

# DELL™ POWEREDGE™ SERVERS 11TH GENERATION TRANSITION GUIDE



Dell introduced the 11th Generation PowerEdge Servers on March 30th worldwide. This document is intended as guidance for product transitions from Dell's 10th Generation Server Products to 11th Generation Server Products.



## STAND-ALONE RACK AND TOWER

WHAT'S NEW?	AFFECTED PRODUCTS	
	End of Life Product	Replacement Products
Chassis and ID Motherboard Processors Chipset Memory BIOS Firmware & Drivers Server Management iDRAC6 Internal SD-Module PSU HDD & SSD NICs & FC cards	PowerEdge 2950 III PowerEdge 1950 III PowerEdge 2900 III PowerEdge Energy Smart 2950 III PowerEdge Energy Smart 1950 III PowerEdge 1900  The PowerEdge 1900 will be discontinued in April 2009  The PowerEdge 2950 III and 1950 III will be discontinued in September 2009  The PowerEdge 2900 III will be discontinued in December 2009	PowerEdge R710 PowerEdge R610 PowerEdge R410 PowerEdge T610  The PowerEdge R710, R610, and T610 will be factory ready on March 30, 2009  The PowerEdge R410 will be factory ready on May 25, 2009

## BLADE SERVERS

WHAT'S NEW?	AFFECTED PRODUCTS	
	End of Life Product	Replacement Products
Motherboard Processors Chipset Memory BIOS Firmware & Drivers Server Management Internal SD-Module HDD Carrier Fabric B Mezz card slot	PowerEdge M600  The PowerEdge M600 will be discontinued in September 2009	PowerEdge M610 PowerEdge M710 (new product)

## IMPORTANT TRANSITION INFORMATION

### STAND-ALONE RACK AND TOWER SERVERS

- New Features:
  - Intel® Microarchitecture, codenamed Nehalem
  - DDR3 Memory Technology
  - Right-sized Energy Smart Power Supplies
  - Support for PCIe Gen 2
  - Improved system-level design efficiency
  - Lifecycle Controller
  - Unified Server Configurator
  - Dell Management Console
- The 11th Generation server images are not backward compatible to the previous generation servers
- The previous generation of servers will not support Xeon 5500 (Nehalem EP) processors
- Virtualization can be done across PowerEdge™ 1950 III, 2900 III, 2950 III, and 11th Generation PowerEdge R610/T610/R710
- Hard drive carriers are new. Older hard drives will fit in new carriers. Older carriers cannot be used in new servers
- The 11th Generation of servers will have new and improved rail kits (ReadyRails™) and cable management arms (CMAs). The previous generation rail kits (RapidRails™ and VersaRails™) and CMAs will not work with the new servers.

### TECHNOLOGY NOT SUPPORTED ON 11TH GENERATION STAND-ALONE RACKS AND TOWERS

- PERC 5
- Fully Buffered DIMMs (FBD)
- DRAC5
- PATA Optical Drives
- PCI-x
- Xeon 5400 (Harpertown) and Xeon 5200 (Wolfdale)
- Previous generation hard drive carriers
- Previous generation rail kits (RapidRails and VersaRails) and CMAs will not work with the new 11th generation of PowerEdge servers.

### BLADE SERVERS

- New Features:
  - Intel Nehalem Architecture
  - DDR3 Memory Technology
- PowerEdge M610 images are not backward compatible to the previous generation servers
- PowerEdge M600 servers will not support Xeon 5500 (Nehalem EP) processors
- Some mezz cards will not fit in Fabric B of the PowerEdge M610 as the size of the mezz cards has shrunk on new cards. These cards can fit in Fabric C. The cards that will not fit:
  - FC4 HBAs
  - InfiniBand®
  - Broadcom® 5708 1Gb NIC



PowerEdge T610



PowerEdge R610 and R710



PowerEdge M710 and M610  
in the M1000e Blade Chassis



## STAND-ALONE RACK AND TOWER FEATURE COMPARISON

FEATURE / SPEC	PE T610	PE 1900	PE 2900 III
<b>Processor</b>	Intel® Xeon® 5500 Series (Nehalem EP) 60W, 80W, and 90W	Intel Xeon 5300 & 5100 Series Processors 80W and 120W TDP options	Intel Xeon 5400 & 5200 Series Processors 80W and 120W TDP options
<b>Front Side Bus</b>	Intel® Quickpath Interconnect (QPI)	1066MHz, 1333MHz	1066MHz, 1333MHz
<b># Procs</b>	1 or 2	1 or 2	1 or 2
<b># Cores</b>	Quad or Dual	Quad or Dual	Quad or Dual
<b>L2/L3 Cache</b>	4MB and 8MB	2x4M (5300 Series) 4M (5100 series)	2x6MB (5400 Series) 6MB (5200 Series)
<b>Chipset</b>	Intel® 5520 (Tylersburg)	Intel 5000P (Blackford)	Intel 5000X (Greencreek)
<b>DIMMs</b>	12 x DDR3 800, 1066, 1333MHz DDR3 RDIMMs or UDIMMs	8 x FBD 667MHz FBD DIMMs	12 x FBD 667MHz FBD DIMMs
<b>Min/Max RAM</b>	1GB / 96GB	1GB / 24GB	1GB / 48GB
<b>HD Bays</b>	Hot Plug HDD 8x2.5" HDD + TBU (or) 8x3.5" HDD + TBU	1GB / 24GB Cabled HDD 6x3.5" HDD + TBU	Hot Plug HDD 10x3.5" HDD (or) 8x3.5" HDD + TBU
<b>HD Types</b>	SAS, SATA, Near-line SAS, SSD	SAS, SATA, Near-line SAS	SAS, SATA, Near-line SAS
<b>Ext. Drive Bay(s)</b>	External USB floppy & SATA optical drives	External USB floppy & SATA/PATA optical drives	External USB floppy & SATA/PATA optical drives
<b>Int. HD Controller</b>	SAS6iR or PERC6i	SAS5iR or PERC5i	SAS6iR, PERC6i or PERC5i
<b>Opt. HD Controller</b>	PERC 6/E	PERC 5/E	PERC 5/E and PERC 6/E
<b>Availability</b>	Hot Plug HDD Hot Plug Redundant PSU Redundant Cooling ECC memory Mirroring Single Device Data Correction (SDDC)	Cabled HDD Cabled PSU No Redundant Cooling ECC memory Spare Row, Mirroring Single Device Data Correction (SDDC)	Hot Plug HDD Hot Plug Redundant PSU Redundant Cooling ECC memory Spare Row, Mirroring Single Device Data Correction (SDDC)
<b>Server Management</b>	OpenManage™	OpenManage	OpenManage
<b>Remote Management</b>	iDRAC6 Enterprise	DRAC5	DRAC5
<b>I/O Slots</b>	5 PCIe Gen2	5 PCI	5 PCI
<b>NIC/LOM</b>	2 x TOE Broadcom 5709C	1 x TOE Broadcom 5708	2 x TOE Broadcom 5708
<b>USB</b>	6 in the back 2 in the front 1 internal	4 in the back 2 in the front	4 in the back 2 in the front 1 internal
<b>Power Supplies</b>	Hot-plug redundant PSUs 2 x 570W (Energy Smart PSU) (or) 2 x 870W (High Output PSU)	Cabled PSU 2 x 800W	Hot-plug redundant PSU 2 x 930W
<b>Fans</b>	Optional Redundant Cooling	No redundant cooling	Optional Redundant Cooling
<b>Chassis</b>	Tower and 5U rack mount	Tower	Tower and 5U rack mount

FEATURE / SPEC	PE R710	PE 2950
<b>Processor</b>	Intel® Xeon® 5500 Series (Nehalem EP) 60W, 80W, and 90W Processors	Intel Xeon 5400 (Harpertown) & 5200 (Wolfdale) Series
<b>Front Side Bus</b>	Intel® Quickpath Interconnect (QPI)	1066 and 1333
<b># Procs</b>	1 or 2	1 or 2
<b># Cores</b>	Dual and Quad	Dual and Quad
<b>L2/L3 Cache</b>	4MB and 8MB	2x6MB (Harpertown) 6MB (Wolfdale)
<b>Chipset</b>	Intel® 5520 (Tylersburg)	Intel 5000X (Greencreek)
<b>DIMMs</b>	18 DDR3 (9 per proc) 800, 1066, 1333MHz DDR3 RDIMMs or UDIMMs	8 FBDIMMs
<b>Min/Max RAM</b>	1GB - 144GB	1GB - 64GB
<b>HD Bays</b>	6x3.5" 4x3.5" with the optional flex bay or 8x2.5	6x3.5" or 8x2.5
<b>HD Types</b>	Hot plug, SAS / SATA Nearline SAS and SSD	Hot plug, SAS / SATA Nearline SAS
<b>Ext. Drive Bay(s)</b>	Optional flex bay expansion to support half-height TBU	Optional flex bay expansion to support half-height TBU
<b>Int. HD Controller</b>	PERC6/i or SAS6/iR	PERC 6/i, SAS 6/iR, PERC 6/E, Gen 5 cards
<b>Opt. HD Controller</b>	PERC 6/E	PERC 5/E and PERC 6/E
<b>Availability</b>	Hot-plug hard drives Hot-plug redundant power and cooling ECC memory Single Device Data Correction (SDDC) Supports memory demand and patrol scrubbing High-availability failover cluster	Hot-plug hard drives Hot-plug redundant power and cooling ECC memory Spare Row Single Device Data Correction (SDDC) High-availability failover cluster support
<b>Server Management</b>	OpenManage™	OpenManage
<b>Remote Management</b>	Standard iDRAC6 Express with optional iDRAC6 Enterprise	Standard BMC with IMPI 2.0 supports optional DRAC 5/i
<b>I/O Slots</b>	2 PCIe x8 + 2 PCIe x4 G2 or 1 x16 + 2 x4 G2	3 PCIe or PCI-x
<b>NIC/LOM</b>	Broadcom® 5709C 4 x TOE	Broadcom 5708
<b>USB</b>	4 External 1 Internal	4 External 1 Internal
<b>Power Supplies</b>	Two hot-plug high-efficient 570W PSU or Two hot-plug 870W PSUs	2 x 750W redundant (optional) High-Efficiency & power monitoring PSU
<b>Fans</b>	5 Hot-plug, redundant fans	
<b>Chassis</b>	2U rack mount	2U rack mount



FEATURE / SPEC	PE R610	PE R410	PE 1950 III
<b>Processor</b>	Intel® Xeon® 5500 Series (Nehalem EP) 60W, 80W, and 90W	Intel Xeon 5500 Series (Nehalem EP) 60W, 80W, and 90W	Intel Xeon 5400 (Harpertown) & 5200 (Wolfdale) Series
<b>Front Side Bus</b>	Intel® Quickpath Interconnect (QPI)	Intel QuickPath Interconnect (QPI)	1066 and 1333
<b># Procs</b>	1 or 2	1 or 2	1 or 2
<b># Cores</b>	2 and 4	2 and 4	2 and 4
<b>L2/L3 Cache</b>	4MB and 8MB	4MB and 8MB	2x6MB (Harpertown) 6MB (Wolfdale)
<b>Chipset</b>	Intel Xeon 5520 (Tylersburg)	Intel Xeon 5520 (Tylersburg)	Intel® 5000x (Greencreek)
<b>DIMMs</b>	12 DDR3 (6 per proc) 800, 1066, 1333MHz DDR3 RDIMMs or UDIMMs	8 DDR4 (4 per proc) UDIMM / RDIMM 1GB and 2GB - UDIMM	8 FBDIMMs
<b>Min/Max RAM</b>	1GB - 96GB	1GB - 64GB	512MB - 64GB
<b>HD Bays</b>	6x2.5" SAS	4x2.5" SAS, SATA 4x3.5" SAS, SATA	6x3.5" or 8x2.5"
<b>HD Types</b>	Hot plug, SAS Nearline SAS and SSD	Hot plug or cabled Nearline SAS SSD	Hot plug, SAS / SATA / PATA Nearline SAS
<b>Int. HD Controller</b>	PERC6/i or SAS6/iR	PERC6/i or SAS6/iR	PERC 6/i, SAS 6/iR,
<b>Opt. HD Controller</b>	PERC 5/E and PERC 6/E	PERC 6/E	PERC 6/E, Gen 5 cards
<b>Availability</b>	Hot-plug hard drives Hot-plug redundant power and redundant cooling ECC memory Single Device Data Correction (SDDC) Supports memory demand and patrol scrubbing High-availability failover cluster	Hot-plug hard drives Hot-plug redundant power and cooling ECC memory Single Device Data Correction (SDDC) Supports memory demand and patrol scrubbing	Hot-plug hard drives Hot-plug redundant power and cooling ECC memory Spare Row Single Device Data Correction (SDDC) High-availability failover cluster support
<b>Server Management</b>	OpenManage	OpenManage	OpenManage
<b>Remote Management</b>	Standard iDRAC6 with optional iDRAC6 Enterprise card	BMC, optional iDRAC6-Express and iDRAC6-Enterprise	Standard BMC with IMPI 2.0 supports optional DRAC 5/i
<b>I/O Slots</b>	2 PCIe x8 G2	1 PCIe x16G2	2 PCIe or PCI-x
<b>NIC/LOM</b>	Broadcom® 5709C 4 x TOE iSCSI	Broadcom 5709 2 x 1GB	Broadcom 5708
<b>USB</b>	4 External, 1 Internal	2 External	4 External, 1 Internal
<b>Power Supplies</b>	Two hot-plug high-efficient Energy Smart 502W PSU or Two hot-plug High-output 717W PSUs	Two hot-plug high-efficient Energy Smart 480W PSU or Two hot-plug High-output 750W PSUs	2 x 750W redundant (optional) High-Efficiency & Power Monitoring PSU
<b>Fans</b>	6 Hot-plug, redundant	Not redundant	
<b>Chassis</b>	1U rack mount	1U rack mount	1U rack mount

## RACK AND TOWER RAILS AND CABLE MANAGEMENT ARMS

### RAILS

- Enable the replacement of thumbscrews with slam latches on the chassis for easier stowing in the rack.
- Include the new simple and intuitive ReadyRail™ tool-less rack interface for square-hole and round-hole racks.
- Provide significantly improved compatibility with non-Dell racks.
- Static rails for the R610 and R710 fit in all types of 4-post and 2-post racks available in the industry, including 4-post threaded hole racks.

### CMAs

- Provide much larger vent pattern for improved airflow through the CMA.
- Include a common support tray for eliminating CMA sag.
- Replaced tie wraps with hook and loop straps to eliminate risk of cable damage during cycling.
- Maintain key feature of being fully reversible with no conversion required.

## RACK AND TOWER PERIPHERAL CARD SUPPORT MATRIX

	PE 2950 III	PE R710	PE 1950 III	PE R610	PE 2900 III	PE T610
Dell™ PERC 6/i Integrated	✓	✓	✓	✓	✓	✓
Dell SAS 6/iR Integrated	✓	✓	✓	✓	✓	✓
Dell SAS 5/I Integrated	✓		✓		✓	
Dell PERC 5/I Integrated	✓		✓		✓	
Dell PERC 5/E Adapter	✓		✓		✓	
Dell PERC 6/E Adapter (512 MB)	✓	✓	✓	✓	✓	✓
Dell PERC 6/E Adapter (256 MB)	✓	✓	✓	✓	✓	✓
Dell SAS 5/E Adapter	✓	✓	✓	✓	✓	✓
Intel® 10GBase-T Copper Single-Port NIC (Copperpond)	✓	✓	✓	✓	✓	✓
Broadcom® BCM57710 10GBase-T Copper Single-Port NIC (Quiver)	✓	✓	✓	✓	✓	✓
Intel® 10GBase-SR Optical Single-Port NIC (BelleFontaine)	✓	✓	✓	✓		✓
Emulex® LPe12002 FC8 Dual-Channel HBA	✓	✓	✓	✓	✓	✓
Emulex LPe12000 FC8 Single-Channel HBA	✓	✓	✓	✓	✓	✓
Emulex LPe11002 FC4 Dual-Channel HBA	✓	✓	✓	✓	✓	✓
Emulex LPe1150 FC4 Single-Channel HBA	✓	✓	✓	✓	✓	✓
Intel® Gigabit VT Copper Quad Port NIC (Springport)	✓	✓	✓	✓	✓	✓
QLogic QLE2462 FC4 Dual-Channel HBA	✓	✓	✓	✓	✓	✓
QLogic QLE2460 FC4 Single-Channel HBA	✓	✓	✓	✓	✓	✓
LSI Logic LSI2032 SCSI HBA (Sasquatch)	✓	✓	✓	✓	✓	✓
QLogic QLE2562 FC8 Dual-Channel HBA	✓	✓	✓	✓	✓	✓
QLogic QLE2560 FC8 Single-Channel HBA	✓	✓	✓	✓	✓	✓
QLogic QLE220 FC4 Single-Channel HBA	✓	✓	✓	✓	✓	✓
Intel® PRO/1000PT Gigabit Copper Dual-Port NIC (Redwater)	✓	✓	✓	✓	✓	✓
Broadcom BCM5709C IPv6 Gigabit Copper Dual-Port NIC with TOE and iSCSI Offload (Dragonfly)	✓	✓	✓	✓	✓	✓
Broadcom BCM5709C IPv6 Gigabit Copper Dual-Port NIC with TOE (Dragonwing)	✓	✓	✓	✓	✓	✓
Intel PRO/1000PF Gigabit Optical Single-Port NIC (Sheepshead Bay)	✓		✓		✓	✓
Broadcom BCM5708 Gigabit Copper Single-Port NIC with TOE and iSCSI Offload (Riptide)	✓		✓		✓	✓
Adaptec 39320A PCI-X Lead-free SCSI Controller	✓		✓		✓	



## RACK AND TOWER HARD DISK SUPPORT MATRIX

	PE 2950 III	PE R710	PE 1950 III	PE R610	PE 2900 III	PE T610
<b>2.5" HARD DRIVES</b>						
160GB 7.2K SATA	✓	✓				✓
250GB 7.2K SATA	✓	✓	✓			✓
500GB 7.2K SATA	✓	✓	✓			✓
80GB 7.2 SATA (Energy Smart)	✓		✓			
160GB 7.2K SATA (Energy Smart)	✓	✓	✓			✓
250GB 7.2K SATA (Energy Smart)	✓	✓	✓			✓
73GB 10K SAS	✓	✓	✓	✓		✓
146GB 10K SAS	✓	✓	✓	✓		✓
300GB 10K SAS	✓	✓	✓	✓		✓
36GB 15K SAS			✓			
73GB 15K SAS	✓	✓	✓	✓		✓
146GB 15K SAS	✓	✓	✓	✓		✓
300GB 15K SAS	✓*		✓			
25GB Enterprise SSD	✓*	✓	✓*	✓		✓
50GB Enterprise SSD	✓*	✓	✓*	✓		✓
100GB Enterprise SSD	✓*	✓	✓*	✓		✓
<b>3.5" HARD DRIVERS</b>						
80GB 7.2K SATA	✓	✓	✓		✓	
160GB 7.2K SATA	✓	✓	✓		✓	✓
250GB 7.2K SATA	✓	✓	✓		✓	✓
500GB 7.2K SATA	✓	✓	✓			✓
750GB 7.2K SATA		✓	✓			✓
1,000GB (1TB) 7.2 SATA		✓				✓
500GB NL SAS	✓	✓			✓	✓
750GB NL SAS	✓	✓	✓		✓	✓
1,000GB (1TB) NL SAS	✓	✓	✓		✓	✓
73GB 10K SAS	✓					
146GB 10K SAS						
300GB 10K SAS	✓		✓			
400GB 10K SAS	✓		✓		✓	
600GB 10K SAS	✓		✓		✓	
73GB 15K SAS	✓		✓		✓	
146GB 15K SAS	✓	✓	✓		✓	✓
300GB 15K SAS		✓	✓		✓	✓
450GB 15K SAS	✓	✓	✓		✓	✓
500GB 7.2K Enterprise SATAu		✓			✓	✓
750GB 7.2K Enterprise SATAu	✓	✓			✓	✓
1.000GB (1TB) 7.2 Enterprise SATAu	✓	✓	✓		✓	✓

\*Available June 2009.

## BLADE SERVERS FEATURE COMPARISON

FEATURE / SPEC	PE M610	PE M600
<b>Processor</b>	Intel® Xeon® 5500 Series (Nehalem EP)	Intel Xeon 5400 (Harpertown) Series
<b>Front Side Bus</b>	Intel® Quickpath Interconnect (QPI)	1066 & 1333FSB
<b># Procs</b>	2	2
<b># Cores</b>	4	4
<b>L2/L3 Cache</b>	4MB and 8MB	2x6MB (Harpertown) 6MB (Wolfdale)
<b>Chipset</b>	Intel® 5520 (Tylersburg)	Intel Blackford
<b>DIMMs</b>	12 DDR3	8 FBD
<b>Min/Max RAM</b>	1GB - 96GB	1GB - 64GB
<b>HD Bays (2.5" only)</b>	2	2
<b>HD Types</b>	SAS/SATA/SSD	SAS/SATA/SSD
<b>Int. HD Controller</b>	SATA	SATA
<b>Opt. HD Controller</b>	PERC/CERC	CERC
<b>Availability</b>	Hot-plug hard drives Hot-plug redundant power and cooling ECC memory Single Device Data Correction (SDDC) Supports memory demand and patrol scrubbing High-availability failover cluster	Hot-plug hard drives Hot-plug redundant power and cooling ECC memory Spare Row Single Device Data Correction (SDDC) High-availability failover cluster support
<b>Server Management</b>	iDRAC Enterprise CMC (on M1000e)	iDRAC CMC (on M1000e)
<b>Mezz Slots</b>	2 x 8 (PCI 2.0)	2 (PCI 1.0)
<b>RAID</b>	0,1	0,1
<b>NIC/LOM</b>	2 Broadcom® 1Gb 5709	2 Broadcom 1Gb 5708
<b>USB</b>	2 external 1 internal	2 external
<b>Power Supplies</b>	See M1000e specifications	See M1000e specifications
<b>Fans</b>	See M1000e specifications	See M1000e specifications
<b>Chassis</b>	See M1000e specifications	See M1000e specifications





**RACK, TOWER, AND BLADE OPERATING SYSTEM SUPPORT MATRIX**

	PE 2950 III	PE R710	PE 1950 III	PE R610	PE 2900 III	PE T610	PE M710	PE M610
<b>MICROSOFT®</b>								
Windows® Small Business Server 2008, Standard Edition and Premium Edition	✓	✓	✓	✓	✓	✓	✓	✓
Windows® Essential Business Server 2008, Standard Edition and Premium Edition	✓	✓	✓	✓	✓	✓	✓	✓
Windows Server® 2008, Standard Edition, (x64 includes Hyper-V™)	✓	✓	✓	✓	✓	✓	✓	✓
Windows Server® 2008, Enterprise Edition, (x64 includes Hyper-V™)	✓	✓	✓	✓	✓	✓	✓	✓
Windows Server® 2008, Datacenter Edition, x64 with Hyper-V™	✓	✓	✓	✓	✓	✓	✓	✓
Windows® Web Server 2008	✓	✓	✓	✓	✓	✓	✓	✓
Windows® HPC Server 2008	✓	✓	✓	✓			✓	✓
<b>LINUX/UNIX</b>								
Red Hat® Enterprise Linux 4.7	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009
Red Hat® Enterprise Linux 5.2	✓	✓	✓	✓	✓	✓	✓	✓
Red Hat® Enterprise Linux 5.3	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009
Novell® SUSE® Linux Enterprise Server 10 SP2	✓	✓	✓	✓	✓	✓	✓	✓
Novell® SUSE® Linux Enterprise Server 11	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Supported. Factory installation available in June 2009	Available in June 2009	Available in June 2009
Solaris™ 10 10/08	✓	Available in June 2009	✓	Available in June 2009	✓	Available in June 2009	Available in June 2009	Available in June 2009
<b>VIRTUALIZATION</b>								
VMWare® VI 3.5 Enterprise	✓	✓	✓	✓	✓	✓	✓	✓
VMWare ESXi v3.5 V13	✓	✓	✓	✓	✓	✓	✓	✓
Citrix® XenServer®	✓	✓	✓	✓	✓	✓	✓	✓

## INTEL® PROCESSOR GUIDANCE

- New Features:
  - Intel® Xeon® Processor 5500 Series
  - Intel® Turbo Boost Technology
  - Intel® Hyper-Threading Technology
  - Intel® Intelligent Power Technologies

### CROSS-GENERATIONAL PROCESSOR PERFORMANCE COMPARISON

CURRENT PRODUCTS			FUTURE	
5100 (Dual-Core Xeon)	5300 (1st Gen 65nm Quad-Core Xeon)	5400 (2nd Gen 45nm Quad-Core Xeon)	5500 Nehalem microarchitecture	
5160 (3.00GHz)	X5365 (3.00GHz) X5355 (2.66GHz) E5345 (2.33GHz)	X5470 (3.33GHz) X5460 (3.16GHz) E5450 (3.00GHz)	X5570 (2.93GHz) X5560 (2.80GHz) X5550 (2.66GHz)	Advanced Performance-oriented customers seeking highest functionality and optimal server ROI
5150 (2.66GHz) 5140 (2.33GHz) 5130 (2.00GHz)	E5335 (2.00GHz) E5320 (1.86GHz)	E5440 (2.83GHz) E5430 (2.66GHz) E5420 (2.50GHz)	E5540 (2.53GHz) E5530 (2.40GHz) E5520 (2.26GHz)	Standard Customers seeking a mix of performance, value, and advanced features
5120 (1.86GHz) 5110 (1.60GHz)	E5310 (1.60GHz)	E5410 (2.33GHz) E5405 (2.00GHz)	E5506 (2.13GHz) E5504 (2.00GHz) E5502 (1.86GHz)	Basics Cost-sensitive customers seeking basic features

### DDR3 MEMORY TECHNOLOGY

Dell servers released March 2009 use the new Intel Xeon 5500 Series Processor that supports the new DDR3 memory technology. Each CPU has three separate memory controller hubs (MCH) within the CPU package. Memory transactions no longer need to transfer between the CPU and another external device.

- Features
  - Memory-Optimized Mode
  - Advanced ECC Mode (allows x8 SDDC)
  - Mirror Mode



## COMPARISON BETWEEN UDIMM AND RDIMM TECHNOLOGIES SUPPORTED BY DELL

	UDIMM	RDIMM
Register/Buffer	No	Yes
Frequencies	800, 1066, 1333MHz	800, 1066, 1333MHz
Ranks Supported	1 or 2	1, 2, or 4
Capacity per DIMM	1 or 2GB	1, 2, 4, or 8GB
Max # DIMMs per Channel	2	3
DRAM Technology	x8	x4 or x8
Temperature Sensor	Yes	Yes
ECC	Yes	Yes
SDDC	Yes (with advanced ECC mode)	Yes
Address Parity	No	Yes

### RDIMMS

- Customers who need large amounts of memory (up to 8GB DIMMs), a broader future memory expansion roadmap (due to the ability to achieve 3 DIMMs/Channel), and the latest RAS features (address parity).

### UDIMMS

- Customers who need a limited amount of memory and are looking for power and cost savings.

### MEMORY CONFIGURATIONS

Each CPU has three integrated MCHs, which have their own memory channel. Memory can be accessed across CPUs or the system can be configured in a non-uniform memory architecture (NUMA). This can be configured via a BIOS configuration setting.

### MEMORY FREQUENCY LIMITATIONS

Due to technology limitations, the frequency supported has some dependency on the DPC and the ranks used in a DIMM.

DIMM TYPE	DIMM 0	DIMM 1	DIMM 2	# OF DIMMS	800	1066	1333
UDIMM	SR			1	Supported	Supported	Supported
	DR			1	Supported	Supported	Supported
	SR	SR		2	Supported	Supported	Not Supported
	SR	DR		2	Supported	Supported	Not Supported
	DR	DR		2	Supported	Supported	Not Supported
RDIMM	SR			1	Supported	Supported	Supported
	DR			1	Supported	Supported	Supported
	QR			1	Supported	Supported	Not Supported
	SR	SR		2	Supported	Supported	Not Supported
	SR	DR		2	Supported	Supported	Not Supported
	DR	DR		2	Supported	Supported	Not Supported
	QR	SR		2	Supported	Not Supported	Not Supported
	QR	DR		2	Supported	Not Supported	Not Supported
	QR	QR		2	Supported	Not Supported	Not Supported
	SR	SR	SR	3	Supported	Not Supported	Not Supported
	SR	SR	DR	3	Supported	Not Supported	Not Supported
	SR	DR	DR	3	Supported	Not Supported	Not Supported
	DR	DR	DR	3	Supported	Not Supported	Not Supported

Supported  Not Supported 

SR - Single Rank  
DR - Dual Rank  
QR - Quad Rank

## DELL™ MANAGEMENT CONSOLE

With the launch of the PowerEdge™ 11th Generation servers, Dell will also release Dell Management Console (DMC) powered by Altiris™ from Symantec®, a single view into the deployment, inventory, monitoring, and update of your IT infrastructure as well as a foundation for more advanced management functionality. This product will be a replacement for Dell IT Assistant.

### NEW FEATURES WITH DMC (OVER IT ASSISTANT)

- MIB Import for non-Dell hardware alerting
- Additional Device Support: FC Switches
- Additional Hypervisor Support: ESXi
- Correlation between VMs and physical host (ESXi and Hyper-V™)
- Enhanced Reporting
- New GUI-based script builders for OMSA CLI, BMC, and BIOS configuration
- Granular Active Directory Import and Role-Based Security
- Ability to configure personalized dashboards

### IT ASSISTANT LIFECYCLE PLAN

- IT Assistant 8.3 was the last version with new features
- New Device Support will be added to IT Assistant through 2009
- IT Assistant will not support 12th Generation platforms and forward

### DELL MANAGEMENT CONSOLE TRANSITION RESOURCES

- White Papers and Dell Management Console Documentation
- Migration Wizards within Dell Management Console
- Infrastructure Consulting Service: Rapid Deployment of Dell Management Console

## OUT OF BAND MANAGEMENT

The Integrated Dell Remote Access Controller 6 (or iDRAC6) is designed to make server administrators more productive and improve the overall availability of Dell servers. The iDRAC6 achieves this by alerting administrators to server problems, enabling remote server management, and reducing the need for the administrator to physically visit the server. iDRAC6 is available in two levels: iDRAC6 Express and iDRAC6 Enterprise.

WHAT'S NEW?	AFFECTED PRODUCTS	
	End of Life Product	Replacement Products
<ul style="list-style-type: none"> <li>• iDRAC6 offers three upgrades: iDRAC6 Express, iDRAC6 Enterprise, and VFlash Media</li> <li>• iDRAC6 offers power budgeting</li> <li>• iDRAC6 Enterprise's virtual console and virtual media features are now integrated into a single plug-in</li> <li>• iDRAC6 Enterprise's virtual console now allows two users to collaborate on the same server</li> <li>• iDRAC6 now allows customers to view what is on the server LCD without a server-side visit</li> <li>• iDRAC6 Express (which integrates a host of features previously charged for in DRAC5) is now a standard offering on Dell's enterprise-class servers</li> <li>• As with iDRAC, iDRAC6 Enterprise is a standard offering on blade servers</li> <li>• iDRAC6 supports the new industry Internet protocol IPv6</li> </ul>	DRAC4 DRAC4/MC	iDRAC (blades) DRAC5

