, or SATA drives	Hot-plug hard drives, hot-plug redundant power, hot-plug redundant fans, ECC memory, internal dual SD module, redundant cooling, iDRAC with Lifecycle Controller, OpenManage Essentials
R820	The PowerEdge R820 is an Intel processor-based, 4-socket, 2U rack server designed for dense virtualization an scalable database applications.	2U	4-socket, 4-, 6-, or 8-core Intel processors Up to 16 hard drives 48 DDR3 DIMM slots Advanced systems management Redundancy options	Intel Xeon processor E5-4600 product family	Up to 1.5TB Up to 1600 MT/s	7 PCIe 3.0	PERC H310 PERC H710 PERC H710P PERC H810	Select Network Adapter— minimum configuration: 4 x 1Gb; 10GbE (optional)	Up to 16 2.5" hot-plug SATA SSD, SAS, nearline SAS, or SATA drives	High-efficiency, hot-plug, redundant power supplies; hotplug drive bays; TPM; dual internal SD support; hot-plug redundant fan; optional bezel; luggagetag; ECC memory, interactive LCD screen; extended thermal support; ENERGY STAR® compliant; switch independent partitioning, iDRAC with Lifecycle Controller, OpenManage Essentials
R815	The PowerEdge R815 is an AMD processor-based 4-socket, 2U rack server ideal for customers seeking a combination of value, systems management and performance in virtualization, database, HPC and other highly threaded application implementations.	2U	4-socket, up to 64 AMD processor cores Up to 6 hard drives 32 DDR3 DIMM slots Advanced systems management Redundancy options	AMD Opteron 6100 and 6200 series processors	Up to 1TB Up to 1600 MT/s	6 PCIe 2.0 + 1 storage	PERC H200 PERC H700 SAS 6/iR PERC 6/i PERC H800 PERC 6/E	Two embedded Broadcom 5709C dual-port NICs	Up to six 2.5" hot-plug SATA SSD, SAS, nearline SAS, or SATA drives	Hot-plug hard drives, hot-plug redundant power, dual SD modules, ECC memory, interactive LCD screen, iDRAC with Lifecycle Controller, OpenManage Essentials
R810	The PowerEdge R810 is an Intel processor-based 2- or 4-socket, 2U rack server ideal for usage in data centers and remote sites needing optimal performance and memory scalability for mission-critical applications in an efficient 2U form factor.	2U	2- or 4-socket, up to 10-core Intel processors Up to 6 hard drives 32 DDR3 DIMM slots Unique Dell FlexMem Bridge memory expansion technology Advanced systems management Redundancy options	Intel Xeon processor 7500 and 6500 series Intel Xeon processor E7-2800, E7-4800 and E7-8800 product families	Up to 1TB Up to 1066 MT/s	6 PCIe 2.0 + 1 storage	PERC H200 PERC H700 PERC 800 PERC 6/E	Two embedded Broadcom 5709C dual-port NICs	Up to six hot-plug 2.5" SATA SSD, SAS, nearline SAS, or SATA drives	Hot-plug hard drives, hot-plug redundant power, ECC memory, dual internal SD module, iDRAC with Lifecycle Controller, OpenManage Essentials
R720xd	The PowerEdge R720xd is ideal for workloads that are hungry for storage and I/O performance, like medical imaging and email servers, and is a powerful combination of highly expandable memory, impressive I/O capabilities and extraordinary storage capacity.	2U	2-socket, 2-, 4-, 6- or 8-core Intel processors Up to 26 hard drives 24 DDR3 DIMM slots Advanced systems management Redundancy options	Intel Xeon processor E5-2600 product family	Up to 768GB Up to 1600 MT/s	6 PCIe 3.0	PERC H310 PERC H710 PERC H710P PERC H810	Select Network Adapter— minimum configuration: 4 x 1Gb, 10GbE (optional)	Up to twenty-six hot-plug 2.5" SAS, SATA or SSD drives	High-efficiency, hot-plug redundant PSU, hot-plug drive bays, TPM/No-TPM; dual internal SD support, hot-plug redundant fan, optional bezel, luggagetag, ECC memory, extended thermal support, ENERGY STAR® compliant, switch independent partitioning, iDRAC with Lifecycle Controller, OpenManage Essentials
R720	The PowerEdge R720 is designed to excel at running a wide range of applications and virtualization environments for both mid-size and large enterprises. R720 is a general purpose platform with expandable memory up to 768GB and impressive I/O capabilities to match.	2U	2-socket, 2-, 4- 6- or 8-core Intel processors Up to 16 hard drives 24 DDR3 DIMM slots Advanced systems management Redundancy options	Intel Xeon processor E5-2600 product family	Up to 768GB Up to 1600 MT/s	7 PCIe 3.0	PERC S110 PERC H310 PERC H710 PERC H710P PERC H810	Select Network Adapter— minimum configuration: 4 x 1Gb, 10GbE (optional)	Up to eight hotplug 3.5" SAS or SATA drives; up to sixteen 2.5" SAS, SATA, SSD drives Up to four Express Flash PCIe SSDs	High-efficiency, hot-plug redundant PSU, hot-plug drive bays, TPM/No-TPM; dual internal SD support, hot-plug redundant fan, optional bezel, luggagetag, ECC memory, interactive LCD screen, extended thermal support, ENERGY STAR compliant, switch independent partitioning, iDRAC with Lifecycle Controller, OpenManage Essentials

Dell PowerEdge rack servers

Dell PowerEdge rack servers

	Description	Form factor	Features	Processor(s)	Memory	PCI slots	Embedded RAID controllers	Integrated NIC	Hard drives	Availability features
R715	The PowerEdge R715 is an AMD processor-based 2-socket, 2U rack server ideal for customers seeking value, systems management, and great price for performance in workload consolidation, virtualization, medium databases and other applications.	2U	2-socket, 4-socket, up to 32 AMD processor cores Up to 6 hard drives 16 DDR3 DIMM slots Advanced systems management Redundancy options	AMD Opteron 6100 and 6200 series	Up to 512GB Up to 1333 MT/s	6 PCIe 2.0 + 1 storage	PERC H200 PERC H700	Two embedded Broadcom® 5709C dual-port NICs	Up to six hotplug 2.5" SAS, SATA or SSD drives	Hot-pluggable hard drives, hot-pluggable redundant power supply, internal dual SD module, ECC memory, interactive LCD screen, iDRAC with Lifecycle Controller, OpenManage Essentials
R710	The PowerEdge R710 is a mainstream Intel processor-based 2-socket, 2U rack server great for server rooms or corporate data centers and remote sites that require exceptional virtualization, systems management and energy efficiency.	2U	2-socket, 4- or 6-core Intel processors Up to 8 hard drives 18 DDR3 DIMM slots Advanced systems management Redundancy options	Intel Xeon processor 5500 or 5600 series	Up to 288GB Up to 1333 MT/st	4 PCIe 2.0 + 1 storage	PERC H200 PERC H700 SAS 6/iR PERC 6/i PERC 800 PERC 6/i	Four embedded Broadcom® NetXtreme II™ 5709C Gigabit Ethernet NICs	Up to six hotplug 3.5" SAS or SATA drives Up to eight hot-plug 2.5" SAS, SATA or SSD drives	Hot-plug hard drives, optional hotplug redundant power supplies, dual embedded NICs with failover and load-balancing support, PERC 6/i, hot-plug redundant cooling, toolless chassis; fibre and SAS cluster support, validated for Dell/ EMC SAN, iDRAC with Lifecycle Controller, OpenManage Essentials
R620	The PowerEdge R620 is a hyper-dense 2-socket, 1U rack server with a large memory footprint and impressive I/O options that make it an exceptional platform for space-sensitive environments.	1U	2-socket, 2-, 4- 6- or 8-core Intel processors Up to 10 hard drives 24 DDR3 DIMM slots Advanced systems management Redundancy options	Intel Xeon processor E5-2600 product family	Up to 768GB Up to 1600 MT/s	Up to 3 PCIe 3.0	PERC S110 PERC H310 PERC H710 PERC H710P PERC H810	Select Network Adapter— minimum configuration: 4 x 1Gb	Up to ten 2.5" hot-plug SAS, SATA, or SSD drives or up to four hot-plug 2.5" SAS, SATA, or SSD + two Express Flash PCIe SSDs	High-efficiency, hot-plug, redundant power supplies, DC power supplies, hotplug hard drives, TPM, dual internal SD support, hot-plug redundant fans, optional bezel, luggage-tag, ECC memory, interactive LCD screen, extended thermal support, ENERGY STAR compliant, switch independent partitioning, iDRAC with Lifecycle Controller, OpenManage Essentials
R610	The PowerEdge R610 is an Intel processor-based 2-socket, 1U rack server well-suited for server rooms or corporate data centers and remote sites that require exceptional virtualization, systems management and energy efficiency.	1U	2-socket, 4- or 6-core Intel processors Up to 6 hard drives 12 DDR3 DIMM slots Advanced systems management Redundancy options	Intel Xeon processor 5500 or 5600 series	Up to 192GB Up to 1333 MT/s	2 PCIe 2.0 + 1 storage	PERC H200 PERC H700 SAS 6/iR PERC 6/i PERC H800 PERC 6/E	Two embedded Broadcom 5709C Gigabit Ethernet NICs	Up to six 2.5" SAS, SATA or SSD drives	DDR3 memory; ECC; hot-plug hard drives; optional hot-plug redundant power supplies; dual embedded NICs with failover and load balancing support; optional PERC 6/i integrated daughtercard controller with battery-backed cache; hot-plug redundant cooling, toolless chassis; fibre and SAS cluster support; validated for Dell/EMC SAN, iDRAC with Lifecycle Controller, OpenManage Essentials
R520	The PowerEdge R520 is an Intel processor-based 2-socket, 2U rack server designed for demanding workloads with an excellent balance of processing power, storage power, and redundancy.	2U	2-socket, 4-, 6-, or 8-core processors Up to 8 hard drives 12 DDR3 DIMM slots Advanced systems management Redundancy options	Intel Xeon processor E5-2400 product family	Up to 192GB Up to 1600 MT/s	4 PCIe 3.0	PERC S110 PERC H310 PERC H710 PERC H710P PERC H810	Two embedded Broadcom 5720 Gigabit Ethernet NICs	Up to eight hotplug 3.5" SAS or SATA drives Up to eight hot-plug 2.5" SAS, SATA or SSD drives	High-efficiency, hot-plug, redundant power supplies; DC power supply; hotplug hard drives; TPM; dual internal SD support; fan fault tolerance; optional bezel; luggage tag; ECC memory, interactive LCD screen; ENERGY STAR® compliant; extended power range; switch independent partitioning, iDRAC with Lifecycle Controller, OpenManage Essentials
R515	The PowerEdge R515 is an AMD processor-based 2-socket, 2U rack server that is great for department, branch or small business database tasks, email, virtualization, workload consolidation and business applications with large storage requirements.	2U	2-socket, 4- or 6-core AMD processors Up to 12 hard drives 8 DDR3 DIMM slots Optional advanced systems management Redundancy options	AMD Opteron 4100 and 4200 series	Up to 128GB Up to 1600 MT/s	3 PCIe 2.0+ 1 storage	PERC H200 PERC H700 PERC S300 PERC H800	One embedded Broadcom 5716 Gigabit Ethernet NIC	Up to eight or twelve 2.5" or 3.5" SAS, SATA or SSD hard drives + two 2.5" internal cabled hard drives	Hot-plug hard drives, hot-plug redundant power, ECC memory, and quad-pack LED diagnostic or interactive LCD (only with 8 hard drive chassis), iDRAC with Lifecycle Controller, OpenManage Essentials

Dell PowerEdge rack servers

Dell PowerEdge rack servers

	Description	Form factor	Features	Processor(s)	Memory	PCI slots	Embedded RAID controllers	Integrated NIC	Hard drives	Availability features
R510	The PowerEdge R510 is an Intel processor-based 2-socket, 2U rack server ideal for department, branch or small business database tasks, email, virtualization, workload consolidation and core business applications with large, local storage needs.	2U	2-socket, 4- or 6-core Intel processors Up to 12 hard drives 8 DDR3 DIMM slots Optional advanced systems management Redundancy options	Intel Xeon processor 5500 or 5600 series	Up to 128GB Up to 1333 MT/s	3 PCIe 2.0+ 1 storage	PERC 6/i PERC 6/E SAS 6/i PERC S100 PERC S300 PERC H200 PERC H700 PERC H800	One embedded Broadcom 5716 Gigabit Ethernet NIC	Up to four cabled 3.5" SAS or SATA drives Up to eight or twelve hot-plug 3.5" SAS or SATA or 2.5" SAS or SSD drives + two 2.5" internal cabled hard drives	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), iDRAC with Lifecycle Controller, OpenManage Essentials
R420	The PowerEdge R420 is an Intel processor-based 2-socket, 1U rack server offering value with internal expandability for dense workloads supporting growth through the life of the server.	1U	2-socket, 4-, 6-, or 8-core processors Up to 8 hard drives 12 DDR3 DIMM slots Advanced systems management Redundancy options	Intel Xeon processor E5-2400 product family	Up to 192GB Up to 1600MT/s	2 PCIe 3.0 + 1 storage	PERC S110 PERC H310 PERC H710 PERC H710P PERC H810	Two embedded Broadcom NetXtreme 5720 Gigabit Ethernet NICs	Up to four cabled 3.5" SAS or SATA drives Up to four hotplug 3.5" SAS or SATA or eight 2.5" SAS or SATA SSD drives	High-efficiency, hot-plug, redundant power supplies; hot-plug hard drives; TPM; dual internal SD support; fan fault tolerance; optional bezel; luggage tag; ECC memory, interactive LCD screen; ENERGY STAR® compliant, iDRAC with Lifecycle Controller, OpenManage Essentials
R415	The PowerEdge R415 is an AMD processor-based 2-socket, 1U rack server suited for small and medium businesses and data centers run-the-business functions such as IT infrastructure, file/print, web, email, select HPC usage and entry virtualization needs.	1U	2-socket, 4- or 6-core AMD processors Up to 4 hard drives 8 DDR3 DIMM slots Optional advanced systems management Redundancy options	AMD Opteron 4100 and 4200 series	Up to 128GB Up to 1600MT/s	1 PCIe 2.0 + 1 storage	PERC H200 PERC H700 PERC H800 SAS 6/iR PERC S300	One embedded Broadcom NetXtreme II 5716 Gigabit Ethernet NIC	Up to four cabled 3.5" SAS or SATA drives Up to four hotplug 3.5" SAS or SATA or 2.5" SAS or SATA SSD drives	Hot-plug hard drives, hot-plug redundant power, ECC memory, and quadpack LED diagnostic or interactive LCD only with hot-plug HDD chassis, iDRAC with Lifecycle Controller, OpenManage Essentials
R410	The PowerEdge R410 is an Intel processor-based 2-socket, 1U rack server with advanced systems management and Redundancy options for small and medium business to larger enterprise business applications, select HPC usage and entry virtualization needs.	1U	2-socket, 4- or 6-core Intel processors Up to 4 hard drives 8 DDR3 DIMM slots Optional advanced systems management Redundancy options	Intel Xeon processor 5500 or 5600 series	Up to 128GB Up to 1333MT/s	1 PCIe 2.0 + 1 storage	PERC H200 PERC H700 SAS 6/iR PERC 6/i PERC S100 PERC S300 PERC H800	One embedded Broadcom NetXtreme II 5716 Gigabit Ethernet NIC	Up to four cabled 3.5" SAS or SATA drives Up to four hot-plug 3.5" SAS or SATA or 2.5" SAS or SATA SSD drives	Hot-plug hard drives, hot-plug redundant power, ECC memory, and quadpack LED diagnostic or interactive LCD only with toolless hot-plug hard drive chassis, TPM, iDRAC with Lifecycle Controller, OpenManage Essentials
R320	The Dell PowerEdge R320 is an enterprise-class, 1-socket, 1U rack-mount server designed to deliver the right combination of performance, redundancy and value in a dense chassis.	1U	1-socket, 2-, 4-, 6-, or 8-core Intel processors Up to 8 hard drives 6 DDR3 DIMM slots Optional advanced systems management Redundancy options	Intel Xeon processor E5-2400 product family Intel Xeon Processor E5-1410	Up to 96GB Up to 1600MT/s	1PCIe 2.0 and 1PCIe 3.0	PERC S110 PERC H310 PERC H710 PERC H810	Two embedded Broadcom NetXtreme 5720 Gigabit Ethernet NICs	Cabled: Up to four 2.5" SAS or SATA drives Hot-plug: Up to eight 2.5" SAS SSD or SATA drives or four 3.5" SAS or SATA drives	Hot-plug hard drives, hot-plug redundant power supplies, DDR3 ECC memory, and diagnostic LED or an interactive LCD display screen, iDRAC with Lifecycle Controller, OpenManage Essentials
R310	The PowerEdge R310 is an Intel processor-based enterprise-class 1-socket rack server that provides advanced systems management and Redundancy options for web, email, SAN proxy, DHCP server, video streaming, security, and file/ print services.	1U	1-socket, dual- or quadcore Intel processors Up to 4 hard drives 6 DDR3 DIMM slots Optional advanced systems management Redundancy options	Intel Xeon processors 3400 series Intel Celeron® G1101 Intel Pentium® G6950 Intel Core™ i3 processor 500 series	Up to 32GB Up to 1333MT/s	2 PCIe 2.0	PERC H200 PERC H700 SAS 6/iR PERC S100 PERC S300 PERC H800	One embedded Broadcom NetXtreme II 5716 Gigabit Ethernet NIC	Up to four cabled 3.5" SAS or SATA drives Up to four hot-plug 3.5" SAS or SATA or 2.5" SAS or SATA SSD drives	Quad-pack LED diagnostics, ECC Memory, add-in RAID, TPM/TCM, iDRAC with Lifecycle Controller, OpenManage Essentials
R210 II	PowerEdge R210 II is an entry-level, yet enterprise ready, ultra-dense 1-socket 1U rack server that is well suited for single-tier architectures, workloads and SMB applications.	1U	1-socket, dual- or quadcore Intel processors Up to 2 hard drives 4 DDR3 DIMM slots Optional advanced systems management eSATA external storage connectivity option	Intel Xeon processor E3-1200 product family Intel Core processor i3-2100 product family	Up to 32GB Up to 1333MT/s	1 PCIe 2.0	PERC H200 PERC S100 PERC S300	One embedded Broadcom NetXtreme II 5716 Gigabit Ethernet NIC	Up to two cabled 3.5" SAS or SATA or up to four 2.5" SAS or SSD drives	iDRAC with Lifecycle Controller, OpenManage Essentials

PowerEdge tower servers

Dell tower servers, powered by Intel Xeon processors, are designed to help growing businesses of all sizes develop an accessible, robust IT infrastructure with the scalability to help meet future needs.

Dell offers models that can deliver outstanding price versus performance and that have a range of features to help increase energy-efficiency, manageability and flexibility. Our tower servers are customisable and come optimised for file/print, dedicated workgroups, email messaging and web-server applications. Dell tower servers are available in a range of models and specifications to support every IT environment.

Latest Generation



PowerEdge T320

Designed for a broad range of workloads and applications, this quiet, 1-socket tower delivers performance, reliability and value for a wide range of applications.



PowerEdge T420

A powerful, 2-socket tower server that delivers performance, expandability, and reliability with a built-in capacity for non-disruptive growth in a quiet office setting.



PowerEdge T620

A 2-socket, 5U tower server ideal for corporate data centers and remote sites that require high availability, exceptional virtualization, large internal storage capacity and energy efficiency.



PowerEdge T110 II

An ideal first server for small business with the right combination of value, reliability, collaboration and data protection features to improve your business continuity and productivity.



PowerEdge T310

A powerful, reliable, enterprise-class, 1-socket tower server featuring advanced manageability, redundancy and scalability.



PowerEdge T410

Dell's high-value, flexible 2-socket tower server designed to address the broad needs of the growing business and corporate remote offices.



PowerEdge T610

A 2-socket, 5U tower server ideal for corporate data centers and remote sites that require high availability, exceptional virtualization, large internal storage capacity and energy efficiency.



PowerEdge T710

A 2-socket, 5U tower server that offers high internal storage capacity and enhanced system performance with more virtual machine per server capacity than previous generations.

Dell PowerEdge tower servers

Dell PowerEdge tower servers

	Description	Form factor	Features	Processor(s)	Memory	Mezzanine slots	Embedded RAID controllers	Integrated NIC	Hard drives	Availability features
T710	The PowerEdge T710 is an Intel processor-based 2-socket tower server that offers remote sites, large business units and growing businesses robust virtualization and server consolidation features, outstanding scalability and advanced systems management.	Tower or 5U rack	2-socket, 4- or 6-core Intel processors Up to 16 hard drives 18 DDR3 DIMM slots Advanced systems management Redundancy options	Intel Xeon processor 5500 or 5600 series	Up to 192GB Up to 1333MT/s	6 PCIe 2.0 + 1 storage	PERC H200 PERC H700 SAS 6/iR PERC 6/i PERC S100 PERC S300	Two embedded Broadcom 5709C Gigabit Ethernet NICs	Up to eight 3.5" SAS or SATA drives Up to sixteen 2.5" SAS, SATA or SSD drive	DDR3, hot-plug hard drives; optional hot-plug redundant power supplies; optional PERC6/i integrated daughtercard controller with battery-backed cache; hot-plug redundant cooling; toolless chassis; fibre and SAS cluster support; validated for Dell/EMC SAN, iDRAC with Lifecycle Controller
T620	The PowerEdge T620 is an enterprise-class, Intel processor-based 2-socket tower server that emphasizes high performance and high availability with built-in room for growth.	Tower or 5U rack	2-socket, up to 16 processor cores Up to 24 DIMM slots Up to 32 hard drives, Advanced systems management Redundancy options	Intel Xeon processor E5-2600 product family	Up to 768GB Up to 1600MT/s	Up to 6 PCIe 3.0 + 1 PCIe 2.0	PERC S110 PERC H310 PERC H710 PERC H710P	Two Intel dualport 1GbE LOM with TOE	Eight 3.5" SAS, SATA, or SSD + four PCIe SSD drives, or Twelve 3.5" SAS, SATA or SSD drives, or Sixteen 2.5" SAS, SATA, or SSD + four PCIe SSD drives, or Thirty-two 3.5" SAS, SATA, or SSD drives	High-efficiency, hot-plug, redundant power supplies; hot-plug drive bays; TPM; dual internal SD support; hot-plug redundant fan; optional bezel; luggage-tag; ECC memory; interactive LCD screen; extended thermal support; ENERGY STAR compliant; switch independent partitioning, iDRAC with Lifecycle Controller
T610	The PowerEdge T610 is an Intel processor-based 2-socket tower server ideal for growing small and medium businesses, as well as remote sites that require high availability, exceptional virtualization capabilities, and advanced systems management.	Tower or 5U rack	2-socket, 4- or 6-core Intel processors Up to 8 hard drives 12 DDR3 DIMM slots Advanced systems management Redundancy options	Intel Xeon processor 5500 or 5600 series	Up to 192GB Up to 1333MT/s	5 PCIe 2.0 + 1 storage	PERC H200 PERC H700 SAS 6/iR PERC 6/i PERC S100 PERC S300	One embedded Broadcom 5709C Gigabit Ethernet NIC	Hot-plug: Up to eight 3.5" SAS or SATA drives or up to eight 2.5" SAS SSD, SATA SSD, or SAS drives	DDR3 memory; ECC; hot-plug hard drives; optional hot-plug redundant power supplies; optional PERC6/i integrated daughtercard controller with battery-backed cache; hotplug redundant cooling; toolless chassis; fibre and SAS cluster support; validated for Dell/EMC SAN, iDRAC with Lifecycle Controller
T420	The PowerEdge T420 is an Intel processor-based 2-socket tower server that delivers performance and nondisruptive growth for both office environments and data centers.	Tower or 5U rack	2-socket, 4-, 6-, or 8-core Intel processors Up to 16 hard drives 12 DDR3 DIMM slots Optional advanced systems management Redundancy options	Intel Xeon E5-2400 product family	Up to 192GB Up to 1600MT/s	4 PCIe 3.0 and 2 PCIe 2.0	PERC S110 PERC H310 PERC H710 PERC H710P PERC H810	One dual-port embedded Broadcom 5720 Gigabit Ethernet NIC	Cabled: Up to four 3.5" SAS or SATA drives Hot-plug: Up to eight 2.5"/3.5" drives or up to sixteen 2.5" SAS, SATA, or SSD drives	Optional high-efficiency, hot-plug, redundant power supplies; hot-plug drive bays; TPM; dual internal SD support; redundant fans; optional bezel; luggage tag; ECC memory; optional interactive LCD screen; extended thermal support; ENERGY STAR® compliant; iDRAC with Lifecycle Controller

Dell PowerEdge tower servers

Dell PowerEdge tower servers

	Description	Form factor	Features	Processor(s)	Memory	Mezzanine slots	Embedded RAID controllers	Integrated NIC	Hard drives	Availability features
T410	The PowerEdge T410 is an Intel processor-based 2-socket tower server well-suited for growing businesses and remote sites that require high performance, flexibility, advanced systems management and value.	Tower only (5U rack using third-party tray)	2-socket, 4- or 6-core Intel processors Up to 6 hard drives 8 DDR3 DIMM slots Optional advanced systems management Redundancy options	Intel Xeon processor 5500 or 5600 series	Up to 128GB Up to 1333MT/s	5 PCIe 2.0	PERC H200 PERC H700 SAS 6/iR PERC 6/i PERC S100 PERC S300	One dual-port embedded Broadcom NetXtreme II 5716 Gigabit Ethernet NIC	Cabled: Up to six 3.5" SAS or SATA drives Hot-plug; Up to six 3.5" SAS or SATA drives or up to six 2.5" SAS or SATA SSD drives	Quad-pack LED Diagnostic or LCD diagnostic with hot-plug HDD chassis; TPM; optional hot-plug hard drives; optional hot-plug redundant power supply; optional PERC 6/i RAID controller with battery-backed cache; toolless chassis, iDRAC with Lifecycle Controller
T320	The PowerEdge T320 is an Intel processor-based 1-socket tower designed for a broad range of workloads and applications that delivers performance, reliability and value in a robust design with simplified manageability.	Tower or 5U rack	1-socket, 2-, 4-, 6-, or 8-core Intel processors Up to 16 hard drives 6 DDR3 DIMM slots Optional advanced systems management Redundancy options	Intel Xeon processor E5-2400 product family Intel Xeon processor E5-1400 Intel Pentium processor 1400	Up to 96GB Up to 1600MT/s	3 PCIe 3.0 and 2 PCIe 2.0	PERC S110 PERC H310 PERC H710 PERC H710P PERC H810	One dual-port embedded Broadcom 5720 Gigabit Ethernet NIC	Cabled: Up to four 3.5" SAS or SATA drives Hot-plug; Up to eight 3.5"/2.5" or up to sixteen 2.5" SAS, SATA, or SSD drives	Optional high-efficiency, hot-plug, redundant power supplies; hot-plug drive bays; TPM; dual internal SD support; redundant fans; optional bezel; luggage tag; ECC memory; optional interactive LCD screen; extended thermal support; ENERGY STAR® compliant, iDRAC with Lifecycle Controller
T310	The PowerEdge T310 is an Intel processor-based 1-socket tower server that provides growing businesses and remote offices enterprise-class performance, advanced systems management options and redundancy.	Tower	1-socket, dual- or quad-core Intel processors Up to 4 hard drives 6 DDR3 DIMM slots Optional advanced systems management Redundancy options	Intel Xeon processor 3400 series Intel Celeron G1101 Intel Pentium G6950 Intel Core i3 processor 500 series	Up to 32GB Up to 1333MT/s	5 PCIe 2.0	PERC H200 PERC H700 SAS 6/iR PERC 6/i PERC S100 PERC S300	One dual-port embedded Broadcom 5716 Gigabit Ethernet NIC	Cabled: Up to four 3.5" SAS or SATA drives Hot-plug; Up to four 3.5" SAS or SATA drives or up to four hot-plug 2.5" SAS or SATA SSD drives	DDR3 ECC memory, TPM/TCM, redundant PSU, quad-pack LED diagnostic, hot-plug hard drives, toolless chassis; iDRAC with Lifecycle Controller, OpenManage Essentials
T110 II	The PowerEdge T110 II is an Intel processor-based 1-socket tower server that is an ideal first server for small business with the right combination of value, reliability, collaboration and data protection features to improve your business continuity and productivity.	Tower	1-socket, dual- or quad-core Intel processors Up to 4 hard drives 4 DDR3 DIMM slots Basic system management eSATA external storage connectivity option	Intel Xeon processor E3-1200 product family Intel Core processor i3-2100 product family	Up to 32GB Up to 1333MT/s	4 PCIe 2.0	PERC H200 PERC S100 PERC S300	One singleport Broadcom 5722 Gigabit Ethernet NIC	Cabled: Up to four 3.5" SAS or SATA or up to six 2.5" SAS or SATA SSD drives	DDR3 ECC memory, SW RAID, TPM/ TCM, quad pack LED lights, toolless chassis; iDRAC with Lifecycle Controller, OpenManage Essentials

Dell PowerEdge C servers

For cloud builders, high performance computing shops, telcos/hosters, Web 2.0 and big data applications, Dell PowerEdge C platforms focus on solving hyperscale data center challenges, with problem solving innovation, streamlined feature sets, and extensively proven performance and efficiency.

Proven effectiveness: PowerEdge C platforms are based on proven technologies the Dell Data Center Solutions (DCS) group has delivered to some of the world's largest hyperscale data centers looking for an IT competitive edge. Get that edge. Take advantage of that experience, and the investment those companies have made in collaborative custom-design for performance and efficiency at scale.

Problem-solving innovation: One size does not fit all. DCS starts by listening to customer challenges and needs and then custom-designs platforms to solve those challenges and meet those needs. The result: entirely new categories of servers such as microservers and hyperscale servers, right-sized for your workloads and your environment.

Efficiency: PowerEdge C servers have high performance per watt, performance per U and performance per dollar. Designed for performance and efficiency, PowerEdge C servers have a shared infrastructure: sharing chassis, fans and power supplies across up to four server nodes in a 2U that can lower TCO considerably.

Data Center Solutions: DCS builds custom designs and delivers IT for some of the world's largest search engine and cloud computing providers. For DCS, it all starts with you. Your unique challenges. Your unique environment. It's collaborative problem solving innovation, with designs proven at hyperscale. Get a competitive edge with some of those custom designs more widely available in the PowerEdge C line, right-sized for scale-out performance and efficiency.



PowerEdge C6100

Hyperscale-inspired, 4 x 2-socket, six- and quad-core, 2U shared infrastructure server. Ideal for scale-out environments such as HPCC, Web 2.0, gaming and cloud building.



PowerEdge C6105

A 4-node 2U shared infrastructure AMD Opteron series processor-based hyperscale server designed to maximize performance per watt per dollar.



PowerEdge C6145

One of the highest performing servers ever, with two 4-socket AMD Opteron 6200 series processor-based servers in a hyper-efficient 2U; with 10 PCIe slots to ramp up expansion possibilities.



PowerEdge C5000 Chassis

Up to 12 single-socket servers fit in this 3U rack chassis. Ideal for scale-out power and space-sensitive environments, this server was designed for those looking to increase revenue per square foot in their data centers.



PowerEdge C5125 Microserver

Up to 12 hot-plug, AMD processor-based server nodes in a 3U C5000 chassis. Ideal for dedicated hosting, Web 2.0, content delivery networks (CDN) and other applications that are not very compute intensive or complex, yet benefit from compute density and power efficiency.



PowerEdge C5220 Microserver

Up to 12 Intel processor-based server nodes in a shared-infrastructure C5000 chassis. This microserver provides more density with less to cool. Designed for lightweight workloads like virtualized hosting and CDN, the PowerEdge C5220 8-sled version has a mezzanine card slot for SAS drives, hardware RAID or an extra dual-port 1GbE NIC.

Dell PowerEdge C servers

Dell PowerEdge cloud servers

	Description	Form factor	Features	Processor(s)	RAM per node (min/max)	PCI slots	Controllers	Integrated NIC	Internal storage (max)	Availability features
C1100	Designed to meet the demands of dense data center environments, the high-performance PowerEdge C1100 offers massive memory and disk storage in a spaceefficient 1U form factor.	2-socket, 1U rack-mount	At only 1U high, choose from high-capacity SATA, high-performance 6Gb SAS or enterprise-class SLC SSDs to create the optimal storage for your applications	4- or 6-core Intel Xeon Processor 5600 Series Quad-core Intel Xeon Processor 5500 and 5600 Series	Up to 192GB (18 DIMM slots): 2GB/4GB/8GB/16GB DDR3, 1066MT/s or 1333MT/s	3 PCIe G2 slots: 1 x 16 PCI Express 2.0 slot, 1 proprietary mezzanine for dual port 10GbE daughtercard, 1 proprietary mezzanine for LSI 2008 SAS daughtercard	LSI® 2008 SAS daughtercard PERC H800 LSI MegaRAID® 9260-8i, PERC H700	Intel 82576—2 x Gb Ethernet and 1 x 100Mb Ethernet dedicated management port Add-in: 1Gb Ethernet and 10Gb Ethernet card and QDR InfiniBand card options	12TB SATA, 12TB NL or 6Gb SAS	10 x 2.5" or 4 x 3.5" hot-plug hard drive options; high-efficiency single or redundant power supplies; Linux® and Microsoft® Windows® OS; Citrix®, VMware® and Microsoft Hyper-V™
C2100	A data monster with more memory and disk capacity to get results faster. Up to 24 drives with up to 192GB memory in the most popular 2U form factor.	2-socket, 2U rack-mount	The right mix: The mix of disk configurations and backplane options allows you to select the combination of components that best matches your needs	4- or 6-core Intel Xeon Processor 5600 Series Quad-core Intel Xeon Processor 5500/5600 Series	Up to 192GB (18 DIMM slots): 2GB/4GB/8GB/16GB DDR3, 1066MT/s or 1333MT/s	4 PCIe G2 slots: 2 x 8 PCI Express 2.0 slots, 1 proprietary mezzanine for dual port 10Gb Ethernet daughtercard, 1 proprietary mezzanine for LSI 2008 SAS daughtercard	LSI 2008 SAS daughtercard PERC H800 LSI MegaRAID 9260-8i, PERC H200, PERC H700, PERC H800	Intel 82576—2 x Gb Ethernet and 1 x 100Mb Ethernet dedicated management port 1Gb and 10Gb Add-in: Ethernet card options QDR InfiniBand card options	26TB SATA or 38TB NL SAS	24 x 2.5" or 12 x 3.5" hot-plug hard drive options; high-efficiency single or redundant power supplies; Linux and Windows OS; Citrix, VMware and Microsoft Hyper-V
C6100	Ultra-dense, 2U shared infrastructure supporting up to 4 independent server nodes, providing capacity, performance and flexibility in a dense eco-friendly package.	4 x 2-sockets (Intel) in a 2U rack-mount	High storage density Shared infrastructure uses less floor space, power and cooling Ability to service individual nodes increases uptime	4- or 6-core Intel Xeon Processor 5600 Series Quad-core Intel Xeon Processor 5500/5600 Series	Up to 192GB (12 DIMM slots): 4GB/8GB/16GB DDR3, 1066MT/s or 1333MT/s	1 PCIe x 8 mezzanine daughtercard slot and x16 riser slot Optional: Mellanox® ConnectX-2 40Gb/s dual-port QDR IB adapter Intel 82599 dual-port 10GbE adapter	LSI 2008 6GB SAS mezzanine In PCIe slot: LSI 9265-8i add-in RAID controller	Intel 82576—2 x Gb Ethernet and 1 x 100Mb Ethernet dedicated management port Add-in: 1Gb and 10Gb Ethernet card options QDR InfiniBand card options	24TB SATA or 36TB NL SAS	24 x 2.5" or 12 x 3.5" hot-plug hard drive options; high-efficiency 470W/ 750W/ 1100W/ 1400W power supply options; Linux and Windows OS; Citrix, VMware and Microsoft Hyper-V
C6220	The next generation of the PowerEdge C6100, this compact 2U shared infrastructure designed for performance, density and flexibility, supporting 1 to 4 independent server nodes.	4 x 2-sockets (Intel) in a 2U rack-mount	Intel's latest 2S performance processors. Component and power efficiency improvements save power while boosting performance	2, 4, 6 or 8-core Intel Xeon E5- 2600 Processor Series	Up to 512GB (16 DIMM slots): 4GB/8GB/16GB DDR3 RDDR3, LV RDDR3, LR RDDR3, 1600MT/s	1 PCIe x 8 mezzanine daughtercard slot and 1 x16 PCI Express 3.0 (4-node configs) or 2 x16 PCI Express 3.0 (2-node configs)	Intel C600 integrated controller (optional) LSI 2008 6GB SAS mezzanine In PCIe slot: LSI 9265-8i add-in RAID controller	Intel 1350- 2 x Gb Ethernet Add-in: 1Gb and 10Gb Ethernet card options QDR InfiniBand card options	24TB SATA or 36TB NL SAS	24 x 2.5" or 12 x 3.5" hot-plug hard drive options; high-efficiency platinum-rated 1100W/1400W power supply options; Linux and Windows OS; Citrix, VMware and Microsoft Hyper-V

Dell PowerEdge C servers

Dell PowerEdge cloud servers

	Description	Form factor	Features	Processor(s)	RAM per node (min/max)	PCI slots	Controllers	Integrated NIC	Internal storage (max)	Availability features
C6105	4 two-socket server nodes, for up to 48 cores with an ideal mix of power, price and performance in a costand power-efficient shared infrastructure.	4 x 2-sockets (AMD) in a 2U rack-mount	Maximize performance/watt/dollar Shared infrastructure uses less space, power and cooling Service individual nodes to increase uptime	4- or 6-core AMD Opteron 4100 Processor Series	Up to 192GB (12 DIMM slots): 2GB/4GB/8GB/16GB DDR3, 1333MT/s	1 PCIe x 8 mezzanine daughtercard slot and x 16 riser slot Optional: Mellanox ConnectX-2 40Gb/s dual-port QDR IB adapter Intel 82559 dual-port 10GbE adapter	LSI 2008 6GbE SAS mezzanine	2 embedded Intel Kawela 82576 1 Gb Ethernet card	24TB SATA or NL 24TB SAS	24 x 2.5" or 12 x 3.5" hot-plug hard drive options; redundant highefficiency 1100W goldrated 90% efficiency and 1400W platinum-rated power supplies; Linux and Windows OS; Citrix, VMware and Microsoft Hyper-V
C6145	One of the highest performing servers ever, with two 4-socket AMD Opteron 6200 series processor-based servers in a hyper-efficient 2U; with 10 PCIe slots to ramp up expansion possibilities.	2 x 4-socket (AMD) in 2U rack-mount	High performance and density Shared infrastructure uses less floor space, power and cooling 5 PCIe slots/server node, 10 total	8, 12 or 16 cores per processor AMD Opteron 6200 processor series, 128 cores	Up to 512GB (32 DIMM slots): 4GB/8GB/16GB DDR3, 1333MT/s	1 PCIe x8 mezzanine daughtercard slot, 3 x PCIe x16 riser slot 1 dedicated x16 host interface card (HIC) card per server node Optional: Mellanox ConnectX-2 40Gb/s dual-port QDR IB adapter Intel 82559 dual-port 10GbE adapter	LSI 2008 6GbE SAS mezzanine (optional) LSI 9265-8i add-in RAID controller	Embedded dual port Intel Kawela 82576 1 Gb Ethernet network interface card	48TB SATA or NL 48TB SAS	24 x 2.5" or 12 x 3.5" hot-plug hard drive options; Dual hot-plug redundant high-efficiency 1100W gold-rated 90% efficiency and 1400W platinum rating 94% efficiency power supplies; Linux and Windows OS; Citrix, VMware and Microsoft Hyper-V
C5000 Chassis	The 3U PowerEdge C5000 chassis leverages fans, power supplies and other components across up to 12 single socket server nodes to offer more density with less to cool.	3U rack-mount	More density with less to cool, cold-aisle accessible, hot-swap high-efficiency 1400W power supplies and server nodes simplify serviceability and lower total cost of ownership	N/A	N/A	N/A	N/A	N/A	N/A	Up to 12 single-socket AMD or Intel processorbased server nodes (sleds) with 4 x 2.5" or 2 x 3.5" hard drive options; BMC with IPMI 2.0 support with 1 x 10/100 Mbps RJ45 connector for dedicated management, or 1 x NIC port shared
C5125 Microserver	Designed to increase revenue per square foot in your data center, the PowerEdge C5125 Microserver has up to 12 single-socket servers for more density with less to cool in a hyper-efficient, shared-infrastructure, 3U chassis.	Up to 12 x 1-socket (AMD) in 3U rack-mount	More density with less to cool, less floor space, cabling, racks compared to traditional 1U servers This microserver is right-sized for your workload and your wallet with valuepriced AMD processors and shared infrastructure to maximize efficiency	2- or 4-core AMD Phenom™ II X4, Athlon™ II X4/X2	Up to 16GB (4 DIMM slots): 2GB/4GB DDR3, 1333MT/s	N/A	AMD SP5100	Intel 82576EB	4TB SATA	4-12 single-socket server node sleds; 4 x 2.5" or 2 x 3.5" hard drive options; Linux and Windows OS; Citrix, and Microsoft Hyper-V
C5220 Microserver	3U shared infrastructure microserver supporting up to 12 independent server nodes for virtualized hosting, content delivery networks and Web 2.0 applications.	Up to 8 or 12 x 1-socket (Intel), 3U rack-mount	Micro in size, without compromise, the PowerEdge C5220 Microserver has Intel E3-1200 processors. Its shared infrastructure results in more density with less to cool, less floor space, cabling, or racks	2- or 4-core Intel Xeon processor E3-1200 Series or Intel Core i3-2120	Up to 32GB (4 DIMM slots): 2GB/4GB/8GB DDR3, 1333MT/s	1 x8 PCIe mezz card slot available on the 8-sled version LSI 2008 or Intel 82580DB dual-port 1GbE adapter (optional)	Intel C204	Intel 82580DB	4TB SATA or 6TB NL SAS	4-12 single-socket server node sleds; 4 x 2.5" or 2 x 3.5" hard drive options; Linux and Windows OS; Citrix, VMware and Microsoft Hyper-V

Dell PowerEdge RAID controllers

PowerEdge RAID Controller (PERC) Series 8 Family

Model	Interface support	PCI support	SAS connectors	Cache memory size	Write-back cache	RAID levels	Max. drive support	RAID support
PERC H810 Adaptor	6Gbps SAS	PCI-Express 2.0	2 x 4 External	1GB NV	Battery BU	0, 1, 5, 6, 10, 50, 60	192	Hardware RAID
PERC H710P Adaptor	6Gbps SAS	PCI-Express 2.0	2 x 4 Internal	1GB NV	Battery BU	0, 1, 5, 6, 10, 50, 60	32	Hardware RAID
PERC H710P Mini Mono	6Gbps SAS	PCI-Express 2.0	2 x 4 Internal	1GB NV	Battery BU	0, 1, 5, 6, 10, 50, 60	32	Hardware RAID
PERC H710P Mini Blade	6Gbps SAS	PCI-Express 2.0	2 x 4 Internal	1GB NV	Battery BU	0, 1, 5, 6, 10, 50, 60	4	Hardware RAID
PERC H710 Adaptor	6Gbps SAS	PCI-Express 2.0	2 x 4 Internal	512MB NV	Battery BU	0, 1, 5, 6, 10, 50, 60	32	Hardware RAID
PERC H710 Mini Mono	6Gbps SAS	PCI-Express 2.0	2 x 4 Internal	512MB NV	Battery BU	0, 1, 5, 6, 10, 50, 60	32	Hardware RAID
PERC H710 Mini Blade	6Gbps SAS	PCI-Express 2.0	1 x 4 Internal	512MB NV	Battery BU	0, 1, 5, 6, 10, 50, 60	4	Hardware RAID
PERC H310 Adaptor	6Gbps SAS	PCI-Express 2.0	2 x 4 Internal	-	Battery BU	0, 1, 5, 10, 50	16, Non-RAID 32	Hardware RAID
PERC H310 Mini Mono	6Gbps SAS	PCI-Express 2.0	2 x 4 Internal	-	Battery BU	0, 1, 5, 10, 50	16, Non-RAID 32	Hardware RAID
PERC H310 Mini Blade	6Gbps SAS	PCI-Express 2.0	1 x 4 Internal	-	Battery BU	0, 1, 5, 10, 50	4	Hardware RAID
S110 Software RAID	6Gbps SAS	PCI-Express 2.0	-	-	Battery BU	0, 1, 5, 10	4	Software RAID – Windows only
PERC H310 Mini Blade	3Gbps SAS	PCI-Express 2.0	1 x 4 Internal	-	Battery BU	0, 1, 5, 10, 50	4	Hardware RAID

PowerEdge RAID Controller (PERC) Series 6 & 7 Family

PERC H800 Adaptor	6Gbps SAS	PCI-Express 2.0	2 x 4 External	512MB, 512MB NV, 1GB NV	Yes (TBBU)	0, 1, 5, 6, 10, 50, 60	192	Hardware RAID
PERC H700 Integrated/Adaptor	6Gbps SAS	PCI-Express 2.0	2 x 4 Internal	512MB, 512MB NV, 1GB NV	Yes (BBU)	0, 1, 5, 6, 10, 50, 60	16	Hardware RAID
PERC H700 Modular	6Gbps SAS	PCI-Express 2.0	1 x 4 Internal	512MB	Yes (BBU)	0, 1, 5, 6, 10	4	Hardware RAID
PERC H200 Integrated/Adaptor	6Gbps SAS	PCI-Express 2.0	2 x 4 Internal	-	-	0, 1, 10 Supports non-RAID	16	Hardware RAID
PERC H200 Modular	6Gbps SAS	PCI-Express 2.0	1 x 4 Internal	-	-	0, 1, 10 Supports non-RAID	4	Hardware RAID
6Gbps SAS HBA	6Gbps SAS	PCI-Express 2.0	2 x 4 External	-	-	-	-	HBA hardware
PERC 6/E Adaptor	3Gbps SAS	PCI-Express 1.0	2 x 4 External	512MB, 256 MB	Yes (TBBU)	0, 1, 5, 6, 10, 50, 60	144	Hardware RAID
PERC 6/I Integrated/Adaptor	3Gbps SAS	PCI-Express 1.0	2 x 4 Internal	256MB	Yes (BBU)	0, 1, 5, 6, 10, 50, 60	16	Hardware RAID
PERC 6/I Modular	3Gbps SAS	PCI-Express 1.0	1 x 4 Internal	256MB	Yes (BBU)	0, 1, 5, 6, 10	4	Hardware RAID
CERC 6/I Modular	3Gbps SAS	PCI-Express 1.0	1 x 4 Internal	128MB	-	0, 1, 5, 6, 10	4	Hardware RAID
SAS 6/iR Integrated/Adaptor	3Gbps SAS	PCI-Express 1.0	2 x 4 Internal	-	-	0, 1	8	Hardware RAID
SAS 6/iR Modular	3Gbps SAS	PCI-Express 1.0	1 x 4 Internal	-	-	0, 1	4	Hardware RAID
PERC S300 Windows-only OS	3Gbps SAS	PCI-Express 1.0	2 x 4 Internal	-	-	0, 1, 10, 5	8	Software RAID on HBA
PERC S100 Windows-only OS	3Gbps SAS	-	4 cabled SATA	-	-	0, 1, 10, 5	4	Software RAID on SATA chipset

Dell Power Solutions

Your guide to maximizing IT efficiency—offers the latest in expert advice, solutions, and technology for the enterprise. The digital edition enables anytime, anywhere interaction from any device supporting the Zinio reader app.

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Dell Networking Solutions

With the combined strengths of Dell Force10 and PowerConnect, Dell has the networking portfolio that meets the demands of both enterprise and campus LAN environments alike.

With Dell Force10 and PowerConnect, we offer customers a comprehensive end-to-end infrastructure solution across storage, servers and networking. Together, these solutions deliver a disciplined, strategic approach for the future of datacentre and campus networking, with next-generation architectures, coordinated capabilities and a strong focus on customer efficiency.

Dell Force10 datacentre networking

Datacentre networking is changing and customers need a new approach. Dell Force10's product innovation and leadership in datacentre technology enables us to answer customer needs by offering a comprehensive end-to-end infrastructure solutions across storage, servers and networking.

The Dell Force10 high-performance Ethernet switches and routers provide industry-leading density and resiliency to deliver simpler networks from access to core at lower costs.

- **Dell Force10 Z-Series core switches**

For datacentre networks, these switches are designed to increase network availability, agility and efficiency while reducing power and cooling costs

- **Dell Force10 E-Series virtualised chassis-based switches**

These high-capacity chassis-based switches drive virtualised datacentre and cloud-computing networks and are designed for agility and efficiency to lower the TCO

- **Dell Force10 C-Series chassis-based switches**

These switches maintain mission-critical applications and are designed to support multiple line card interfaces and expand as the business grows



PowerConnect switches

The PowerConnect family offers a set of flexible, manageable and comprehensive switch solutions that support up to 10 Gigabit Ethernet and optimised iSCSI performance with Dell Storage solutions, focused on enabling anytime and anywhere data access.

Managed 10 Gigabit Ethernet switches

These provide 10Gb entry-level top-of-rack switching, 1/10Gb server/storage aggregation and medium-to-large-enterprise wiring closets in a compact, flexible and reliable switching platform

- **Managed Layer 3 Gigabit Ethernet switches**

These offer GbE entry-level top-of-rack switching, 1/10Gb server aggregation and enterprise wiring closets in a flexible, scalable switching platform

- **Managed Gigabit Ethernet switches**

These provide server aggregation and access-layer switching for enterprise campuses through small and branch offices with ease of management and simplified operation

PowerConnect W-Series access points and controllers

Extend the enterprise network beyond the datacentre and into distributed enterprise and branch environments with wireless technology. There is full 802.11a/b/g/n support for access points and centralised management controllers to reduce configuration setup and deployment.

- **PowerConnect W-Series access points**

To securely extend the wired network to wireless clients across the enterprise

- **PowerConnect W-Series controllers**

These provide wireless networking access for large enterprise to small-office and branch deployments with extensive network mobility, security and remote-networking capabilities

- **PowerConnect W-Series instant access points**

For small and mid-size businesses seeking enterprise-class Wi-Fi® performance that is simple and affordable to implement

Dell Virtual Network Architecture

Today, companies are faced with an explosion of data growth. Applications have been migrated from laptops to “the cloud,” while an increasingly mobile workforce demands ubiquitous, secure access to all resources from any device. The proliferation of cloud, virtualization, mobility & traffic growth requires that businesses have to become more agile and flexible just to keep up.

This requires a new approach. Dell’s Virtual Network Architecture (VNA) is built for today’s dynamic IT environments and positions the network as an enabler for business; one that intelligently connects you to the workloads, applications and data you need to effectively grow your business.

An open framework for efficient IT infrastructure and workload intelligence, VNA allows customers to achieve more, get real results faster and maximize efficiency through...

- **Fabrics that fit** so customers can scale up and out performance for all types of data centers and campus environments. Customers have the ability to use low power, small form factor systems with distributed core or scale to larger chassis systems as their performance and density needs require.
- **Virtualized services** that are the foundation of Dell FTOS and the Open Automation framework which provides for server-like plug and play networking.
- **Simplifying the complex** through tighter solution integration by using end to end 10Gb Ethernet solutions with Dell servers (@Dell_Servers), storage (@Dell_Storage), and networking that enables customers to realize the full power of 10Gb Ethernet in their IT environments.
- **Mobilizing users** by enabling networking for the campus, remote facilities, corporate issued devices or a personal device, like smartphones and tablets. (Dell Wireless Networking Video)

Seems just about everything is virtual these days...your servers, your desktops, even whole office environments. All of this naturally can put a lot of strain and place a lot of demands on your network. At Dell, we have a complete portfolio of wired and wireless solutions for branch, campus and data center environments that can scale in various dimensions to meet your business needs. This includes a comprehensive set of 10G/40G fabrics solutions for campus and data center as well as feature-rich automation and orchestration capabilities to help simplify the complex in your virtual world.

Our VNA framework aims to extend our current networking and virtualization capabilities across branch, campus and data center environments with an open networking framework for efficient IT infrastructure and workload intelligence. At its essence, and at a technical level, VNA virtualizes, automates and orchestrates network services to adapt to changing business conditions. Foundational elements for VNA include:

1. High-performance switching systems for campus and data center s
2. Virtualized Layer 4-7 services
3. Comprehensive automation & orchestration software
4. Open workload/hypervisor interfaces

With VNA you can invest in a network infrastructure that can adapt to any workload or application environment you have. Scale data centers with fabrics that fit, virtualize services and simplify the complex, and mobilize users for business on the go.

By being able to dynamically control and optimize performance across the network based on user or application needs means your network can adapt to business needs on demand. That’s the power of VNA. That’s that power to do more.

Virtual Network Architecture = Innovative and practical + Simply works + Open and flexible

Open networking framework for efficient IT infrastructure and workload intelligence

Networking solutions

PowerConnect switches

	PowerConnect 2808, 2816, 2824, 2848	PowerConnect 3524(P), 3548(P)	PowerConnect 5524(P), 5548(P)	PowerConnect 6224(P)(F), 6248(P)	PowerConnect 7024(P)(F), 7048(P), 7048R(RA)	PowerConnect 8024F, 8024
Positioning	Simple, fast unmanaged or web-managed switches	Flexible, enterprise-class Fast Ethernet switches	Layer 2 Managed Gigabit switches	Routing (layer 3) Gigabit switches with up to four 10Gb ports	Routing (layer 3) Gigabit switches with up to four 10Gb ports	Routing (layer 3) Gigabit switches with twenty-four 10Gb ports
Switch overview	<ul style="list-style-type: none"> 8, 16, 24 or 48 Gigabit Ethernet ports Web-based remote management via web browser (no CLI or SNMP) Switches ship unmanaged and are managed at the push of a button Up to 73% power savings per port for many environments 	<ul style="list-style-type: none"> Fast Ethernet switching with resilient stacking, advanced management and security capabilities High-performance switch for client, IP phone, wireless connectivity 3524P and 3548P deliver Power-over-Ethernet (PoE) to power IP telephones, wireless access points etc. 	<ul style="list-style-type: none"> Campus-focused Gigabit Ethernet switch delivering Layer 2 Available with 24/48 standard Gigabit Ethernet ports or 24/48 Power over Ethernet (PoE) Gigabit Ethernet ports Campus stacking capability to simplify deployment and management Voice capability Microsoft NAP-certified 	<ul style="list-style-type: none"> Gigabit Ethernet switch delivering Layer 3 routing capabilities High-availability routing switch for Layer 3 edge connectivity or traffic aggregation Flexible 48Gb stacking solution with copper, fibre and 10Gb Ethernet capabilities Voice capability 	<ul style="list-style-type: none"> Dell's most advanced 1Gb switch offering Datacentre-focused Gigabit Ethernet switch delivering Layer 3 routing capabilities High-availability routing switch for Layer 3 edge connectivity or traffic aggregation Fastest Dell stacking solution with copper, fibre and 10Gb Ethernet capabilities 	<ul style="list-style-type: none"> Top-of-rack 10Gb Ethernet switch 10Gb Ethernet switch delivering Layer 3 routing capabilities 24 ports of wire-speed 10Gb Ethernet High-availability routing switch for 10Gb server connectivity or traffic aggregation Dual internal hot-swap power supplies and fans Microsoft NAP-certified
Switching capacity	2808: 8 ports, 16Gbps 2816: 16 ports, 32Gbps 2824: 24 ports, 48Gbps 2848: 48 ports, 96Gbps	3524(P): 12.8Gbps 3548(P): 17.6Gbps	5524(P): 128Gbps 5548(P): 176Gbps	6224(P)(F): 136Gbps 6248(P): 184Gbps	7024(P)(F): 176Gbps 7048(P)(R): 224Gbps	8024(F): 480Gbps
Port types	All ports – 10/100/1000Base-T (RJ-45)	24 or 48 ports – 10/100/1000Base-T 2 ports – 10/100/1000Base-T 2 ports – SFP (fibre)	5524, 5524P: 24 RJ-45 ports, 2 SFP+, 2 stacking ports 5548, 5548P: 48 RJ-45 ports, 2 SFP+, 2 stacking ports	6224, 6224P: 24 RJ-45 ports, 4 SFP combo, 4 x 10Gb 6224F: 24 SFP ports 6248, 6248P: 48 RJ-45 ports, 4 SFP combo, 4 x 10Gb	7024, 7024P: 24 RJ-45 ports, 4 SFP combo, 4 x 10Gb 7024F: 24 SFP ports 7048, 7048P: 48 RJ-45 ports, 4 SFP combo, 4 x 10Gb	8024F: 24 SFP+ ports (4 combo ports 10GBASE-T) 8024: 24 10GBASE-T ports (4 combo ports SFP+)
Fibre media support	2824 – 2 fibre ports 2848 – 4 fibre ports	2 SFP fibre ports	2 SFP+ ports support 10Gb SFP+ and 1Gb SFPs	4 (combo with 1000Base-T), or 24 on 6224F	4 (combo with 1000Base-T), or 24 on 7024F	8024F: 24 SFP+ ports 8024: 4 SFP+ ports (combo with 10GBASE-T)
VLANs	IEEE 802.1Q tagging and port-based; up to 64 VLANs	IEEE 802.1Q tagging and port-based; up to 256 VLANs; Voice VLANs, Private VLANs, Protocol VLANs	IEEE 802.1Q tagging and port-based; up to 4,000 VLANs; Voice VLANs, Private VLANs, Protocol VLANs	IEEE 802.1Q tagging and port-based; up to 256 VLANs; Voice VLANs, Private VLANs, Protocol VLANs	IEEE 802.1Q tagging and port-based; up to 4,000 VLANs; Voice VLANs, Private VLANs, Protocol VLANs	IEEE 802.1Q tagging and port-based; up to 1,000 VLANs; Voice VLANs, Private VLANs, Protocol VLANs
Management	Embedded web server	CLI (Telnet/console); embedded web server; SNMP v1/v2c/v3, four RMON groups; multiple MIBs; Syslog remote logging; dual configuration files; dual firmware images; Dell OpenManage Network Manager and IT=Assistant integration	CLI (Telnet/console); embedded web server; SNMP v1/v2c/v3, four RMON groups; multiple MIBs; Syslog remote logging; dual configuration files; dual firmware images; Dell OpenManage Network Manager and IT=Assistant integration	CLI (Telnet/console); embedded web server; SNMP v1/v2c/v3, four RMON groups; multiple MIBs; Syslog remote logging; dual configuration files; dual firmware images; Dell OpenManage Network Manager and IT Assistant integration	CLI (Telnet/console); embedded web server; SNMP v1/v2c/v3, four RMON groups; multiple MIBs; Syslog remote logging; dual configuration files; dual firmware images; Dell OpenManage Network Manager and IT Assistant integration	CLI (Telnet/console) including two out-of-band management interfaces (RS-232 and RJ-45); embedded web server; SNMP v1/v2c/v3, four RMON groups; multiple MIBs; Syslog remote logging; dual configuration files; dual firmware images; Dell OpenManage Network Manager and IT Assistant integration

Dell Force10 datacentre core and aggregation systems

	C-Series		E-Series				Z-Series	
	C150	C300	E300	E600i	E600i	E1200i	E1200i	Z9000
Configuration	-	-	TeraScale	TeraScale	ExaScale	TeraScale	ExaScale	-
Raw Switching Capacity	768Gbps	1.536TB/S	400Gbps	900Gbps	1.75TB/S	1.6875TB/S	3.5TB/S	2.5TB/S
Slot Capacity – Half Duplex (Gbps)	96	96	25	125	125	125	125	-
Forwarding Capacity (Mbps)	476	952	196	1,042	1,042	2,083	2,083	1,904
Total 10/100/1000Base-T	192	384	288	630	630	1,260	1,260	-
Total 10GbE	32	64	48	112	280	224	560	128
Max. VLANs (Configured/Choices)	1k/4k	1k/4k	4k/4k	4k/4k	4k/4k	4k/4k	4k/4k	4k/4k
Chassis Height (RU)	9	13	8	16	16	21/24 (DC/AC)	24 (AC/DC)	2
Line Card Slots	4	8	6	7	7	14	14	0



Open, Flexible, Reliable, **Secure**

www.dell.com/emea/em



Dell storage portfolio

The Dell point of view on enterprise storage

It's no secret that legacy storage is static, too rigid, too hard to manage and unable to rapidly respond to the constant change that drives business growth. Dell has set out to build the right storage architecture based on what customers truly want.

With best-of-breed technologies innovated in the last decade, including industry-leading deduplication and compression algorithms, the patented high-performance highly scalable Dell Fluid File System, world-class virtualisation and embedded system intelligence, the Fluid Data architecture allows for dynamic storage that delivers new levels of efficiency and agility.

Meet change head-on with the Fluid Data architecture.

Block storage



MD3220/3220i



PS41XX/61XX



MD3600/3600i



**Dell EqualLogic
PS-M4110**



**Dell Compellent™
SC SAN**

Unified storage



PowerVault NX3500



PowerVault NX3610



PowerVault NX3600



EqualLogic FS7500



**Dell Compellent
SC NAS**

File storage



NX3000



NX3100



Dell Compellent



NX200



NX300

Data protection



PV124T



TL4000



DL2200



TL2000



RD1000



114X



ML6010



ML6020



ML6030

Dell EqualLogic

PS Series dynamic virtual storage

The Dell EqualLogic PS Series is a family of virtualised iSCSI storage arrays that combine intelligence and automation with fault tolerance to provide simplified administration, rapid deployment, enterprise performance and reliability, and seamless scalability.

The Dell difference:

Ease of use

- Intelligent, automated management helps minimise tedious administrative tasks
- From box to operating SAN in minutes
- Monitor petabytes of storage across dozens of SANs from a single console

Enterprise performance

- Exceptional performance for both sequential and transactional applications with linear scalability as arrays are added
- Automated, real-time load-balancing across drives, RAID sets, connections, cache and controllers for optimised performance and resource utilisation
- Pooling capability enables appropriate service levels for individual applications

Reliability

- Fault-tolerant, fully-redundant dual controller
- Designed for 99.999% availability
- Enterprise-class RAID protection
- Full hardware redundancy – hot-swappable controllers, fans, power supplies, disks

Scalability

- Modular design allows growth when needed
- Online expansion between hardware generations
- Linear scalability – capacity and performance scale together
- A growing pool of storage can be managed from a single user interface
- Thin provisioning to increase space efficiency for optimal capacity utilisation
- Arrays can be mixed and matched to balance capacity and auto-tier data



Affordability

- All-inclusive enterprise features and functionality with no additional software licences to purchase
- Easy connection via iSCSI
- Automated features help to eliminate highly specialised administrative costs
- Adopt 10GbE and run both 1GbE and 10GbE in the same environment without devaluing legacy equipment

Enterprise efficiency

- Addition of 10GbE supports high-performance, high-bandwidth applications such as data warehouses and streaming media
- IT investments maximised with an end-to-end unified fabric datacentre encompassing servers, EqualLogic storage and networking
- Enterprise-level virtualised storage that matches virtualised server environments
- Support for multi-tiered applications designs with automated tiering of hybrid solutions (PS6100XS and PS6110XS)

Simple unification

- Addition of EqualLogic 7500 brings NAS capability for scale-out, high-performance unified storage
- Easily configuration and management of iSCSI, CIFS and NFS access to a single flexible storage pool
- Works with new and existing EqualLogic storage arrays

PS Series iSCSI storage arrays

PS6000 Series: Virtualised arrays designed for the enterprise datacentre; PS4000 Series: Virtualised arrays designed for branch office and SMB needs.

	Array capacity	Disk drives	Drive capacities	Network connectivity
PS6110E	12, 24, 48 or 72TB	24 x 7,200rpm Near-Line SAS drives	500GB, 1TB, 2TB or 3TB	Dual 10GbE controllers Two controllers/array; two 10GbE/iSCSI ports per controller
PS6110X	7.2, 14.4 or 21.6TB	24 x 10,000rpm SAS drives	300GB, 600GB or 900GB	
PS6110XV	3.5TB	24 x 15,000rpm SAS drives	146GB	
PS6110S	4.8 or 9.6TB	24 x SSD drives	200GB or 400GB	
PS6110XS	13TB	7 x SSD drives + 17 x 10,000rpm HDD drives	400GB + 600GB	
PS6110XV 3.5	7.2 or 14.4TB	12 x or 24 x 15,000rpm SAS drives	600GB	
PS4110E	6, 12, 24 or 36TB	12 x 7,200rpm SAS drives	500GB, 1TB, 2TB or 3TB	
PS4110X	7.2, 14.4 or 21.6TB	24 x 10,000rpm SAS drives	300GB, 600GB or 900GB	
PS4110XV	3.5TB	24 x 15,000rpm SAS drives	146GB	
PS4110XV 3.5	3.5 or 7.2TB	6 x or 12 x 15,000rpm SAS drives	600GB	
PS6100E	12, 24, 48 or 72TB	24 x 7,200rpm Near-Line SAS drives	500GB, 1TB, 2TB or 3TB	Dual controllers
PS6100X	7.2, 14.4 or 21.6TB	24 x 10,000rpm SAS drives	300GB, 600GB or 900GB	
PS6100XV	3.5TB	24 x 15,000rpm SAS drives	146GB	
PS6100S	4.8 or 9.6TB	24 x SSD drives	200GB or 400GB	
PS6100XS	13TB	7 x SSD drives + 17 x 10,000rpm HDD drives	400GB + 600GB	
PS6100XV 3.5	7.2 or 14.4TB	12 x or 24 x 15,000rpm SAS drives	600GB	
PS4100E	6, 12, 24 or 36TB	12 x 7,200rpm Near-Line SAS drives	500GB, 1TB, 2TB or 3TB	
PS4100X	7.2, 14.4 or 21.6TB	24 x 10,000rpm SAS drives	300GB, 600GB or 900GB	
PS4100XV	3.5TB	24 x 15,000rpm SAS drives	146GB	
PS4100XV 3.5	3.5 or 7.2TB	6 x or 12 x 15,000rpm SAS drives	600GB	
PS6510E	48, 96 or 144TB	48 x 7,200rpm SATA drives or 48 x 7,200rpm Near-Line SAS drives	1TB, 2TB or 3TB	Dual 10GbE controllers
PS6510X	28.8TB	48 x 10,000rpm SAS drives	600GB	Dual 10GbE controllers
PS6500E	24 or 48TB	48 x 7,200rpm SATA drives	500GB or 1TB	Dual controllers
PS6500X	28.8 or 43.2TB	48 x 10,000rpm SAS drives	600GB or 900GB	Dual controllers

NAS scale-out unified storage – EqualLogic FS7500

Protocols	Auto-replication, multi-site; datacentre bridging (with 10GbE capability); instant volume restore; multi-path I/O multi-volume, writeable snapshots; snapshot and auto-replication scheduler; volume cloning; thin clones; volume consistency sets
Storage arrays	Detailed historical performance monitoring with SAN headquarters; Microsoft Active Directory Integration; PS Group Manager; rapid provisioning; remote setup wizard; roles-based administration; volume management
Expandability	Auto-stat disk-monitoring system; email home; enclosure monitoring system
Storage nodes	Non-disruptive array addition and removal; automatic load balancing; automatic or manual storage tiering; complete SAN virtualisation; online data and volume movement; storage pools; thin provisioning awareness; copy offload; block zeroing and scalable hardware-assisted locking for VMware
Management	Non-disruptive array addition and removal; automatic load balancing; automatic or manual storage tiering; complete SAN virtualisation; online data and volume movement; storage pools; thin provisioning awareness; copy offload; block zeroing and scalable hardware-assisted locking for VMware
Connectivity	Four 1Gb ports per node for front-end CIFS/NFS connectivity; four 1GbE ports per node for back-end iSCSI connectivity

Enterprise Data Services

Data Protection, Availability & Recovery	Auto-replication, multi-site; datacentre bridging (with 10GbE capability); instant volume restore; multi-path I/O multi-volume, writeable snapshots; snapshot and auto-replication scheduler; volume cloning; thin clones; volume consistency sets
Management	Detailed historical performance monitoring with SAN headquarters; Microsoft Active Directory® Integration; PS Group Manager; rapid provisioning; remote setup wizard; roles-based administration; volume management
Maintenance	Auto-stat disk monitoring system; email home; enclosure monitoring system
Storage Virtualisation	Non-disruptive array addition and removal; automatic load balancing; automatic or manual storage tiering; complete SAN virtualisation; online data and volume movement; storage pools; thin provisioning awareness; copy offload; block zeroing and scalable hardware-assisted locking for VMware
Server Management & Protection Integration	Non-disruptive array addition and removal; automatic load balancing; automatic or manual storage tiering; complete SAN virtualisation; online data and volume movement; storage pools; thin provisioning awareness; copy offload; block zeroing and scalable hardware-assisted locking for VMware

EqualLogic blade array

The EqualLogic PS-M4110 Blade Array is the newest member of the PS Series. It's the industry's only fully redundant, enterprise-class storage array designed to fit inside a blade chassis*, and delivers all the functionality and enterprise-class features of traditional EqualLogic arrays, enabling a fully virtualized solution integrating Dell storage, servers and networking in one compact unit. Easy to scale and manage, it's the most flexible storage blade solution you'll find anywhere.

This blade array enables to build a one-box solution that's designed to meet a variety of needs, including highly virtualized environments, virtual desktop infrastructures, multi-application workloads, such as Microsoft® Exchange and database servers, and collaboration infrastructures using Microsoft® SharePoint®.

Array Software 6.0 is available with the new blade series. It provides enhanced data protection and SAN management with synchronous replication; increased efficiency with snapshot borrowing, volume un-map, and volume undelete; and improved data security, incorporating full encrypting SED drives and IPSEC.

Available in four different configurations, the EqualLogic PS-M4110 Blade Array occupies a compact footprint while reducing the need for excessive cable configuration, power, and cooling. It provides an ideal consolidated approach for environments including:

- Remote and/or branch office deployments
- Small-medium enterprises who need an integrated solution for converged infrastructures
- Departments and work groups within a large IT organisation with or without integration into larger central SAN
(for example at universities)
- Modular infrastructure (military, cruise lines or oil and gas)



Family Features

Benefits of the EqualLogic family shared by the PS-M4110 Blade Array comprise:

- Advanced application and platform integration with Microsoft Windows Server, Hyper-V®, Microsoft SQL, Microsoft Exchange, VMware® vSphere™, Citrix® XenSever™ and Linux® for cutting-edge protection and easier management
- Integrated snapshots for VMware and Microsoft Hyper-V
- Auto-replication integration with VMware vCenter™ Site Recovery Manager
- Unique peer-scaling architecture enables simultaneous scalability of performance and capacity within and outside of the blade chassis
- All-inclusive software licensing, and users with valid support contracts can download new releases as needed at no additional cost

The PS-M4110 Blade Array Series. It's the best and most flexible storage blade solution yet.

* Results based on June 2012 Internal Dell comparison research.

EqualLogic PS-M4110 benefits

Converge	A fully-virtualised storage, servers and networking solution within a single blade chassis delivers a truly efficient converged data centre. Costs are controlled and even reduced for expensive hardware, licences, configuration and power/cooling. Also, administrators can respond more quickly and easily to demanding SLAs and business requirements
Scale	The industry's most flexible data-centre-in-a-box solution scales a single pool of storage inside and outside the blade chassis. Administrators can save time and also non-disruptively scale their own storage requirements to meet application demands
Connectivity	Harnessing EqualLogic's award-winning ease-of-use and all-inclusive software mitigates against risk and delivers enterprise storage with everyday simplicity. Data is managed, protected and optimised quickly

Model Options

PS-M4110E 7.2k Near-line SAS	<ul style="list-style-type: none"> • 500GB or 1TB drives • Up to 14TB per array • Up to 28TB per group inside blade chassis • Up to 56TB, 4 arrays inside blade chassis
PS-M4110X 10k SAS	<ul style="list-style-type: none"> • 600GB or 900GB drives • Up to 12.6TB per array • Up to 25.5 TB per group inside blade chassis • Up to 50.4 TB, 4 arrays inside blade chassis
PS-4110XV 15k SAS	<ul style="list-style-type: none"> • 146GB or 300GB drives • Up to 4.2TB per array • Up to 8.4 TB per group inside blade chassis • Up to 16.8 TB, 4 arrays inside blade chassis
PS-M4110XS Hybrid configuration	<ul style="list-style-type: none"> • 9x 600GB 10K SAS drives and 5x 400GB SSD drives • Up to 7.4TB per array • Up to 14.8 TB per group inside blade chassis • Up to 29.6 TB, 4 arrays inside blade chassis

Dell Compellent Storage Center™

Enterprise storage for virtualised
datacentres and the cloud



The Dell Compellent Storage Center SAN is an all-in-one storage array that allows organisations to actively manage data at a highly granular level using built-in intelligence and automation. With its Fluid Data architecture, Storage Center always puts data in the right place at the right time for the right cost. This ultra-efficient, easy-to-manage storage solution optimises drive utilisation, dynamically moves data between storage tiers and RAID levels, continuously protects data against downtime and disaster, scales on demand, and quickly adapts to ever-changing business needs. Storage Center enables organisations to cut the time, cost and risk of managing enterprise storage – today and in the future.

Manage data differently with a Fluid Data architecture

Storage Center leverages a patented Fluid Data architecture that changes the way organisations manage data. Empowered by real-time system information about each block of data, Storage Center optimises data placement, management and protection throughout its life cycle. Storage is provisioned without wasting capacity. Data is moved where it's needed, when it's needed, based on actual use and performance needs. And data is continuously protected using pointer-based snapshots. This level of data awareness also enables Storage Center to virtualise the storage infrastructure, bringing new efficiency, agility and resiliency to enterprise storage by creating a pool of high-performance storage shared by all servers and applications.

Scale on a persistent, open, agile platform

Storage Center is built on a flexible, persistent hardware platform that dynamically scales to meet business requirements. Unlike systems that require you to rip out and replace technology as your business needs change, Storage Center supports the continual adoption of new technologies as you grow. You can easily mix and match drive technologies and build a unified storage solution without ever worrying about a forklift upgrade.

Organisations can start with any size of Storage Center array and expand over time – from 2TB to nearly 2PB – only having to replace components if upgrading to new technologies. You can intermix SSD, FC, SAS and SATA drive technologies, as well as iSCSI, FCoE and FC front-end interconnects – all in the same system at the same time. This allows you to use any combination of industry-standard technology at any time, and you can add capacity or make configuration changes without downtime or disruption. Incorporating the latest datacentre technologies is as simple as plugging in new components on the fly. Storage Center adjusts automatically, restriping data across all drives and updating the in-flight use characteristics.

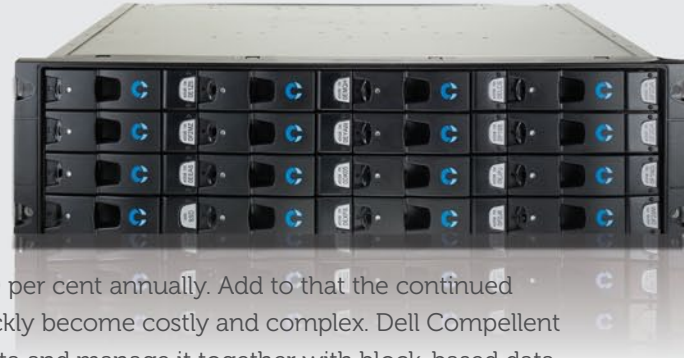
Increase storage efficiency with intelligent, automated software

Dell Compellent Fluid Data technology empowers organisations to move beyond simply storing data to actively managing data. Built-in intelligence and automation optimise the storage environment, and every enterprise feature is fully integrated for optimum efficiency, flexibility and performance. Storage Center leverages a comprehensive software suite with advanced functionality. At the core of the solution is true storage virtualisation, which pools all resources across the array for maximum efficiency and performance. Thin provisioning software, called Dynamic Capacity™, ensures capacity is only utilised on write. Data Progression, automated tiered storage software, dynamically moves data to the optimum tier and RAID level. Space-efficient snapshot technology, called Data Instant Replay, ensures near-instant recovery to any point in time. Remote Instant Replay provides thin replication to provide a cost-effective yet highly robust disaster-recovery solution. Dynamic business-continuity software, called Live Volume, allows for the online movement of volumes between arrays without disruption. Plus, you can manage your entire storage infrastructure using advanced automation.

Feature	Dell Compellent Storage Center SAN					
Storage Capacity	739TB of raw storage capacity with FC drives or 1,920TB with SAS drives per system					
Hard Drives	Each 3.5" FC enclosure holds up to 16 FC or 14 SSD drives (with a FC drive in bays 1 and 16) Each 3.5" SAS enclosure holds up to 12 SAS drives. Each 2.5" SAS enclosure holds up to 24 SAS drives					
3.5" Drive Performance and Capacities	15,000rpm SAS drives available in 450GB and 600GB 15,000rpm FC drives available in 300GB, 450GB and 600GB 7,200rpm SAS drives available in 1TB, 2TB and 3TB					
2.5" Drive Performance and Capacities	15,000rpm SAS drives available in 146GB 10,000rpm SAS drives available in 600GB and 900GB 7,200rpm SAS drives available in 1TB SAS Solid State Drive (SSD) available in 200GB					
Expansion Capabilities	Each system supports up to 1,232 FC drives or 960 SAS drives					
Host Connectivity	Single Controller Configuration			Clustered Controller Configuration		
	Single Controller Configuration supports up to 22 servers directly connected			Maximum of 22 front-end ports per controller. A switch is recommended for all configurations and is required for clustered controller configurations.		
Storage Controllers and RAID Levels	Storage Controllers			RAID Levels		
	Each Series 40 controller features a 2.53GHz quad-core processor, six PCI-E expansion slots and 4GB of battery-less multi-threaded read-ahead mirrored cache Each Series 30 controller features a 3.00GHz dual-core processor, one PCI-X and four PCI-e expansion slots and 3.5GB of battery-backed multi-threaded read-ahead mirrored cache Multi-path software provides failover management of redundant data paths between the server and storage array Virtual ports increase port capacity, drive bandwidth, I/O connectivity and port failover			Support for RAID levels 0, 5, 6 and 10 Any combination of RAID levels can exist on a single Storage Center SAN Multiple RAID levels can exist on the same storage tier within an array Storage is virtualised and pooled across array without RAID group limitations		
Enterprise Software	Storage Center Core			Storage Center Applications		
	Drive virtualisation Port virtualisation Server mapping Drive optimiser Thin import Application optimiser Copy-mirror-migrate Boot from SAN	Heterogeneous OS LUN masking Performance monitoring Unified user interface System administration Remote monitoring/ phone home	For Series 40, Storage Center 6.0 feature enhancements (over Storage Centre release 5.5.4) include the following: <ul style="list-style-type: none">64-bit operating system12GB memory upgrade kitvStorage APIs for Array Integration (VAAI) Primitives:Full copy (copy offload)	Data Instant Replay Remote Instant Replay Dynamic Capacity Data Progression	Fast Track Dynamic Controllers Enterprise Manager	Multipath Manager for Microsoft Servers Replay Manager Live Volume
Feature	Dell Compellent SC8000 Technical Specification					
Product Operating System	Storage Center 6.1 or later		Processor	Two 2.5 GHz Six-Core (Sandy Bridge) Intel™ processors per controller		
OS Support	Microsoft® Windows® Server, Solaris, HP-UX, Linux, IBM AIX, Novell NetWare, Apple, Tru64, VMware®					
Drive Interfaces	SAS and NL-SAS drives. Also backwards compatible with existing Compellent Fibre Channel and SATA drives. Different drive types, transfer rates and rotational speeds can be mixed in same system.		Storage Capacity	Each system supports up to 960 SAS drives. The maximum usable capacity supported by a system varies based on configuration. Each 3.5" SAS enclosure holds up to 12 SAS drives. Each 2.5" SAS enclosure holds up to 24 SAS drives.		

Dell Compellent NAS

Consolidate block and file on a unified platform for maximum efficiency



Unstructured data such as digital images and office documents is expected to grow by 60 per cent annually. Add to that the continued proliferation of structured data from databases, and managing enterprise storage can quickly become costly and complex. Dell Compellent NAS solutions, powered by Intel Xeon processors, enable you to consolidate file-based data and manage it together with block-based data. This unified storage solution provides file-level access and control with block-level efficiency and scalability.

Unify all data on one platform

Dell Compellent NAS solutions integrate the highly scalable Fluid Data architecture to consolidate all enterprise data onto a single platform. Provide file-level access and control for audit and regulatory compliance while taking advantage of the full Dell Compellent feature set, including Dynamic Capacity, Data Progression, Data Instant Replay and Remote Instant Replay.

Customise your architecture, centralise administration

Dell Compellent NAS solutions allow you to select the best architecture for your IT environment. The Dell Compellent zNAS is ideal for midsize and large organisations with mixed UNIX®, Linux and Windows environments, while the Dell Compellent Storage Centre NAS is optimal in pure CIFS or Windows environments. Both NAS solutions share data with ease across server platforms, regardless of size or type. System administration is simplified with a central, wizard-based interface. And built-in intelligence automates volume creation and mapping.

Deliver high performance and availability

With Dell Compellent NAS solutions, file-serving operations remain separate from application operations to avoid bottlenecks from CPU-intensive processes. Yet all I/O requests are spread across the storage pool and processed in parallel to increase overall performance and availability. Clustered configurations and hardware redundancy further enhance availability, with active/active failover and advanced multipathing (MPxIO) helping to ensure that there is no single point of failure.

Increase capability, lower your costs




By consolidating file servers and databases, you can significantly cut datacentre hardware, power and cooling costs. Dynamic Capacity enables you to provision any size volume upfront yet only consume capacity on write. Data Progression automatically migrates inactive data to lower-cost drives. Server Instant Replay eliminates the need for file server drives. And Data Instant Replay provides near-instant recovery without full-volume clones.

Feature	Dell Compellent Storage Centre NAS	Dell Compellent zNAS
Hardware		
Form Factor	1U rack mount	1U rack mount
Clustering	Yes, up to 16 NAS 1U servers	Yes, 2 x 1U configuration
CPU	Intel Xeon processor E5240 (3.0GHz), 64-bit	Two Intel Xeon processors E5240 (2.53GHz), 64-bit
Memory	8GB FB DDR2 RAM	24GB or 48GB ECC DDR3 DIMM RAM
Expansion Slots	Two PCIe, one universal I/O slot	Two PCIe
Network Connectivity	LAN: two on-board 1GbE ports, one quad-port 1Gb add-on NIC card SAN: one dual-port 4Gb FC HBA or one dual-port 1Gb iSCSI HBA	LAN: two on-board 1GbE ports, one quad-port 1GbE add-on NIC card SAN: one PCIe dual-port 8Gb FC HBA
Remote Management	IPMI card	Embedded IPMI card
Hard Drive	No, boot from SAN	No, boot from SAN
Peripheral Devices	CD/DVD-ROM	CD/DVD-ROM
High Availability	Redundant power supplies	Redundant power supplies, clustered heads with active/active failover
Software		
Platform	Windows Storage Server 2008	OpenSolaris® ZFS®
OS Environment	Ideal for Windows CIFS	Ideal for UNIX or mixed CIFS/NFS
Administration	Active Directory	LDAP or mixed
WORM	n/a	Optional

Dell PowerVault NAS



Network attached storage (NAS) is a specialised storage server, powered by Intel Xeon processors, with its own IP address that is made available to multiple clients and servers on a local area network (LAN) or wide area network (WAN). Preinstalled network communication protocols are enabled so that clients and servers in heterogeneous environments with different operating systems may read and write data on the NAS server. Organisations may add disk storage arrays, tape drives or tape automation to a file/print NAS server, helping to simplify management and backup operations, improve utilisation of storage resources and serve as a centralised platform for cost-effective scaling.

	Dell PowerVault NX3200	Dell PowerVault NX3300	Dell PowerVault NX300
			
Operating System	Windows Storage Server 2008 Standard Edition	Microsoft® Windows® Storage Server 2008 R2 Enterprise Edition	Windows Storage Server 2008 Standard Edition
File Access Protocols	CIFS, NFS, FTP		
Form Factor	2U Rack-Mount		1U Rack
Number of Processors	1 or 2		1
Processors Supported	1 x E5-2609 2.40GHz,10M Cache or 2 x Intel E5-2640 2.50GHz,15M Cache		Intel Xeon processor 5600
Internal Data Drives	12 x 3.5"	6 x 3.5"	4 x 3.5"
Max. Internal Capacity	36TB Raw (with SATA and Near-Line SAS)	12TB Raw (with SATA and Near-Line SAS)	4TB (Raw capacity)
Drives Supported	SATA and SAS		
External Scalability	PowerVault, EqualLogic and EMC arrays (DAS and SAN)		N/A
Slots	Two PCIe x16 + one PCIe x8 + Three PCIe x8	Two PCIe x8 + 2 PCIe x4 G2	N/A
Hardware RAID Levels (custom-configurable options)	0, 1, 5, 10, 50, 6		0, 1, 5, 6, 10 (preconfigured with RAID 5 from the factory)
RAID Controller	H700 (internal drives), H800/PERC6E (external drives)		H700 (internal drives)
Availability	Hot-plug hard drives, Hot-plug redundant power, Hot-plug redundant cooling		
Management	Dell OpenManage featuring Dell Management Console		
Remote Management	Optional iDRAC Enterprise or Native Java® RDP plug-in		
Data Protection Features	SIS, DFS-R, Snapshots (VSS)		

PowerVault storage enclosures and arrays

A disk storage enclosure contains multiple disk drives so that additional capacity can be added to a server whenever it is needed. Disk storage enclosures can be directly attached to a single server or server cluster. In the case of iSCSI, a disk storage array can be connected to multiple host servers configured in a SAN.

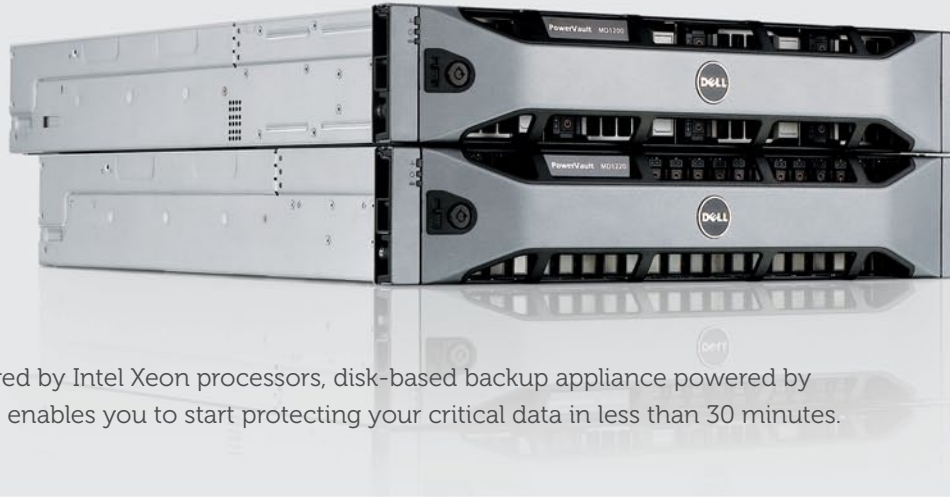


Dell PowerVault MD Series storage arrays

	MD3600 Series	MD3200 Series	MD1200 Series
Best for	Entry-level virtualisation requiring high availability, high performance and business continuity	Entry-level virtualisation and consolidation	Economical expansion for servers and storage arrays
Interconnects supported	Fibre Channel, iSCSI, SAS	iSCSI, SAS	SAS
Drive options	3.5": 15,000rpm SAS, 7,200rpm Near-Line SAS, Self-Encrypted Drives 2.5": SSD, 15,000rpm SAS, 10,000rpm SAS, 7,200rpm Near-Line SAS		
Number of drives per array	12 (3.5") or 24 (2.5")		
Expansion capacity	Up to 192 drives with optional premium feature key and using MD1200 and/or MD1220 expansion enclosures		Up to 192 drives
Maximum system capacity	576TB raw		
Optional features	Remote Replication ¹ , Snapshot, Virtual Disk Copy, High-Performance Tier	Snapshot, Virtual Disk Copy, High-Performance Tier (HPT)	OpenManage Storage Management
Management software	2U Rack	2U Rack	2U Rack
Cache size	MD Storage Manager, VMware vCenter plug-in 5.0 support, PowerVault MD Storage Array Management Pack Suite 4.1 for Microsoft System Center Operations Manager and System Center Essentials		OpenManage Storage Management
Chassis height	4GB cache (2GB per controller)		Controller-dependent
Maximum Backup Capacity	2U		

¹ Configured at point of order

PowerVault backup appliance



One of the industry's only integrated solutions for faster disk-based backups and recoveries.

Enjoy fast, easy data protection with the Dell PowerVault DL, powered by Intel Xeon processors, disk-based backup appliance powered by CommVault or Symantec. This integrated backup-to-disk appliance enables you to start protecting your critical data in less than 30 minutes.

Dell PowerVault DL2200 backup-to-disk appliances based on CommVault or Symantec

Features	Dell PowerVault DL2200
Value Series	1 x Intel Xeon processor E5620, 2.4GHz, 12MB cache
Performance Optimised	2 x Intel Xeon processors E5620, 2.4GHz, 12MB cache
Internal Storage	2 x 500GB ² , Near-Line SAS Drives in hardware RAID 1 configuration for the operating system and application 6 or 12 of 500GB ² , or 1TB ² or 2TB ² , Near-Line drives in hardware RAID 5 configuration for the data
Optional Expansion with SAN	Support for MD3200i, CX arrays or EqualLogic PS arrays
Tape Connectivity	SAS 5/E HBA; U320 SCSI HBA; Fibre Channel HBAs: Emulex® or QLogic® HBAs
Networking	Dual-embedded Broadcom NetXtreme II™ 5708 Gigabit6 Ethernet NIC with failover and load balancing
Operating System	Windows Server 2008, Standard, x64
Systems Management	OpenManage, ITA and Dell Management Console
Remote Management	DRAC
Physical Dimensions	2U
Rack Weight	26.1kg (57.54lb), maximum configuration
Ports	Rear: 2 x USB 2.0, 1 x serial connector, 1 x video connector

Optional expansion with MD1200

Hard Drives	One H800 for connecting up to eight MD1200 enclosures (i.e. a total of 96 drives). One additional H800 card available for purchase to connect eight additional MD1200 enclosures (for a total of 192 drives)
Maximum Usable Capacity	Maximum usable capacity up to 288TB of usable space (384TB of raw disks)
Maximum Backup Capacity	Maximum backup capacity up to 18TB of usable disk space

Symantec Backup Exec™ option

DL2200 powered by Backup Exec 2010 is available in two options:

Backup Exec 2010 DL Edition:

Includes factory-installed Backup Exec Media Server (including the licensing for Continuous Protection Server and connectivity to a single tape drive) and licences for backing up two Windows File Server Agents. This comes with one or three years of software maintenance.

Backup Exec 2010 DL Edition with Deduplication:

Includes factory-installed Backup Exec Media Server with deduplication (including the licensing for Continuous Protection Server and connectivity to a single tape drive), and licences for backing up two Windows File Server Agents. This comes with one or three years of software maintenance.

CommVault® Simpana® option

DL2200 powered by CommVault

Appliance is available in both a Standard Edition and an Advanced Deduplication Edition. Each edition comes with five File System Agents. Additional optional agents are available.

- Standard Edition includes CommServe Master Server, MediaAgent and five File System Agents
- Advanced Deduplication Edition includes CommServe Master Server, MediaAgent, five File System Agents, and File and Email Deduplication

PowerVault tape backup and removable disks

Considered the first and last line of defence against data loss, tape and removable disks can be used for long-term data storage and backup. Tape or removable disk media is highly portable and can easily be taken off-site for added data protection. With the introduction of disk-based technology, users can now back up to a removable disk in addition to a tape-based format for their growing data-protection needs. Both solutions can be tailored for a wide range of environments and needs.



Tape rack technology				
Product Name	PowerVault 114T LTO-3-060	PowerVault 114T LTO-3	PowerVault 114X LTO-4-120	PowerVault 114X LTO5-140
Short Description	Ideal for customers who require multi-drive, rack-optimised data protection that can be externally connected to a server. Consider capacity, backup rate and interface when purchasing rackable units			
Features				
Drive Technology	LTO-3-060	LTO-3	LTO-4	LTO-5
Internal/External	External rack	External rack	External rack	External rack
Form Factor	2U	2U	2U	2U
Media	LTO-3, LTO-3 WORM, LTO-2, LTO-1 (read-only)	LTO-3, LTO-3 WORM, LTO-2, LTO-1 (read-only)	LTO-4, LTO-3, LTO-3 WORM, LTO-2 (read-only)	LTO-5, LTO-5 WORM, LTO-4, LTO-4 WORM, LTO-3 (read-only), LTO-3 WORM
Native Capacity	with two drives up to 800GB	with two drives up to 800GB	with two drives up to 1.6TB	With two drives up to 3.0TB
Backup Rate	with two drives up to 120MB/s 432GB/hr	with two drives up to 160MB/s 576GB/hr	with two drives up to 240MB/s 864GB/hr	With two drives up to 280MB/s 1008GB/hr
Security	Write-Once-Read-Many (WORM)	WORM	WORM device-level encryption	WORM device-level encryption
Interface	Ultra 160SCSI LVD/SAS	Ultra 160SCSI LVD	Serial-attached SCSI (SAS) at 3Gbps	Serial-attached SCSI (SAS) at 6Gbps
Software Supported	Dell Tape Backup Software: Symantec Backup Exec, CommVault Galaxy®			
Supported Operating Systems	Microsoft Windows Server 2003, Microsoft Windows Server 2008, Red Hat Enterprise Linux, SUSE Linux Enterprise Server			

	Entry	Midrange		Performance		
	<ul style="list-style-type: none"> Essential capacity Low cost Basic data protection 	<ul style="list-style-type: none"> Great value Moderate performance Media compatibility 		<ul style="list-style-type: none"> High capacity Excellent performance Interchange tapes with tape library 		
Product Name	PowerVault RD1000	PowerVault LTO-3-060 HH	PowerVault LTO-3 FH	PowerVault LTO-4-120 HH	PowerVault LTO-4-120 FH	PowerVault LTO-5-140
Short Description	Rugged, removable disk media offering increased portability and durability over standard external USB-based hard drives. Faster and less expensive than comparable tape-storage alternatives	The smaller version of the LTO-3 full-height drive with the same capacity (up to 400GB native), but a slightly lower performance at up to 216GB/hr (native)	High-performance and high-capacity backup solution stores up to 400GB (native) of information at up to 288GB/hr (native)	The smaller version of the LTO-4-120 full-height drive with the same capacity (up to 800GB native) and performance up to 432GB/hr (native)	High-performance, excellent capacity and datacentre-level security. Stores twice as much data as LTO-3 and reduces your backup window by up to one third	High-performance (140MB/s), more capacity than previous LTO generations 1.5TB (native), drive-level encryption multiple partitions feature
Features						
Drive Technology	RD1000	LTO-3-060	LTO-3	LTO-4-120	LTO-4-120	LTO-5-140
Internal/External	Both	Both	Both	Both	Both	Both
Media	Removable disk drive	LTO-3, LTO-3 WORM, LTO-2, LTO-1 (read-only)	LTO-3, LTO-3 WORM, LTO-2, LTO-1 (read-only)	LTO-4, LTO-4 WORM, LTO-3, LTO-3 WORM, LTO-2 (read-only)	LTO-4, LTO-4 WORM, LTO-3, LTO-3 WORM, LTO-2 (read-only)	LTO-5, LTO-5 WORM, LTO-4, LTO-4 WORM, LTO-3 (read-only), LTO-3 WORM
Native Capacity	160GB, 320GB, 500GB and 640GB	up to 400GB	up to 400GB	up to 800GB	up to 800GB	up to 1.5TB
Backup Rate	30MB/s internal; 25MB/s external	60MB/s; 216GB/hr	80MB/s; 288GB/hr	120MB/s; 432GB/hr	120MB/s; 432GB/hr	140MB/s; 504GB/hr
Security	None	WORM	WORM	WORM device-level encryption	WORM device-level encryption	WORM device-level encryption
Interface	SATA or USB	Ultra 320SCSI LVDSAS	Ultra 320SCSI LVD	3Gb SAS HBA	3Gb SAS HBA	6Gb SAS HBA
Software Supported	Dell Tape Backup Software: Symantec Backup Exec, CommVault Galaxy See Dell PowerVault Compatibility Matrix for version numbers of backup software supported and other software options					
Supported Operating Systems	Microsoft Windows Server 2003, Microsoft Windows Server 2008, Red Hat Enterprise Linux, SUSE Linux Enterprise Server See Dell PowerVault Compatibility Matrix for version numbers of operating systems supported and other OS options					

PowerVault automated tape backup



Considered the first and last line of defence against data loss, tape and removable disks can be used for long-term data storage and backup. Tape or removable disk media are highly portable and can easily be taken off-site for added data protection. With the introduction of disk-based technology, users can now back up to a removable disk in addition to a tape-based format for their growing and wide-ranging data-protection needs.

PowerVault ML6000 Tape Libraries

Scalable SAN Backup Base models will scale to full 41U with addition of ML6000 EM (9U expansion modules)

Product Name	ML6010	ML6020	ML6030	ML6000EM	32U (ML6030 + 1 ML6000 EM)	41U (ML6030 + 2 ML6000 EM)
Drive Type	LTO-3, LTO-4, LTO-5					
Number of Drives	1 or 2	1 to 6	1 to 10	1 to 4	1 to 14	1 to 18
Number of Cartridges	41	133	225	46 or 92	317	409
Import/Export Slots	6	6, 12 or 18	6, 12, 18, 24 or 30	6	6, 12, 18, 24, 30, 36 or 42	6, 12, 18, 24, 30, 36, 42, 48 or 52
Form Factor	5U	14U	23U	9U	32U	41U
Chassis	Rack-mount					
Media	LTO3: LTO-1 (read-only), LTO-2, LTO-3, LTO-3 WORM LTO4: LTO-2 (read-only), LTO-3, LTO-3 WORM, LTO-4, LTO-4 WORM LTO5: LTO-3 and LTO-3 WORM (read-only), LTO-4, LTO-4 WORM, LTO-5, LTO-5 WORM					
Max. Capacity	61.5TB	199.5TB	337.5TB	138TB	475.5TB	613.5TB
Max. Backup Rate	up to 280MB/s, 1,008GB/hr	up to 840MB/s, 3,024GB/hr	up to 1,400MB/s, 5,040GB/hr	up to 560MB/s, 2,016GB/hr	up to 1,960MB/s, 7,056GB/hr	up to 2,520MB/s, 9,072GB/hr
Interface	Ultra 160 LVD, 3Gb SAS, 6Gb SAS, 4Gbps FC, 8Gbps FC					
Software Supported	Dell Tape Backup Software: Symantec Backup Exec, CommVault Galaxy, Computer Associates® ARCserve®					
Library Managed Encryption	Available on PowerVault ML6000, PowerVault TL4000 and PowerVault TL2000 with LTO-4 drive(s) and LTO-5 drives)					



Dell PowerVault Tape Automation						
PowerVault 124T Tape Autoloader				PowerVault TL2000	PowerVault TL4000	
up to 24TB (native)				up to 36TB (native)	up to 72TB (native)	
Entry-level tape automation for large servers or small workgroups				Network backup or entry-level SAN backup		
Features						
Drive Type	LTO-3-060	LTO-3	LTO-4	LTO-5	LTO-3-060, LTO-3, LTO-4 and LTO-5	LTO-3-060, LTO-3, LTO-4 and LTO-5
Number of Drives	1				1 or 2	up to 4
Number of Cartridges	8 or 16				24	48
Import/Export Slots	0				1	3
Form Factor	2U				2U	4U
Chassis	Desktop or Rack-mount				Rack-mount (desktop conversion kit included)	
Media	LTO-1 (read-only), LTO-2, LTO-3, LTO-3 WORM	LTO-1 (read-only), LTO-2, LTO-3, LTO-3 WORM	LTO-2 (read-only), LTO-3, LTO-3 WORM, LTO-4, LTO-4 WORM	LTO-3 and LTO-3 WORM (read-only), LTO-4, LTO-4 WORM, LTO-5, LTO-5 WORM	LTO3 and LTO3-060: LTO-1 (read-only), LTO-2, LTO-3, LTO-3 WORM, LTO4: LTO-2 (read-only), LTO-3, LTO-3 WORM, LTO-4, LTO-4 WORM, LTO5: LTO-3 and LTO-3 WORM (read-only), LTO-4, LTO-4 WORM, LTO-5, LTO-5 WORM	
Max. Capacity	up to 6.4TB	up to 6.4TB	up to 12.8TB	up to 24TB	up to 19.2TB	up to 38.4TB
Max. Backup Rate	60MB/s, 216GB/hr	up to 80MB/s, 288GB/hr	120MB/s, 432GB/hr	140MB/s, 504GB/hr	LTO-3-060: 60MB/s, 216GB/hr LTO-3: 80MB/s, 288GB/hr LTO-4-120: 120MB/s, 432GB/hr LTO-5-140: 140MB/s, 504GB/hr	
Interface	Ultra 320 LVD, 3Gb SAS or 6Gb SAS				Ultra 320 LVD, 3Gb SAS, 6Gb SAS, 4Gbps FC, 8Gbps FC, 1Gb iSCSI	
Software Supported	Leading backup applications: Computer Associates Arcserve, Symantec Backup Exec and CommVault Galaxy					
Library Managed Encryption	Available on PowerVault ML6000, PowerVault TL4000 and PowerVault TL2000 configured with LTO-4 drive(s) and LTO-5 drives					

Next-generation storage rack enclosures

Exceedingly strong and secure

With a static load rating of 1.13 metric tons (2,500lb), the 4820 rack provides the necessary weight capacity to hold a full complement of datacentre equipment. With 6U more vertical space than the 4220, the 4820 allows equipment installation to the maximum density available in a Dell rack.

New power benefits

The new Dell rack provides more choices in the types and form factors of power distribution units (PDUs) that can be mounted in the rack. In addition to U-space PDU mounting, the rack also offers toolless PDU mounting at the rear of the rack for mounting full-length PDUs alongside the rear door. The Dell rack provides the maximum distance between the back panels of the server to the PDU outlets, keeping the cables from impeding airflow.

Better airflow and cooling

The surface area of the doors on the Dell rack are 80% perforated to allow for better airflow; this is one of the highest perforation ratings among the leading datacentre racks sold worldwide. Air dams have been included at the front of the rack frame to block hot air from travelling from the back to the front of the server, a common thermal issue with similar racks. For hot-aisle/cold-aisle thermally-efficient datacentre topologies, the footprint of the rack matches standard 610mm (2') floor-tile placement, optimising sub-floor cable access and cold-air access without conflict.

Easier cable management

To provide support for deep server dimensions and to allow additional space for cable management, the total depth of the Dell rack enclosures has been increased from 1000mm to 1070mm. Additionally, dual side panels on both sides of the rack make accessing cables easier: simply remove the top or bottom section of the panel. The back frame of the rack features removable tailbars at the top and bottom, eliminating a common obstacle to routing power and communication cables. These tailbars can be securely replaced after the IT cabling is complete.



4820 dimensions

Height: 2273mm (89.5")
Width: 605mm (23.82")
Depth: 1070mm (42.15")

4220 dimensions

Height: 1999mm (78.7")
Width: 605mm (23.82")
Depth: 1070mm (42.15")

2420 dimensions

Height: 1202mm (47.3")
Width: 605mm (23.82")
Depth: 1070mm (42.15")

Rack features

- Large open base for cable entry and exit
- Dual rear doors and split side panels
- Adjustable vertical mounting rails slide forwards or backwards within the rack
- 80% of the surface area of front and rear doors is perforated to aid in the thermal management of ultra-dense environments
- Rack-top cable exits with adjustable sliding door
- Reinforced frame for stability
- Unique side-rack PDU options for Dell PDUs
- Reversible front door can be configured to open from left or right
- Front and rear doors are removable
- Rotating rear castors to easily position rack
- Ideal base dimensions for two-tile placement in datacentre
- U-space numerical markings on both front and rear server mounting posts
- Easily-accessible levelling feet
- Height allows movement through standard doorway



Join the Dell Storage User Group community!

Real-world solutions for real-world users

Are you interested in engaging with other Dell storage users, sharing insights into best practices, and hearing the latest innovations that Dell has brought to its storage family? **Then we invite you to join the Dell Storage User Group community!**

Visit our Dell Storage User Group website for a schedule of upcoming meetings, registration links, and details about giveaways, contests and more!

Please visit us at dellstorage.com/usergroups

AppAssure

AppAssure V.5 provides backup and recovery software that protects a customers' entire application infrastructure – and its benefits have been extended across Dell's entire portfolio of enterprise solutions and services offerings.

For many people, backup isn't worthy of much attention – until disaster strikes. If and when that happens, it couldn't be more important.

The trouble with backup isn't just that it seems unproductive when everything is running well. It's that it can be complex, and that it can take far too long to execute. So, too, can the recovery option that follows it, should the worst happen and systems fail.

What complicates matters further is the pace of modern times. In an era when data volumes are doubling every eighteen months and 24/7 production environments shrink backup windows to unrealistic levels, backup is simultaneously becoming even more crucial, and even more difficult to schedule.

What's needed is a new approach. Whether customers need to resolve problems with backup scheduling, to address any uncertainty in backup reliability, to upgrade the protection of virtual environments, or improve recovery time objectives (RTOs), AppAssure is changing the world of data backup and recovery.



The AppAssure approach

Dell AppAssure offers organisations a way to manage their backup windows while simultaneously insuring the integrity of their backups. AppAssure software provides image-level snapshots and continuous data protection for Windows Servers, MS Exchange, SQL Server and virtual environments. Unlike most traditional backup products, AppAssure's unique Recovery Assure™ technology automatically tests and verifies the recoverability of every backup on a continual basis. The result is more effective backups for virtual and physical servers, along with assurance that critical data and applications can be restored when necessary.

What's more, AppAssure goes beyond well-established IT norms by providing restores that are measured not in days or hours, but in minutes and even seconds. AppAssure's ground-breaking LiveRecovery™ technology delivers instant access to critical files or applications directly from the backup. You don't even have to wait for a complete restore to be able to access and use the data. Applications are back online within seconds after a failure, ensuring continuity of business-critical applications. Organisations that have previously struggled with slow recoveries can now benefit from near-zero RTOs and five-minute recovery point objectives (RPOs).



And there's further peace of mind: AppAssure's UniversalRecovery™ technology enables anywhere to anywhere recovery to any virtual machine or dissimilar hardware. It performs cross-platform recoveries from physical to virtual servers (P2V), virtual to virtual (V2V), virtual to physical (V2P), and even physical to physical (P2P) for bare metal restores to dissimilar hardware. Administrators can restore whole VMs and servers, or restore just an individual application item or a single file in minutes without performing a complete system recovery.

Game-changing

Award-winning AppAssure changes the conventional wisdom of data backup and recovery. It's just one of many Dell solutions helping organisations achieve maximum data efficiency, greater IT agility, and guaranteed business resiliency.

AppAssure benefits:

- Virtual elimination of backup windows: image level snapshots, deduplication, and continuous data protection help customers efficiently protect systems and data
- Unmatched flexibility: Universal Recovery™ enables restores to and from any virtual and physical platform and enables granular recoveries of individual files, emails, databases and applications
- Automatic verification: RecoveryAssure™ virtually mounts applications and data on a nightly basis – verifying the reliability of the recovery
- Innovative business continuity: rather than waiting until a restore is complete, AppAssure's LiveRecovery™ allows users to access critical data immediately after an outage occurs

Open, Flexible, Reliable, **Secure**

Dell vStart. Virtual infrastructure, ready to run

Virtualisation has many benefits. It can bring a new level of agility to your organisation while also improving the utilisation rate of your infrastructure.

But because of its complex nature, the extra effort required, and the need for specialised resources, virtualisation can end up being more of a problem than you bargained for. In fact, the success of the project often depends on you being able to:

- Design the virtual infrastructure
- Understand server, storage and networking interdependencies at a deep level
- Buy all the different components from a number of sources
- Assemble, integrate and configure all the different elements
- Test for compatibility, interoperability and impact to sizing

With Dell, all the hard work is done for you

With pre-configured and pre-assembled vStart solutions, powered by Intel Xeon processors, Dell takes away all the pain and puts you on the path to success. You no longer need to spend time figuring out the infrastructure elements, how they need to be integrated, or identify the best approach to deployment; Dell does it all, and makes sure your solution is up and running right away.

- Simple to buy, complete virtual infrastructure solution
- Pre-engineered, pre-assembled configurations available based on desired capacity
- Provides the entire infrastructure (server, storage, networking, power, cabling, rack, essential management extensions and deployment services) needed to run Virtual Machines and delivered ready to go

Scales to meet your needs

- Virtual infrastructure solutions pre-validated to support up to 200 machines
- vStart comes ready to extend with hardware and software options



Includes virtualisation management extensions to leading management consoles

- Essential extensions to leading virtualisation management consoles that streamline tools and tasks
- Seamlessly provides deep device-level data and automated actions

Delivered ready-to-run VMs

- Virtual Machines delivered pre-racked, pre-cabled, pre-validated, pre-configured and ready to run

Includes Deployment Services

- Initial Setup and Deployment into your environment is included with every vStart

Additional help with Dell Services

Dell's vStart ensures your implementation will be right the first time, but if you want additional help, optional Dell Services are also available

- From support services that provide the foundation for secure, reliable high-availability infrastructures to software technical support for problem resolution, we are ready when you are

vStart 50v/vStart 50m

- Pre-installed Management Extensions
- Initial Deployment Services
- PowerEdge R610 (x2)
- Dell EqualLogic PS4100XV (x1)
- PowerConnect 6024 (x4)
- 24U rack with required PDU
- Optional add-ons:
 - UPS
 - KVM
 - Dedicated management server
 - Microsoft System Center Essentials (for Hyper-V versions)

vStart 100v/vStart 100m

- Pre-installed Management Extensions
- Initial Deployment Services
- PowerEdge R610 (x1)
- PowerEdge R710 (x3)
- Dell EqualLogic PS6100 Series (x1)
- PowerConnect 6248 (x4)
- 42U rack with all required PDU, UPS, KVM
- Optional add-ons:
 - Microsoft System Center Essentials (for Hyper-V versions)
 - Microsoft System Virtual Machine Manager (for Hyper-V versions)

vStart 200v/vStart 200m

- Pre-installed Management Extensions
- Initial Deployment Services
- PowerEdge R610 (x1)
- PowerEdge R710 (x6)
- Dell EqualLogic PS6100 Series (x2)
- PowerConnect 6248 (x4)
- 42U rack with all required PDU, UPS, KVM
- Optional add-ons:
 - Microsoft System Virtual Machine Manager (for Hyper-V versions)





Easy-to-use, comprehensive, affordable systems-management appliances

The Dell KACE™ family of systems-management appliances fulfils the systems-management needs of any organisation, from initial system deployment to ongoing management and retirement. Designed to save you time, and save your company money, Dell KACE appliances typically install in one day at a low total cost of ownership.

The Dell KACE difference

Dell KACES is the leading provider of systems-management appliances. Our goal is to transform systems-management generalists into systems-management gurus, saving you time and saving your company money.

Easy to use

Dell KACE users typically deploy in one day, and train via the web in a matter of hours. All Dell KACE Appliance functions are driven by an intuitive, web-based user interface that enables advanced administrative tasks to be handled by junior administrators.

Comprehensive

Dell KACE Appliances pre-integrate and deliver the functionality needed to solve your systems-management challenges, from initial system deployment to ongoing management and retirement. It's all in the appliance.

Affordable

Dell KACE Appliances have a low total cost of ownership. Because they are hardened and self-healing appliances, there are no hardware or software prerequisites, no professional service fees and no hidden costs.

Also available as virtual appliances

Dell KACE Appliances are available as both physical and virtual appliances, providing customers with a variety of deployment options and allowing them to leverage their investment in VMware infrastructure.

Go to www.kace.com for details.

Availability varies by country.

Please speak with your local Dell representative for further information.

The challenge: Systems-management professionals in organisations of all sizes are charged with doing more with less. Hardware and software inventory, patching, software distribution and OS deployment are a few of the tasks they need to manage daily. They need innovative solutions that allow them to address these challenges easily and effectively.

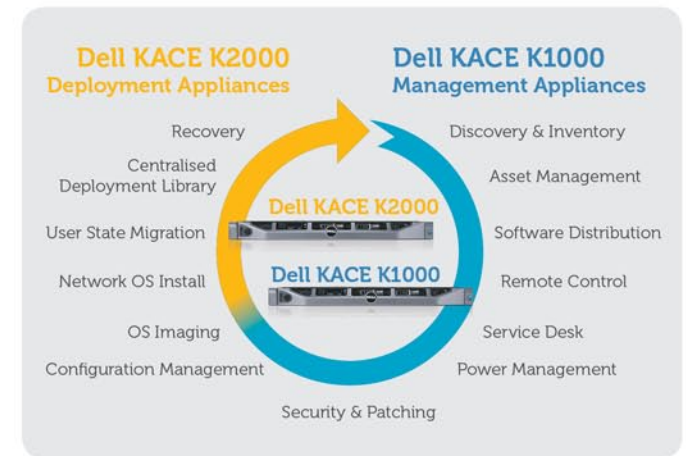
The options: Software-based solutions are typically designed for the largest enterprises, and the prerequisite software, hardware, services, maintenance and training can be too costly and complex. Point solutions are typically not integrated and lack key functionality. Now there's an alternative.

The solution: The Dell KACE family of systems-management appliances provides organisations of all sizes with comprehensive, end-to-end systems-management and deployment capabilities via affordable and easy-to-use appliances.

Dell KACE benefits

Organisations of all types use the Dell KACE family of appliances to gain benefits in markets such as education, state and local government, healthcare, financial services, manufacturing, legal and many more.

- Deploy in as little as one day
- Train in hours
- Upgrade in minutes
- Low total cost of ownership
- No hardware or software prerequisites
- No professional service fees
- Virtually no administration
- Intuitive web-based interface



The appliance advantage

Dell KACE Appliances make comprehensive systems-management solutions accessible for all companies by eliminating the cost and complexity barriers of traditional software packages. Dell KACE Appliances deliver a complete, pre-integrated bundle of operating environment and application software via a dedicated server appliance. Dell KACE Appliances eliminate many of the deployment and administrative complexities and costs of traditional software solutions such as hardware procurement, software installation, integration, maintenance and training. Additionally, Dell KACE Appliances provide exceptional performance, reliability and scalability through a purpose-built solution that is pre-tuned, hardened and self-healing.

Dell KACE family of systems-management appliances

Dell KACE Appliances deliver a powerful set of systems-management capabilities that help businesses manage laptops, desktops and servers, improve security, meet compliance requirements and decrease user downtime; yet they perform behind a simple-to-use interface designed for systems administrators of all skill levels.

Dell KACE K1000 Management Appliances

Dell KACE K1000 Management Appliances fulfil the systems management needs of any organisation.

Device Discovery & Inventory

- Network-wide discovery of all hardware and software capturing accurate, detailed, up-to-date inventory

Patch Management

- Automated vulnerability analysis and the delivery of patches across platforms, operating systems and applications

Asset Management

- Unified computer, software and non-computer asset-tracking and compliance reporting, from deployment to retirement

Configuration & Policy Management

- Configuration management and enforcement via pre-packaged or custom policies

Power Management

- Create and deploy energy-saving power-management configuration policies

Reporting & Dashboards

- Both pre-packaged and custom, wizard-generated reports

Remote Site Replication

- Remote site resource distribution for geographically diverse organisations using existing file servers

Broadcast Alerts

- For user notification of important events such as the interruption of email service

Organisational Management

- Multiple domain support for decentralised IT environments

Software Distribution

- Remote distribution and installation of applications and digital assets including LDAP/AD integration and Dell OpenManage Update Services

Virtual Containers & Secure Browser

- Virtual Containers for simplified distribution and management of key applications including specialised support for browsers to protect against web-based threats



Service Desk & User Portal

- Integrated incident and problem management including trouble ticket management, software library, knowledgebase and user portal

Security Audit & Enforcement

- Vulnerability assessment and remediation utilities to identify and lock down end-point security vulnerabilities and quarantine problem nodes

Administrative Alerts

- Email alerts on a variety of computer and network attributes for easy exception-based management

Remote Control

- Enabling centralised problem resolution with no site visit required

AppDeploySM Live

- Enjoy deployment tips and command-line suggestions via an exclusive feed from our AppDeploy.com community

Dell KACE K2000 Deployment Appliances

Dell KACE K2000 Deployment Appliances fulfil the systems-deployment needs of any organisation.

Disk Imaging

- Intelligent, file-based K-imaging reduces image management, capture and storage costs

Windows Driver Harvesting

- Upload all the drivers of any known valid system on your network to the K2000

Centralised Deployment Library

- Centrally store all deployment assets in one easy-to-manage and secure location

Remote Systems Repair & Recovery

- Remotely recover corrupt systems that will not boot using a GUI-based preinstallation environment

Windows Network OS Install

- Hardware-independent provisioning of any system
- Windows User State Migration
- Centrally captures, stores and deploys user-specific settings and files along with operating systems and applications

Pre- & Post-Deployment Configuration

- Automate all deployment tasks including RAID and BIOS configuration, as well as application installation and script execution

Remote Site Management

- Remote site support without dedicated hardware or staff
- Computer Inventory Scanning & Assessment
- Collect detailed hardware inventory on target systems

Managed operating systems



iPhone® or iPod Touch® 2.0 and later

*K1000 only

Supported Virtual Dell KACE Appliance Platforms

- VMware ESX and ESXi Server 3.5 or 4.0
- Open Virtualisation Format (OVF)



SecureWorks

You can trust SecureWorks. It's an award-winning world leader in information security services, protecting trillions of dollars in financial assets and processing more than 13 billion security events every day. Its thousands of customers worldwide include over 1,500 banks and credit unions as managed security services clients.

Managed Security Services

Dell SecureWorks' Managed Security Services are built upon proprietary technology, 100 percent certified security experts and worldwide threat intelligence to protect customers from attacks around the clock. From five resilient Security Operations Centres, its experts prevent, detect and respond to customers' security threats.

CTU Intelligence Services

The Dell SecureWorks Counter Threat Unit (CTU) security research team is at the forefront of cyberthreat research. It uses proprietary toolsets and unmatched expertise in malware analysis, reverse engineering, counterintelligence, forensics, cybercrime monitoring and countermeasure development to give customers the early warning and actionable information they need.

Security and Risk Consulting

Security and Risk Consulting (SRC) services help customers effectively and efficiently manage the real risks to their business.

SRC's highly experienced team members are among the most technically proficient in the industry. They are drawn from a variety of backgrounds, are trained in audit and have a solid understanding of control design and architecture. As you would expect, they are also well versed in industry standards and regulatory compliance requirements.

SecureWorks' reliability, capability and focus on client service have earned it a best-in-class customer satisfaction rating from its global client base.

SecureWorks technology components

Sherlock™ security management platform	Filters, correlates and analyses billions of security events every day for expert risk assessment
iSensor™ network intrusion prevention system	Provides real-time inspection of inbound and outbound network traffic using multiple, integrated defence technologies
iScanner™ vulnerability scanning system	Performs highly accurate internal and external scans across network devices, servers, Web applications, databases and other assets on demand, to identify weaknesses. Also performs PCI-approved scanning for compliance
Inspector™ event collection and aggregation system	Collects events and logs from virtually any security device and critical information asset, regardless of vendor. This includes firewalls, network and host intrusion prevention and detection systems, servers, routers and virtually any other device that needs to be monitored for security or compliance purposes
LogVault™ high performance log retention system	Collects and archives raw logs in a tamper-proof method, providing on-demand access to raw log data and meeting regulatory requirements for forensic-quality evidence

SecureWorks services – summary

Managed Security Services	<p>Security Monitoring: Real-time monitoring, analysis and response</p> <p>Security Management: Full lifecycle management and monitoring of security appliances including network firewalls, intrusion prevention and detection systems, unified threat management appliances and web application firewalls</p> <p>Log Management: Scalable aggregation and retention of log data to support compliance and reporting</p> <p>SIM (Security Information Management) On Demand: Automated real-time correlation, analysis and reporting of security activity across IT environments</p> <p>Vulnerability Management: Identification and assessment of exposures and weak spots in IT systems</p>
Counter Threat Unit Intelligence Services	Actionable intelligence on emerging threats and vulnerabilities from SecureWorks' elite Counter Threat Unit™ (CTU) security research team
Security and Risk Consulting	Expert assessment, guidance and operational support based on deep security and compliance expertise

SonicWALL



Dell SonicWALL E-Class Series – summary

Dell SonicWALL SuperMassive E10000™ Series	Ideal for securing enterprise networks, data centres and server farms and combining its massively multi-core architecture with Dell SonicWALL's Reassembly-Free Deep Packet Inspection technology, the SuperMassive E10000 Series delivers industry-leading application control, intrusion prevention, malware protection and SSL inspection at multi-gigabit speeds.
Dell SonicWALL E-Class Network Security Appliance (NSA) Series	The E-Class NSA Series delivers intrusion prevention, anti-malware, and application intelligence, control and visualisation featuring an extensive array of advanced networking and configuration options that integrate seamlessly into high-performance network environments.
Dell SonicWALL Aventail® E-Class Secure Remote Access (SRA) Series	These VPNs offer the mobile workforce access to key applications and resources from anywhere, with unmatched granular security.
Dell SonicWALL E-Class Email Security sSeries	Available as a software, appliance or virtual appliance solution, the E-Class Email Security Series boosts productivity by stopping spam, virus and phishing attacks; supports regulatory compliance and corporate governance initiatives by detecting and blocking email data leaks; and adapts to any network configuration, whether centralised or highly distributed.
Dell SonicWALL Global Management System (GMS®)	E-Class GMS delivers the power of real-time policy-based monitoring, and real-time and historical reporting, with the flexibility to centrally deploy, configure and manage thousands of Dell SonicWALL network security appliances.
Dell SonicWALL Scrutinizer	Scrutinizer is a multi-vendor, application traffic analytics visualisation and reporting tool to measure and troubleshoot network performance utilisation while increasing productivity for enterprises and service providers.

The addition of SonicWALL's industry-leading next-generation firewalls and Unified Threat Management (UTM) firewalls to Dell's security solutions offering makes the portfolio even more extensive.

The SonicWALL® E-Class Series represents a new generation of comprehensive solutions for network security, secure remote access, email security, and policy and management. Solutions in the series automatically anticipate and adapt to emerging threats, securing any user, device or application from anywhere, with maximum ease of deployment, in a compliant framework and at the best value.

In addition to its comprehensive next-generation firewall and UTM solutions, Dell SonicWALL also provides Secure Remote Access, Email Security, Backup and Recovery, and Management and Reporting. Its Global Management System allows network administrators to provide central management and provisioning of thousands of security appliances across a widely distributed network.

The combination of this portfolio with other security offerings from Dell helps businesses securely manage their data, securely manage consumer devices being brought into their enterprise, and securely expand their applications to the cloud.

Dell SonicWALL solutions are available for businesses of all sizes, from small and mid-sized organisations through to large enterprises.

Dell UPS: powerful protection



What makes the Dell UPS different?

The Dell UPS is designed by Dell with a unique insight into IT managers' needs. The UPS comes complete with all the usual features you would expect from any UPS vendor, such as reliability and quality, but stands apart in the following ways:

- Three-year warranty including batteries
 - ReadyRails™ for 10-second installation into 19" racks
 - Intuitive bright-blue LCD panel that changes to amber in alarm condition
 - Free UPS management software (no licence fee, ever)
 - 95% efficiency range supports carbon reduction
- Go to www.dellups.com to use the Dell UPS Selection Tool

UPS Power & Form Factors	500W Tower	1000W Tower	1920W Tower	2700W Rack/Tower	1000W Rack	1920W Rack	2700W Short Depth Rack	3750W Rack	4200W Rack	5600W Rack	5600W Rack	
UPS Technology	Line-Interactive	Line-Interactive	Line-Interactive	Line-Interactive	Line-Interactive	Line-Interactive	Online	Online	Online	Line-Interactive	Online	
Physical Characteristics												
Runtime full-/half-load (minutes)	5/14 mins	5/14 mins	5/14 mins	5/14 mins	5/14 mins	5/14 mins	5/14 mins	5/21 mins	5/16 mins	5/17 mins	5/15 mins	
Dimensions (mm, W x D x H)	170 x 393 x 216	170 x 450 x 250	226 x 500 x 274.5	3U, 438 x 541 x 127	2U, 438 x 483 x 84.5	2U, 438 x 593 x 84.5	4U, 438 x 433 x 171.5	4U, 438 x 790 x 171.5	4U, 438 x 790 x 171.5	4U, 438 x 790 x 171.5	4U, 438 x 790 x 171.5	
Weight (installed, no battery, shipping)	11.6kg, n/a, 13.8kg	18.3kg, n/a, 20kg	30.5kg, n/a, 34kg	41kg, 17.1kg, 52kg	19kg, 10.8kg, 29kg	31kg, 11.6kg, 41kg	35kg, 16.6kg, 41kg	65kg, 23kg, 77kg	65kg, 23kg, 77kg	72kg, 24kg, 83kg	64kg, 24kg, 77kg	
Connections												
Input connection	IEC320-C14	IEC320-C14	IEC320-C20	IEC320-C20	IEC320-C14	IEC320-C14	IEC320-C20	Terminals	Terminals	Terminals	Terminals	
Output connections (qty) by Load Segment (LS). All connections IEC320 type	LS#1: 4 x C13 LS#2: 2 x C13	LS#1: 6 x C13 LS#2: 2 x C13	LS#1: 8 x C13 LS#2: 2 x C13	LS#1: 2 x C19 & 6 x C13 LS#2: 2 x C13	LS#1: 2 x C13 LS#2: 2 x C13	LS#1: 2 x C19 & 6 x C13 LS#2: 2 x C13	LS#1: 1 x C19 & 6 x C13 LS#2: 2 x C13	LS#1: 8 x C13 LS#2: 2 x C19	LS#1: 4 x C19 LS#2: 6 x C13	LS#1: 4 x C19 LS#2: 6 x C13	LS#1: 4 x C19 LS#2: 6 x C13	
Input cable provided	A local country input cord is configured with the UPS upon purchase. All EMEA countries are provided for.							UPS requires installation by competent person. No input cables are provided.				
Output cable provided	2 x C13 to C14 2.0m, T736H			1 x C19 to C20, 2X976	1 x C13 to C14 2.0m, T736H		1 x C19 to C20, 2X976	No output cables provided.				
Computer interface	USB & RS-232 ports on UPS. Only USB cable provided. RS-232 is standard serial cable DB-9 pin-out 2=Tx, 3=Rx, 5=Gnd. Network Management Card (NMC) interface slot is available on all Dell UPS models. For optional NMC use H910P.											

UPS Power & Form Factors	500W Tower	1000W Tower	1920W Tower	2700W Rack/Tower	1000W Rack	1920W Rack	2700W Short Depth Rack	3750W Rack	4200W Rack	5600W Rack	5600W Rack
Power Input Specifications											
Input voltage range	220V: 160–278; 230V: 160–286; 240V: 166–286										
Nominal voltage selectable through LCD	220V, 230V, 240V										
Power Draw in standby mode incl. NMC	21W	23W	30W	42W	20W	32W	135W	186W	210W	224W	143W
Input breaker/fuse recommendation	Standard wall socket or utility supply. No special connectivity or dedicated electrical feed required. All Dell UPS are single-phase							25A 2-pole	30A 2-pole	32A 2-pole	32A 2-pole
Power Output Specifications											
Voltage regulation normal mode	220V: 198–243V; 230V: 208–253V; 240V: 216–264V						± 6% of nominal voltage setting				
Efficiency, normal mode, 100% load	95%	95%	96%	95%	96%	96%	95% High Efficiency (H.E.), 88% Online			96%	96% H.E., 91% Online
Output waveform, normal & battery mode	Sine Wave	Sine Wave	Sine Wave	Sine Wave	Sine Wave	Sine Wave	Sine Wave	Sine Wave	Sine Wave	Sine Wave	Sine Wave
Output circuit-breaker protection	Electronic current limit							LS#1: 1 @ 15A LS#2: 1 @ 20A	LS#1: 2 @ 20A LS#2: 1 @ 15A	LS#1: 2 @ 20A LS#2: 1 @ 15A	LS#1: 2 @ 20A LS#2: 1 @ 15A
Transfer time (power fail to battery)	4ms typical	4ms typical	4ms typical	4ms typical	4ms typical	4ms typical	Zero	Zero	Zero	Zero	Zero
Surge Suppression											
Surge Energy Rating (Joules)	2400J	2400J	2400J	2400J	2400J	2400J	880J	1300J	1300J	1300J	592J
Filtering	ANSI/IEEE C62.41; 1991 Cat B3										
Extra Battery Module (EBM)											
Dimensions (mm, W x D x H)	–	170 x 450 x 250	226 x 500 x 274.5	438 x 593 x 127	–	2U, 438 x 593 x 84.5	4U, 438 x 433 x 171.5	3U, 438 x 735 x 127	3U, 438 x 735 x 127	4U, 438 x 735 x 171.5	4U, 438 x 735 x 171.5
Weight	–	21.6kg	40kg	42kg	–	42kg	51kg	61kg	61kg	66kg	66kg
Runtime full-/half-load with EBM	–	19/45 mins	19/43 mins	19/43 mins	–	19/45 mins	22/50 mins	14/43 mins	17/40 mins	19/45 mins	14/42 mins
Battery (General Information)	Batteries are maintenance-free sealed lead–acid. Batteries are hot-swappable while UPS is still in service. UPS can be started while on battery mode. Battery recharge is 4 hours to 90% from a UPS discharge of 50% rated load.										
Network Management Card											
General information	The Dell Network Management Card connects the UPS to an IP network to allow direct communication with multiple servers; secure web browser access to the UPS for control & monitoring; SNMP functionality for integration with Dell Management Console and other SNMP management interfaces; SMTP email alerts without software; IPV6-compliant. Network Card is hot-pluggable – no downtime required to insert into UPS. Product codes are: H910P; Tied 450-14133; 450-14134; Non-Tied: 450-14157.										



Dell Services

Achieve your vision of success and support business growth with end-to-end capabilities

We listen to your needs and put our domain knowledge and expertise to work for you.

Imagine if you didn't have to worry about system downtime and security breaches. Imagine drastically reducing after-hours panic calls while improving the end-user experience and decreasing management costs. Imagine having a trusted partner you can count on for questions and counsel; one that didn't automatically lock you into a specific solution or a long-term contract. Imagine if you could get the services you needed to run your business better and be more competitive. Imagine no longer.

With customisable solutions from Dell Services, we will help you realise a reality where:

- Systems are up and running
- Security risks are drastically reduced
- It takes fewer hours to manage your environment or complete any given task
- You can choose the right solutions for your specific problems
- Projects are planned and scoped to measurable results

Reduce complexity and lower costs with IT solutions developed and delivered specifically for your organisation. As a result, you can focus on the strategic needs of your business.

Application Services

Choose from a full spectrum of discrete-to-complete application services including rationalisation, modernisation, Business Intelligence and ERP.

Business Process Services

Reduce inefficiency, cut costs and enhance competitiveness by leveraging Dell's expertise, leading automation technology and global workforce.

Consulting Services

Transform your business and make it run better by implementing the right organisational change initiatives or technology projects to address your critical challenges.

Infrastructure Services

Address your IT infrastructure challenges, boost employee productivity and align your talent to high-value projects with Dell's automated, market-leading tool and global workforce.

Support Services

Easily adjust speed and type of support to address specific scenarios for every IT element, from users and devices to applications and datacentres.

We can help you achieve your specific goals like we have helped thousands of other customers. We will work with you to:

Create opportunities: As your business needs change, our agile and flexible approach evolves to ensure you are not locked into last year's agenda – allowing you to focus on the activities that are most strategic for your business.

Optimise existing investments: We help you seize competitive advantages by making what you already have in place work better for your organisation.

Sustain success: To help ensure both immediate tactical and long-term strategic results for your organisation, we use disciplined industry processes and our own proven service frameworks.

Integrate your supply chain: To improve alignment with channel partners, we make sure you have the best production environment with technologies and processes that drive results.

Achieving results for our customers drives everything we do. Dell can help you like we've helped others. Here are just a few examples:*

- A medical centre created a virtualised server environment to eliminate up to 90 servers and reduce power consumption by an anticipated 20 per cent
- A technology provider saved approximately US\$2.7 million in CAPEX
- A remote service-management tool helped a major retail chain lower management costs by 81 per cent and decreased help desk incidents by 67 per cent
- An EMEA-based media company reduced storage administration by 70 per cent and data backup windows by 50 per cent
- A customer in the aviation industry designed and planned a datacentre upgrade to accommodate growth while enabling the IT team to reduce project time by 60 per cent
- A customer in Brazil built an SAP® environment that will save the company US\$1 million while providing a model solution for customers
- A natural-gas distributor extended the life of its datacentre and reduced infrastructure costs by 19 per cent
- A school system saved months of applications testing while accelerating a Microsoft Windows 7 migration
- A major online brand reduced total cost of ownership by 10 times compared with the previous infrastructure, and helped the customer reduce datacentre floor space by 30 per cent

Experience that drives results.

You can count on Dell Services to help move you forward by reducing IT complexity, lowering costs and conquering inefficiencies. Dell Services is committed to making IT and business solutions work harder for you. We're redefining services by making them easier to access and simpler to manage. Most importantly, we align our strategies to your success.

- To design solution sets ideal for your exact requirements, our team takes a holistic view of your environment and business objectives
- To help your enterprise compete successfully, we use technical expertise, industry standards and best practices
- To lower your TCO, we serve our global customer base by leveraging proven delivery methods, local talent and in-depth domain knowledge
- To improve ROI, we can come in quickly to complete an immediate project or become a long-term strategic partner who is as dedicated to your organisation's success as you are
- To improve results, we provide secure solutions and disciplined execution

Transform enterprise efficiency with technology tools and business processes that streamline operations, improve decision-making and build a competitive edge.

For more information about any of our service offerings, please contact your Dell representative or visit dell.com/services

Fast facts:

- End-to-end services portfolio
- 41,000 employees globally
- Over 2.5 million desktops managed
- Dell IT Management SaaS has over 10,000 customers and manages more than six million mailboxes and devices
- Twenty-eight delivery hubs in North America, Europe and Asia
- Sixty expert Tech Support centres
- Seven global command centres
- Active in approximately 90 countries
- Surveys by Technology Business Research have ranked Dell Services #1 for customer satisfaction among corporate IT users for the 31st time in the past 39 reporting periods over almost 10 years
- Dell is #1 in Healthcare and #2 in hardware support in Education for IT Services worldwide, according to the latest IT services market share report by Gartner, Inc.¹
- Extended Business Office Solution Ranked #1 in the US in KLAS Revenue Cycle Services Study.²

1. Gartner, "IT Services Market Metrics Worldwide Market Share: Database" April 2010, Kathryn Hale, et al.

2. "Revenue Cycle Services: From the Extended Business Office to Transformational Services," November 2009, KLAS Confidential Information. © 2009 KLAS Enterprises, LLC. All rights reserved.

Availability varies by country.

* Each of the customer results shown above is from a published customer case study available online at <http://content.dell.com/us/en/corp/about-dell-case-studies.aspx>



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