GOBIERNO DE PUERTO RICO
ADMINISTRACIÓN DE SERVICIOS GENERALES

Hon. Luis G. Fortuño
Gobernador

Carlos E. Vázquez Pesquera
Administrador

21 de junio de 2011

Sra. Monica Estela Hoyos Pacheco
Administradora Auxiliar
Área de Adquisiciones y Contratos
Administración de Servicios Generales

Edgardo A. Torres Concepción
Analista/Programador de Sistemas de Información
Oficina de Informática

ANALISIS DE LOS CAMBIOS PRESENTADOS POR SESCO TECHNOLOGY SOLUTIONS PARA EL CONTRATO 72-230 PARA EL RENGLÓN 5.

Conforme a la documentación provista en una carpeta por el Sr. David Habibe, Presidente de **SESCO Technology Solutions**, y recibida en la agencia el **16 de junio de 2011** certifico que las especificaciones cambiadas correspondientes al **Renglón 5, Partida 1, 2, y 3** cumplen con el requisito de igualar o mejorar la oferta hecha originalmente.

Los cambios fueron un aumento en la capacidad de la memoria de acceso aleatorio en cada modelo de servidor.

Para más información o aclarar alguna duda, se me puede contactar en el 787-759-7676 extensión 2000.

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RENGLON 5 - SERVERS

Renglón, Partida	Especificación Técnica Vigente	Especificación Técnica Propuesta	Modelo Propuesto	Precio Propuesto
Partida 1	**Tower or Rack**	**Tower or Rack**	**DELL POWEREDGE R810**	**$ 11,995.00**
	PCI or PCI-X	PCI or PCI-X		
	(2) Dual Intel Quad Core XEON (1.73GHz) 12M cache	(2) Dual Intel Quad Core XEON E6510 (1.73GHz) 12M cache		
	8GB Memory, 1066MHz	16GB Memory, 1066MHz		
	Six Total (2) 146GB 15K RPM (OS); (4) 146GB 15K RPM on Raid 5	Six Total (2) 146GB 15K RPM (OS); (4) 146GB 15K RPM on Raid 5		
	PERC H700 RAID Controller	PERC H700 RAID Controller		
	512MB Cache	512MB Cache		
	SAS 15K RPM hot swappable hard drive	SAS 15K RPM hot swappable hard drive		
	DVD / CD-RW Combo	DVD / CD-RW Combo		
	Integrated Video Card	Integrated Video Card		
	Dual Universal Serial Bus (USB) Ports	Dual Universal Serial Bus (USB) Ports		
	Integrated 10/100/1000 Gigabit Ethernet	Integrated 10/100/1000 Gigabit Ethernet		
	1333MHz front side bus or faster	1333MHz front side bus or faster		
	2 Hot Plugable	2 Hot Plugable		
	Windows 2008 Server (licenses provided by OGP)	Windows 2008 Server (licenses provided by OGP)		
	Minimum of 3 Year on Site (Parts and Labor)	Minimum of 3 Year on Site (Parts and Labor)		
		a) Intel® Quad Core Xeon E7520 1.86GHz 18M cache Turbo $1,995.00,		$ 1,995.00
		b) Intel® Quad Core Xeon E6540 2.0GHz 18M cache turbo $3,995.00		$ 3,995.00
		a) 32GB $1,295.00		$ 1,295.00
		b) 48GB $1,995.00		$ 1,995.00

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RENGLON 5 - SERVERS

Renglón, Partida	Especificación Técnica Vigente	Especificación Técnica Propuesta	Modelo Propuesto	Precio Propuesto
		c) 64GB $2,995.00		$ 2,995.00
		d) 128GB $6,595 (RAM can be SDRAM, RAMBUS, DDR.. etc)		$ 6,595.00
		a) 146GB SAS 15K		
		b) 300GB SAS 10K $1,295.00		$ 1,295.00
		c) 600GB SAS 10K $1,695.00		$ 1,695.00
		d) 100GB Solid State SATA $2,995		$ 2,995.00
		a) LTO-2 External tape drive 200/400GB $1,995.00		$ 1,995.00
		b) LTO-3-060 400/800GB External tape drive $2,995.00		$ 2,995.00
		c) LTO-3-060, HH, Internal tape backup, w/Controller, SHL		
		a) 10/100/1000 Ethernet Intel $175.00		$ 175.00
Partida 2	**Tower or Rack**	**Tower or Rack**	**DELL POWEREDGE R510**	**$ 6,495.00**
	PCI or PCI-X	PCI or PCI-X		
	(2) Dual Intel Quad Core Xeon (2.4GHz) 12M cache Turbo	(2) Dual Intel Quad Core Xeon E5620 (2.4GHz) 12M cache Turbo		
	8GB Memory, 1333MHz	12GB Memory, 1333MHz		
	(4) 146GB 15K RPM on RAID 5	(4) 146GB 15K RPM on RAID 5		
	PERC H700 RAID Controller	PERC H700 RAID Controller		
	1GB Cache	1GB Cache		
	SAS 15K RPM hot swappable hard drive	SAS 15K RPM hot swappable hard drive		
	DVD / CD-RW Combo	DVD / CD-RW Combo		
	Integrated Video Card	Integrated Video Card		
	Integrated 10/100/1000 Gigabit Ethernet	Integrated 10/100/1000 Gigabit Ethernet		
	1333MHz front side bus or faster	1333MHz front side bus or faster		

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RENGLON 5 - SERVERS

Renglón, Partida	Especificación Técnica Vigente	Especificación Técnica Propuesta	Modelo Propuesto	Precio Propuesto
	Please choose from options	Please choose from options		
	2 Hot Plugable	2 Hot Plugable		
	Windows Server 2008 (licenses provided by OGP)	Windows Server 2008 (licenses provided by OGP)		
	Minimum of 3 Year on Site (Parts and Labor)	Minimum of 3 Year on Site (Parts and Labor)		
		a) Intel® Quad Core Xeon 2.66GHz $1,295.00		$ 1,295.00
		b) Intel® Quad Core Xeon 3.0GHz $1,595.00		$ 1,595.00
		c) Other CPU supported by Model Motherboard		
		a) 2GB $695.00		$ 695.00
		b) 4GB $1,295.00		$ 1,295.00
		c) 8GB $1,995.00 (RAM can be SDRAM, RAMBUS, DDR.. etc)		$ 1,995.00
		a) 300GB SAS 10K $1,295.00		$ 1,295.00
		b) 400GB SAS 10K $1,395.00		$ 1,395.00
		c) 146GB SAS 15K $795.00		$ 795.00
		d) 300GB SAS 15K $1,345.00		$ 1,345.00
		e) 450GB SAS 15K $1,495.00		$ 1,495.00
		f) 500GB SATA 7.2K $295.00		$ 295.00
		g) 750GB SATA 7.2K $495.00		$ 495.00
		h) 1TB SATA 7.2K $695.00		$ 695.00
		a) LTO-2 External tape drive 200/400GB $1,995.00		$ 1,995.00
		b) LTO-3-060 400/800GB External tape drive $2,995.00		$ 2,995.00

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RENGLON 5 - SERVERS

Renglón, Partida	Especificación Técnica Vigente	Especificación Técnica Propuesta	Modelo Propuesto	Precio Propuesto
		c) LTO-3-060, HH, Internal tape backup, w/Controller, SHL		
		a) Embedded 10/100/1000 Ethernet Intel $175.00		$ 175.00
Partida 3	**Medium Business**	**Medium Business**	**DELL POWEREDGE R410**	**$ 3,795.00**
	Tower or Rack	Tower or Rack		
	PCI or PCI-X	PCI or PCI-X		
	Intel Quad Core Xeon (2.0GHz) 4MB Cache	Intel Quad Core Xeon E5503 (2.0GHz) 4MB Cache		
	2GB Memory, 1333MHz	4GB Memory, 1333MHz		
	(2) 146GB 15K RPM on RAID 1	(2) 146GB 15K RPM on RAID 1		
	PERC H700 RAID Controller	PERC H700 RAID Controller		
	512MB Cache	512MB Cache		
	SAS 7.2K RPM hot swappable hard drive	SAS 7.2K RPM hot swappable hard drive		
	DVD / CD-RW Combo	DVD / CD-RW Combo		
	Integrated Video Card	Integrated Video Card		
	Integrated 10/100/1000 Gigabit Ethernet	Integrated 10/100/1000 Gigabit Ethernet		
	1333MHz front side bus or faster	1333MHz front side bus or faster		
	Windows Server 2008 (licenses provided by OGP)	Windows Server 2008 (licenses provided by OGP)		
	Minimum of 3 Year on Site (Parts and Labor)	Minimum of 3 Year on Site (Parts and Labor)		
		a) Intel® Quad Core Xeon 2.0GHz $1,295.00		$ 1,295.00
		a) 2GB $395.00		$ 395.00

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RENGLON 5 - SERVERS

Renglón, Partida	Especificación Técnica Vigente	Especificación Técnica Propuesta	Modelo Propuesto	Precio Propuesto
		b) 4GB $495.00 (RAM can be SDRAM, RAMBUS, DDR.. etc)		$ 495.00
		a) 500GB SATA 7.2K $595.00		$ 595.00
		b) 750GB SATA 7.2K $795.00		$ 795.00
		c) 1TB 7.2K $695.00		$ 695.00
		d) 146GB SAS 15K $695.00		$ 695.00
		e) 300GB SAS 15K $695.00		$ 695.00
		f) 450GB SATA 15K $795.00		$ 795.00
		a) LTO-2 External tape drive 200/400GB $1,995.00		$ 1,995.00
		b) LTO-3-060, 400/800GB HH, Internal tape backup, w/Controller, SHLDR, 400/800GB $3,995.00		$ 3,995.00
		a) Embedded 10/100/1000 Ethernet Intel $175.00		$ 175.00

Nota: Deberán entregar literatura técnica y disco compacto con la información provista de las tablas Excel.

Aprobado por:

Fecha de recibo

Firma del Jefe de la Agencia o su Representante Autorizado

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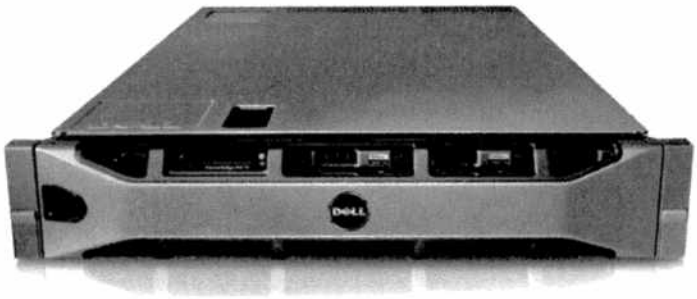

Dell PowerEdge R810

The Dell™ PowerEdge™ R810 provides performance and rack density in a scalable 2U, two- or four-socket server, allowing workload consolidation or high virtualization machine density.

FlexMem Bridge Technology delivers compute resources, more memory per processor solves growing memory demand needs for database and virtualization applications.

Built with highly reliable Intel® Xeon® processors, high-capacity DDR3 memory, and enterprise-class manageability, the PowerEdge R810 provides outstanding price for performance with excellent memory capacity per processor.

Purposeful Design, Uncommon Reliability

The PowerEdge R810 is built for reliability, from new Intel Advanced RAS (Reliability, Availability, Serviceability) features and dual internal SD modules to embedded diagnostics and industrial-quality materials. Dual internal SD modules provide failover capability for the embedded hypervisor; this feature was designed based on customer reliability feedback. Dell listened and delivered.

With the Dell Lifecycle Controller, persistent diagnostics eliminate technicians having to load diagnostics from media, minimizing downtime. Every fully configured Dell server is tested (and re-tested) before it leaves the factory. Our "one-touch" process is designed to ensure one person is responsible for the entire server build, resulting in greater quality control.

Efficient Infrastructure

The PowerEdge R810 follows the 11th Generation PowerEdge behavioral specifications with the same system design commonality and usability true to the entire portfolio. All 11th Generation servers are designed to make the user experience easier while saving time and money.

Energy-efficient system design built with Energy Smart technologies includes power management features enabling power capping, power inventory, and power budgeting within your specific environment. Logical component layout of the internal components aids with airflow direction, helping to keep the server cool.

Intelligent Platforms, Connected Foundation

FlexMem Bridge technology scales memory capacity allowing two Intel® Xeon® Processors access to all 32 Memory DIMM Slots delivering more memory resources for outstanding application performance. This patent pending Dell innovation allows customers to scale memory to take full advantage of the resources that matter most.

Dell system management solutions focus on simplicity, efficiency, cost containment and reduction, and an adherence to open standards. Our solutions are complemented by, connected to, and integrated with 3rd-party offerings, thereby delivering comprehensive solutions across the complete solutions stack.

The Lifecycle Controller is a chip that is integrated on the server. It helps to simplify administrator tasks by performing a complete set of provisioning functions such as system deployment, system updates, hardware configuration, and diagnostics in a pre-OS environment—all from a single, intuitive interface called The Unified Server Configurator (USC).

Dell Services

Dell Services can help reduce IT complexity, lower costs, and eliminate inefficiencies by making IT and business solutions work harder for you. The Dell Services team takes a holistic view of your needs and designs solutions for your environment and business objectives while leveraging proven delivery methods, local talent, and in-depth domain knowledge for the lowest TCO.

The PowerEdge R810 is designed with a purpose—to make the customer's life easier. PowerEdge gives you the confidence to do your job.

Feature	Technical Specification	
Form Factor	2U rack	
Processors	Eight core Intel® Xeon® processor 7500 or 6500 series Ten core Intel® Xeon® E7-2800, E7-4800 and E7-8800 product family	
Processor Sockets	2 or 4	
Front Side Bus or HyperTransport	Intel® QuickPath Interconnect (QPI)	
Cache	Up to 30MB	
Chipset	Intel® 7510	
Memory[1]	Up to 512GB (32 DIMM slots) 1GB/2GB/4GB/8GB/16GB DDR3 up to 1066MHz	
I/O Slots	**6 PCIe G2 slots + 1 storage slot:** Five x8 slots One x4 slot One storage x4 slot	
RAID Controller	**Internal Controllers:** PERC H200 (6Gb/s) PERC H700 (6Gb/s) with 512MB battery backed cache 512MB, 1GB Non Volatile battery backed cache	**External Controllers:** PERC H800 (6Gb/s) with 512MB of battery backed cache 512MB, 1GB Non Volatile battery backed cache PERC 6/E with 256MB or 512MB of battery backed cache **External HBAs (non-RAID):** 6Gbps SAS HBA SAS 5/E HBA LS 2032 PCIe SCSI HBA
Drive Bays	**Hot-Swap Option Available:** Up to six 2.5" SAS or SATA drives, including SATA SSD	
Maximum Internal Storage	Up to 6TB	
Hard Drives[1]	**Hot-plug Hard Drive Options:** 2.5" SATA SSD, SAS (10K, 15K), nearline SAS (7.2K), SATA (7.2K) **Solid State Storage Cards:** Fusion-io 160 DSS - 160GB ioDrive PCIe solid state storage card Fusion-io 640 DSS - 640GB ioDrive Duo PCIe solid state storage card	
Communications	Broadcom® 5710 Single Port 10Gb/s NIC, Copper CAT6, PCIe 8 Intel® DA 10Gb/s NIC, Dual Port, Optical, PCIe 8 Intel® 10Gb/s Single Port 10Gb/s NIC, Copper, PCIe-8 Broadcom® NetXtreme™ 5709 Gigabit NIC w/TOE & SOE, [illegible] Broadcom® 5709 Dual Port 1Gb/s NIC w/TOE, PCIe 4, Low [illegible] Broadcom® 5709 Dual Port 1Gb/s NIC w/TOE, SCSI, PCIe 4, [illegible]	Broadcom® NetXtreme™ II 5711 10Gb/s NIC w/TOE & SOE, Dual Port, SFP+, PCIe 8 Intel® Gigabit ET NIC, Dual Port, Copper, PCIe 4, Low [illegible] Intel® Gigabit ET NIC, Quad Port, Copper, PCIe 4, Low [illegible] **Embedded Network Controllers:** Emulex OCe10102 FX-D CNA Standup HBA adapter Emulex OCe10102 FX-D CNA SCSI HBA standup adapter
Power Supply	Two redundant 1100W hot plug power supplies	
Availability	Hot plug hard drives, Hot plug redundant power, ECC memory, Dual Internal SD Module	
Video	Matrox® G200eW w/ 8MB memory	
Remote Management	DRAC5 Express DRAC 6 Enterprise (optional) DRAC 6 Enterprise VFlash (optional)	
Systems Management	Dell™ OpenManage™ BMC, IPM 2.0 compliant [illegible] Lifecycle Controller enabled through optional DRAC6 Express, DRAC6 Enterprise and VFlash	
Embedded Hypervisor	Optional Dual Media Redundant Hypervisor	
Rack Support	ReadyRack™ sliding rails with optional cable management arm for 4 post racks (optional adapter brackets required for threaded hole racks)	
Operating Systems	Microsoft Windows® Server 2008 L02 x86/x64 x64 includes Hyper-V™ Microsoft Windows® Server 2008 R2 x64 includes Hyper-V™ v2 Microsoft® Windows® HPC Server 2008 Novell® SUSE® Linux Enterprise Server Red Hat® Enterprise Linux **Virtualization Options:** Citrix® XenServer™ VMware® vSphere™ 4.1 including VMware ESX 4.1 or VMware ESX 4.1 [illegible]	
Featured Database Applications	Microsoft® SQL Server solutions (see [illegible]) Oracle® database solutions (see [illegible])	

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OEM Ready Models Available

OEM Ready platforms are grab-and-go products for OEM customers delivering a fast and simple path to a custom-branded solution. For more information, please visit dell.com/OEM

Customer-Inspired, Intelligent Design at www.Dell.com/PowerEdge

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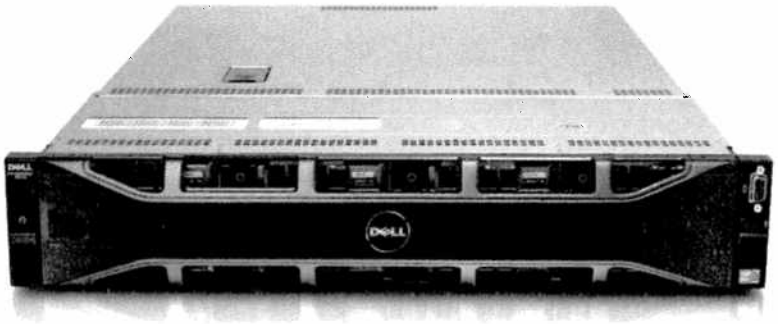

Dell PowerEdge R510

The Dell™ PowerEdge™ R510 is a multipurpose 2-socket 2U high-capacity rack server offering an excellent balance of internal storage, redundancy, and value.

The Dell PowerEdge R510 was developed with a purposeful design, energy-optimized technology, the performance of the Intel® Xeon® processors and enterprise-class manageability. It is ideal for customers needing large amounts of internal storage capacity and/or seeking a multi-purpose core application server.

Right-Sized, Flexible Technology and Business Value

The PowerEdge R510 was designed to meet the needs of many IT environments with advanced systems management capabilities, a compact chassis, high availability and redundancy features, and large amounts of internal storage capacity. The R510 is an excellent platform for core business applications such as Microsoft® SQL Server® and Microsoft® Exchange.

Dell aims to add value to your business by including the features you need for your specific IT environment. Our goal is to deliver value through tailored solutions based on industry standards as well as innovative design of our servers. For example, the PowerEdge R510 solution (8HDD option) supports up to 10 times the mailbox size while delivering equivalent performance and significantly less power usage than the legacy HP ProLiant DL585 solution.[1]

Purposeful Design

The PowerEdge R510 follows the 11th generation PowerEdge portfolio specifications and features the same system design commonality and reliability true to the entire portfolio. All 11th generation servers are designed to make the experience easier. We put all external ports, power supplies, LCD screens, and LED lights in the same location for familiar experience as well as easy installation and deployment. Robust, metal hard drive carriers and organized cabling are designed to help improve component access and airflow across the server.

In addition, the R510 is also available with 4, 8, or 12 hard drive chassis options, providing choice of the design and feature set that is most appropriate for your IT environment.

Energy-Optimized Technology

The PowerEdge R510 incorporates Energy Smart design using logical component layout of the internal components which aids with airflow direction, helping to keep the server cool. The PowerEdge R510 solution uses up to 50 percent less power than the legacy HP ProLiant DL585 solution.[2]

Simplified Systems Management

With the optional advanced embedded systems management capabilities of Lifecycle Controller, Dell provides comprehensive enterprise-class manageability already on the motherboard. Lifecycle Controller is delivered as part of the optional iDRAC Express or iDRAC Enterprise. In the PowerEdge R510, it helps to simplify administrator tasks by performing a comprehensive set of provisioning functions such as system deployment, system updates, hardware configuration and diagnostics from a single intuitive interface called Unified Server Configurator (USC) in a pre-OS environment. This helps eliminate the need to use and maintain multiple pieces of separate CD/DVD media.

Also part of the Dell OpenManage™ portfolio is the Dell Management Console which is included with every Dell server and provides IT administrators with a consolidated console view of their IT infrastructure.

Dell Services

Dell Services can help reduce IT complexity, lower costs, and eliminate inefficiencies by making IT and business solutions work harder for you. The Dell Services team takes a holistic view of your needs and designs solutions for your environment and business objectives while leveraging proven delivery methods, local talent, and in-depth domain knowledge for the lowest TCO.

[1] Source: Based on the performance whitepaper commissioned by Dell, Exchange 2010 migration: Dell PowerEdge R510 vs. legacy HP ProLiant DL585 (November 2009 – including, all migrations, the above similar hardware, based on hardware and manufacturing variables.
[2] Source: Based on the performance whitepaper commissioned by Dell, Exchange 2010 migration: Dell PowerEdge R510 vs. legacy HP ProLiant DL585 (November 2009 – including, all migrations, the above similar hardware, based on hardware and manufacturing variables.

The PowerEdge R510 is ideal for customers needing large amounts of internal storage capacity or a multi-purpose core application server such as remote sites, larger corporation departments, and small and medium businesses.

Feature	Technical Specification	
Form Factor	2U rack	
Processors	Latest quad-core or six-core Intel Xeon processors 5500 and 5600 series	
Processor Sockets	2	
Front Side Bus or HyperTransport	Intel QuickPath Interconnect (QPI)	
Cache	1MB and 5MB	
Chipset	Intel 5500	
Memory[1]	Up to 128GB (8 DIMM slots) 1GB, 2GB, 4GB, 8GB/16GB DDR3 up to 1333MHz	
I/O Slots	**3 PCIe G2 slots + 1 storage slot:** One x8 slot Two x4 slots One storage x4 slot	
RAID Controller	**Internal:** SAS 6/iR PERC 6/i PERC 5/i (software based): Available on 4 hard drives only PERC 5/i (software based): Available on 4 and 8 hard drives only PERC H200 (6Gb/s) PERC H700 (6Gb/s) with 512MB battery backed cache 512MB DDR3 Non-volatile battery backed cache	**External:** PERC H800 (6Gb/s) with 512MB or battery backed cache 512MB DDR3 Non-volatile battery backed cache PERC 6/e with 256MB or 512MB or battery backed cache SAS 6/iR HBA SAS 5/E PCI-e SCSI HBA **External HBAs (non-RAID):** 6Gbps SAS HBA SAS 5/E HBA SAS 5/E PCI-e SCSI HBA
Drive Bays	Up to four capable 3.5" SAS or SATA drives in 4 hard drive chassis Up to eight hot-swap 2.5" 3.5" SAS, SATA or SSD drives in 8 hard drive chassis Up to 12 hot-swap 2.5" 3.5" SAS, SATA or SSD drives in 12 hard drive chassis. Add 2 additional 2.5" internal cabled hard drives	
Maximum Internal Storage	8TB, 24 or 48 (depending on chassis)	
Hard Drives[1]	**Hot-plug Hard Drive Options:** 2.5" SAS SSD, SATA SSD, SAS 10K 3.5" SAS 15K, 10K, nearline SAS 7.2K, SATA 7.2K	**Cabled Hard Drive Options:** 2.5" SATA SSD, SAS 10K, nearline SAS 7.2K 3.5" SAS 15K, 10K, nearline SAS 7.2K, SATA 7.2K
Communications	Intel 10/100 base-T Single Port NIC Broadcom BMC5709 10 Base-T Copper Single Port NIC Intel PRO/1000 PT Single Port Adapter Gigabit Ethernet NIC PCI-e x1 Intel Gigabit ET Dual Port Adapter Gigabit Ethernet NIC PCIe x4 Intel Ethernet X520 DA2 Dual Port 10 Gigabit Server Adapter Intel Gigabit ET Quad Port Adapter Gigabit Ethernet NIC PCI-e x4 Emulex LPe11002 SCSI HBA stand up adapter (PCI-E 1.1 x8)	Broadcom NetXtreme 5709 Dual Port Gigabit Ethernet NIC Copper 10/100/SCSI PCI-e x4 Broadcom NetXtreme II 57711 Dual Port 5/E Fiber Direct Attach 10Gb Ethernet PCI Express Network Interface Card Broadcom NetXtreme 5709 Dual Port Gigabit Ethernet NIC Copper w/TOE PCI-e x4 Brocade CNA Dual port adapter Brocade HBA 4 and 8 Gb HBAs Brocade CNA FR1020
Power Supply	**4 hard drive configuration:** • Non-redundant 480W power supply **8 hard drive configuration:** • One non-redundant 750W hot plug power supply • One non-redundant 1100W hot plug power supply • Two redundant 750 hot plug power supplies • Two redundant 1100W hot plug power supplies	**12 hard drive configuration:** • One non-redundant 750W hot plug power supply • Two redundant 750 hot plug power supplies **Uninterruptible Power Supplies:** • 1000W 5600W • [illegible] • Extended Battery Module (EBM) • Network Management Card
Availability	Hot plug hard drives, hot plug redundant power, ECC memory, Quad Rotor cooling, ECC cabling, screen and redundant BIOS. Availability of some features dependent on chassis selected	
Video	Matrox G200eW w/ 8MB memory	
Remote Management	DRAC6 optional	
Systems Management	Dell OpenManage™ IPMI 2.0 compliant [illegible] Dell Lifecycle Controller enabled through optional DRAC6 [illegible] DRAC6 enterprise and vFlash	
Rack Support	Ready Rails™ sliding rails for tool-less rack mounting and cable management (optional cable management arm required). Mounting in Dell Ready Rails™ racks, 3 or 2 posts and 4 positions	
Operating Systems	Microsoft Windows Small Business Server 2011 Microsoft [illegible] 2008 R2 x64 Standard and Enterprise Microsoft [illegible] 2008 R2 x64 Standard, Enterprise Microsoft Windows Server 2008 x64 SUSE Linux Enterprise Server Red Hat Enterprise Linux **Virtualization Options:** VMware vSphere™ 4.1 [illegible]	
Featured Database Application	[illegible] Server [illegible]	

[illegible]

OEM Ready Models Available

OEM Ready platforms are ideal and optimized for OEM customers deploying a fast and simple customized or branded solution. For more information, please visit dell.com/OEM

Learn more at Dell.com/PowerEdge

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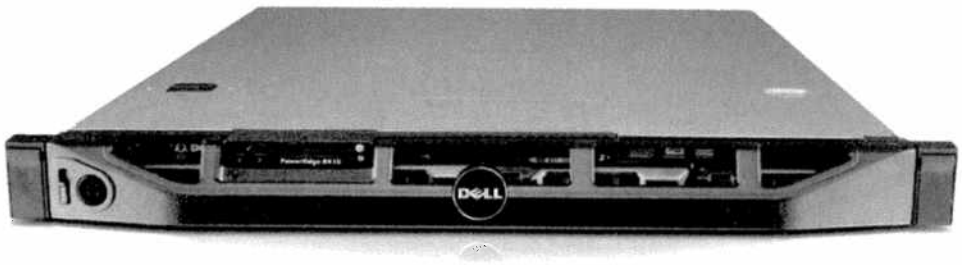

Dell PowerEdge R410

The Dell™ PowerEdge™ R410 was developed with a purposeful design—energy-optimized technology, advanced virtualization capabilities, and simplified systems management.

The Dell PowerEdge R410 is a powerful and ultra-dense 2-socket 1U server that offers the performance of Intel® Xeon® processor 5500 and 5600 series, DDR3 memory, the availability of up to four hard drives (3.5" or 2.5"), and an exceptional value.

The PowerEdge R410 features include an available "open" HPCC (High Performance Computing Cluster) software stack, excellent diagnostics with an interactive LCD, and an optimum chassis depth of 24" for space-constrained data centers and HPCC environments.

Purposeful Design

The PowerEdge R410 takes advantage of Dell's outstanding system commonality and reliability. Quick-release rack latching and purposeful placement of interface ports and power supplies enable easy installation and redeployment. Robust metal hard drive carriers and an all steel control arm can further increase structural integrity.

The purposeful design of the PowerEdge R410 provides reduced complexity, showcasing clutter-free cable routing for more efficient airflow and easier maintenance. An LCD screen positioned by the front of the bezel provides aisle-level access to deploy the server.

Energy-Optimized Technology

The PowerEdge R410 features energy-tuned technologies that reduce power consumption while increasing performance capacity so you can compute more while consuming less. The energy-efficient power supply units are right-sized for system requirements, with improved system-level design efficiency, policy-driven power and thermal management, and highly efficient standards-based Energy Smart components. A robust fan cage design with single-pull fan modules provides efficient airflow and eases maintenance. Energy efficient and compact, the PowerEdge R410 is designed with value and reliability for HPCC environments.

Simplified Systems Management

The next generation of Dell OpenManage™ suite of management tools is designed to provide efficient operations and standards-based commands that integrate with existing systems for effective control.

Dell Management Console (DMC) powered by Altiris™ from Symantec™ helps simplify operations and create stability by shrinking infrastructure management to one console. This console delivers a single view and a common data source into the entire infrastructure management. DMC has an easily extensible, modular foundation that can provide basic hardware management or more advanced functions, such as asset and security management. Dell Management Console is designed to reduce or eliminate manual processes, enabling you to save time and money for more strategic technology usage.

Secure and efficient, the Dell Lifecycle Controller delivers integrated manageability through a single access point. The Unified Server Configurator (USC) interface enables easy access to the tool which is embedded and integrated into the system for significant flexibility and capability. The Lifecycle Controller is an integrated interface for deploying operating systems with built-in driver installations, BIOS and firmware update and rollback, hardware configuration, and diagnostics.

Dell Services

Dell Services can help reduce IT complexity, lower costs, and eliminate inefficiencies by making IT and business solutions work harder for you. The Dell Services team takes a holistic view of your needs and designs solutions for your environment and business objectives while leveraging proven delivery methods, local talent, and in-depth domain knowledge for the lowest TCO.

Energy efficient and compact, the PowerEdge R410 is designed with the performance and reliability needed for High Performance Computing.

Feature	Technical Specification	
Form Factor	1U rack	
Processors	Quad-core or six-core Intel® Xeon® processor 5500 and 5600 series	
Processor Sockets	2	
Front Side Bus or HyperTransport	Intel® QuickPath Interconnect (QPI)	
Cache	Up to 12MB	
Chipset	Intel® 5500	
Memory[1]	Up to 128GB (8 DIMM slots), 1GB/2GB/4GB/8GB/16GB DDR3 up to 1333MHz	
I/O Slots	**1 PCIe G2 slot + 1 storage slot:** One x16 slot One storage x4 slot	
RAID Controller	**Internal:** PERC H200 (6Gb/s) PERC H700 (6Gb/s) with 512MB battery-backed cache 512MB 1GB Non-volatile battery-backed cache SAS 6/iR PERC 6/i with 256MB battery-backed cache PERC S100 (software based) PERC S300 (software based)	**External:** PERC H800 (6Gb/s) with 512MB of battery-backed cache 512MB 1GB Non-volatile battery cache PERC 6/E with 256MB or 512MB of battery-backed cache **External HBAs (non-RAID):** 6Gbps SAS HBA SAS 5/E HBA LSI2032 PCIe SCSI HBA
Drive Bays	**Cabled or hot-swap options available:** 4 x 3.5" cabled hard drives or 4 x 3.5" hot-swap hard drives or 4 x 2.5" hot-swap hard drives and One slim type drive bay for DVD-ROM or DVD+/-RW	
Maximum Internal Storage	Up to 8TB	
Hard Drives[1]	**Hot-plug Hard Drive Options:** 2.5" SATA SSD, SAS (10K) 3.5" SAS (15K), nearline SAS (7.2K), SATA (7.2K) **Cabled Hard Drive Options:** 3.5" SAS (15K, 10K), nearline SAS (7.2K), SATA (7.2K)	
Communications	Embedded Dual-port Broadcom® NetXtreme® II 5716 Gigabit Ethernet Intel® Gigabit ET Dual Port Server Adapter and Intel® Gigabit ET Quad Port Server Adapter Intel® 10GbE NIC Intel® Single Port 1GbE NIC Intel® Dual Port 1GbE NIC	Intel® Quad Port 1GbE NIC Broadcom® 10GbE NIC Broadcom® Dual Port 1GbE NIC Brocade® CNA Dual-port adapter Brocade® TC4 and 8 GB HBAs Emulex® CNA SCSI HBA stand up adapter OCE10102-IX-D
Power Supply	Non-Redundant, 480W (80+ BRONZE) Optional Redundant, 500W (80+ GOLD)	
Availability	Quad-pack LED Diagnostic or LCD diagnostic with hot-swap HDD chassis, TPM, optional hot-swap hard drives, optional hot-swap redundant power supply, optional PERC 6/i RAID controller with battery-backed cache, toolless hot-swap hard drive chassis	
Video	Integrated Matrox® G200	
Remote Management	BMC IPMI2.0 compliant Optional iDRAC6 Enterprise, iDRAC6 Express	
Systems Management	Dell™ Oper Manage™ Microsoft® System Center Essential (SCE) 2010 v2	
Rack Support	ReadyRails™ sliding rails with optional cable management arm for 2-post racks, optional adapter brackets required for threaded hole racks. ReadyRails™ static rails for 2-post and 4-post racks	
Operating Systems	Microsoft® Windows® Small Business Server 2011 Microsoft® [illegible] Microsoft® [illegible] 2008 SP2 x86 x64 (x64 includes Hyper-V™) Microsoft® [illegible] 2008 R2 x64 (includes Hyper-V™) Microsoft® [illegible] Novell® SUSE® Linux® Enterprise Server Red Hat® Enterprise Linux® [illegible]	
Featured Database Application	Microsoft® [illegible] Server® [illegible]	
[illegible]	[illegible]	

OEM Ready Models Available

OEM Ready platforms are grab-and-go products for OEM customers delivering a fast and simple path to a custom-branded solution. For more information, please visit dell.com/OEM

Learn more at Dell.com/PowerEdge

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