Dell™ PowerEdge™ Rack Systems

While consolidating your organization's servers and storage into a centralized data center offers substantial administrative efficiencies, you can realize even more efficiencies with Dell's rack system: cabinets and peripherals specifically designed to enhance the serviceability, manageability, security, and reliability of your mission-critical data center resources.

You asked for a better data center rack solution. Dell responded with efficient components.

Dell offers highly efficient rack system components in response to customers who asked for a data center rack solution that delivers efficient use of physical space, easy access to vital servers and peripherals, and better airflow for optimal cooling and increased server reliability.

Dell rack solution components include the 42U PowerEdge Rack 4210 cabinet, the 24U PowerEdge Rack 2410 cabinet, easy-to-deploy rack-mounting kits, a 1U rack console (flat-panel monitor), Dell console switches, power distribution units and uninterruptible power supplies.

Together, these components provide a comprehensive data center rack solution that can help you optimize your organization's physical storage space, while enhancing both server and power management. And that can mean lower long-term operating costs.

Dell's rack systems are designed to reduce the time required to deploy, manage and maintain the servers that are so vital to your organization's ever-growing information needs. Dell makes it easy to keep these mission-critical servers performing at the optimum levels your organization needs to maintain its competitive edge in today's data-driven environment.

Dell Rack Systems Benefits

- Accommodate more servers, storage, and peripherals in available space
- Access and easily service your vital servers, storage, and peripherals
- Helps improve the manageability of racked systems' cable connections
- Designed to increase the reliability of racked systems through better airflow
- Enhance the security of racked systems with lockable cabinets

Simple server solutions. Easy as DELL™

Visit **www.dell.com/poweredge/rack** for more information.

Make the most of your physical storage space

The Dell PowerEdge Rack 4210 cabinet is a space-efficient enclosure that takes the basic functionality of previous Dell racks and adds features designed to speed installation and improve security, while enhancing server and power management. These features help increase the overall reliability and availability of your rack-mount Dell servers.

The PowerEdge 4210 is a full-size, 42U rack that can hold up to 2,000 pounds of industry-standard, 19"-wide rack-mountable servers and peripherals. It boasts greater depth that offers ample space in the rear, yet has the same footprint as its predecessor, as well as a reduced overall height of under two meters that allows it to fit through standard doors.

- **Quick hardware installation –** The PowerEdge 4210 uses visible rail markings for all U positions on both the front and back of all posts to help speed the installation of servers and peripherals.

- **Simple cable management –** Offering an overall depth of 1,000mm, the PowerEdge 4210 provides ample space behind your hardware for routing cables. The cabinet also incorporates solid metal cable management clips along the back and custom tool-less cable management arms.

- **Easy serviceability –** Dell RapidRails™ allow you to easily slide servers and peripherals out of the rack. This allows quicker and easier servicing because you don't have to remove the hardware from the rack or disconnect any of the cables. Also, the split-back doors minimize the amount of rear clearance space required.

- **Exceptional reliability –** Ventilated front and rear doors help optimize airflow without additional fans to help maintain system reliability. And the four solid casters, leveling feet, and bolt-down stabilization bracket also help minimize disruptions due to excessive motion.

- **Security features –** To help protect your valuable servers and peripherals, Dell built key locks into the front and rear doors and side panels that are easy to access and operate.

The Dell PowerEdge Rack 2410 is a cabinet offering all the efficiency advantages and cost benefits of the PowerEdge 4210 in a more compact design that's better suited for those space-constrained environments where a shorter cabinet is the more appropriate choice.

Dell's rack-mounting kit consists of Dell RapidRails tool-less mounting rails and cable management arms. To substantially reduce the time and effort your IT staff needs to spend on installation, both assemblies attach quickly and easily to Dell racks and accommodate most Dell rack-mounted servers.

In addition, captive thumbscrews and self-locking brackets eliminate the need for tools. With these rails that lock in the fully extended position, you can install servers and peripherals quickly and easily. Dell has designed cable retention features into its cable management arms to make bundling each system's cables virtually painless, while the arms help prevent cable tangles while moving servers between extension positions.

VersaRails are offered on many Dell server and storage products, facilitating installation of Dell equipment into many round hole, third party racks.

The Dell 42U PowerEdge Rack 4210 cabinet

Manage more servers more efficiently

The Dell 1U rack console enables you to mount a system administrator's control station directly into a Dell rack without sacrificing rack space needed for servers and other peripherals.

The newly updated design includes a 15" LCD flat-panel monitor with height adjustment. This is a specially designed keyboard and trackball combination, attached power transformer, as well as twin PS/2 connectors plus a SVGA video output. And, because it is fully compatible with the 1U rack-mounting kit, it can be installed in very little time.

The Dell 1U rack console

Dell's family of console switches includes the 180ES, 2160ES and 2161DS switches. The Dell 180ES and 2160ES console switches help you manage multiple servers from either a single local console with access to eight servers (180ES) or two consoles with access to 16 servers (2160ES). By cascading multiple switches, you can manage up to 256 servers.

The Dell 2161DS remote console switch not only allows for local console control like our other switches, but also provides secured access for up to two remote users (via IP). Cable mass is reduced in the rack by the use of CAT5 cabling rather than three standard analog KVM cables. The 2161DS is capable of managing up to 128 servers from a single switch.

The console switches use intuitive graphical user interfaces and operate independently of any system they control, allowing for system status operation of any server, regardless of operational state. Security features and firmware flash upgrade ability not only help protect your management capability, but also your financial investment for years to come.

Dell console switches take up minimal space, mountable in either 1U or 0U positions (in Dell racks), making them an integral part of managing your data center rack solutions. The 2161DS includes a tool-less 0U mounting bracket helping reduce deployment time.

Dell's new family of power distribution units, RapidPower PDUs, utilize a combination of worldwide-standard IEC power outlet connections with regionalized input options allowing flexibility across a variety of global power infrastructures. Detachable inlet cords facilitate interconnection of various models providing a wide selection of deployment options. Individual models have up to 12 useable outlets, and combining models can increase outlet counts from 16 to 24 useable outlets per available power circuit.

The innovative tool-less mounting bracket provides quick and easy placement into the 0U space of Dell racks, maximizing available rack space for systems and reducing overall installation time. Included with many models are bundled system power cords in three lengths to help reduce excessive cabling, easing deployment into dense server environments.

Dell's uninterruptible power supply (UPS) provides the temporary power source you need to bridge those critical moments after an unanticipated power failure. The UPS allows time to save and back up the data being processed and safely power down your servers.

Dell's expanded line of UPS units can support up to 5000 VA (3750 watts) and can help make the difference between a quick reboot or days of frustrating data-recovery attempts.

Dell RapidRails mounting kits offer quick and easy tool-less installation of servers. Available on most products.

Dell's family of console switches offers you single-point access and control of up to 256 servers from a single, convenient interface that streamlines server management.

RapidPower PDUs mount in a variety of positions in your 0U side space where they will distribute power to as many as eleven server components.

Dell's uninterruptible power supply helps you easily bridge temporary power outages, so you can maintain data integrity and power down your servers safely.

Dell™ PowerEdge™ Rack Systems

RACK CONSOLE MONITOR

Screen type	TFT active matrix
Size	15" viewable area
Pixel pitch.	.011 in\.297mm X .011 in\.297 mm
Resolution	1024 x 768 @ 75Hz
Dimensions	12in X 9in (screen), 1U (1.75in, 44.45mm) in rack
Weight	30 lbs (13.6kg)

POWEREDGE RACK 2410 24U CABINET

Height	47.2" (1119.9mm)
Width	23.9" (607mm)
Depth	39.4" (1001mm)
Weight	240lbs (108.9kg)
Max. load	1,200lbs (544.3kg)

POWEREDGE RACK 4210 42U CABINET

Height	78.7" (1999mm)
Width	23.94" (608mm)
Depth	39.93" (999mm)
Weight	307lbs (170kg)
Max. load	2,000lbs (907kg)

DELL KEYBOARD AND TRACKBALL

Key layout	83 keys with 104-key functionality
Pointer control	16mm trackball
Mouse buttons	two standard
Height	.8"
Width	14.6"
Depth	5.5"
Interface	PS/2 keyboard and trackball

DELL CONSOLE SWITCH 180ES

Form factor	0U in a Dell Rack
User console	1
Multiple units	Up to 64
System ports	8 analog
Power	Voltage: 100-240V AC, freq. 50-60Hz
Video	1600x1200, VGA, SVGA, XGA
Mechanical	1.75" (4.5cm) H x 17" W x 8" D

DELL CONSOLE SWITCH 2160ES

Form factor	0U in a Dell Rack
User console	2
Multiple units	Up to 256
System ports	16 analog
Power	Voltage: 100-240V AC, freq. 50-60Hz
Video	1600x1200, VGA, SVGA, XGA
Mechanical	1.75" (4.5cm) H x 17" W x 8" D

DELL CONSOLE SWITCH 2161DS

Form factor	0U in a Dell Rack
User console	1 local; 2 remote (digital)
Multiple units	Virtually unlimited
System ports	16 CAT 5/RJ45, scalable
Power	100-240V AC, freq. 50-60Hz auto sensing
Video	Local port: 1600x1200; remote port: 1280x1024 VGA, SVGA (XGA, XGA-II with adaptor)
Mechanical	1.75" (4.5cm) H x 17" W x 8" D

RAPIDPOWER PDU

Outlets	POWER STRIPS			POWER DISTRIBUTION UNITS		
	10 AMP	12 AMP	12 AMP	16/20 AMP	16/20 AMP HYBRID	24/30 AMP
Front	7 - IEC C13	5 - NEMA 5-15R	7 - IEC C13	11 - IEC C13	5 - IEC C13, 2 - IEC C19	4 - IEC C19
Rear	1 - IEC C13		1 - IEC C13	2 - IEC C13	2 - IEC C13	
Power Cord Plug	IEC C14, IEC C20	NEMA 5-15P, IEC C14	IEC C14, IEC C20 NEMA 5-15P	IEC 309-16, NEMA L5-20P NEMA L6-20P, AZ 3112-20	IEC 309-16, NEMA L5-20P NEMA L6-20P, AZ 3112-20	IEC 309-32, NEMA L5-30P NEMA L6-30P, AZ 3112-30
Voltage Options	230V	120V	120V, 208V	120V, 208V, 230V	120V, 208V, 230V	120V, 208V, 230V

DELL UNINTERRUPTIBLE POWER SUPPLIES

	1500RM	2200RM	3000RM	3000RM (208 volt)	5000RM
Height	2U: 3.5" (8.89cm)	2U: 3.5" (8.89cm)	2U: 3.5" (8.89cm)	2U: 3.5" (8.89cm)	5U: 8.75" (22.2cm)
Width1	19" (48cm)	19" (48cm)	19" (48cm)	19" (48cm)	19" (48cm)
Depth	18" (46cm)	26" (66cm)	26" (66cm)	26" (66cm)	25" (63.5cm)
Weight	63lbs (29kg)	96lbs (43.6kg)	96lbs (43.6kg)	96lbs (43.6kg)	225 lbs (102.3kg)
Power input	*120 volts	*120 volts	*120 volts	208 volts	* 208 volts
Input plug	NEMA 5-15P or NEMA L5-15P	NEMA 5-20P or NEMA L5-20P	NEMA L5-30P	NEMA L6-20P or NEMA L6-30P	NEMA L6-30P
Power output	*120 volts	*120 volts	*120 volts	208 volts	3750 Watts
Output capacity	980 watts	1,980 watts	2,700 watts	2,700 watts	* 208 volts (400VA of 120V)
Output plugs	6 NEMA 5-15R	2 NEMA 5-15 R; 2 NEMA 5-20R "T" or 1-NEMA L5-20R	2 NEMA 5-15 R; 2 NEMA 5-20R "T" or 1-NEMA L5-20R	NEMA L6-20 or 1NEMA L6-30R	2 - NEMA L6-20R; 2 - NEMA L6-30R 2 - NEMA 5-15R (400VA)
Typical backup at half load	26.5 minutes	15.7 minutes	11.3 minutes	11.3 minutes	18.8 minutes
Recharge time	3 hours	3 hours	3 hours	3 hours	3 hours
SMART management	yes	yes	yes	yes	yes
Surge rating	459 joules	480 joules	320 joules	480 joules	1020 joules

* 230 Volt versions available with IEC input\output

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