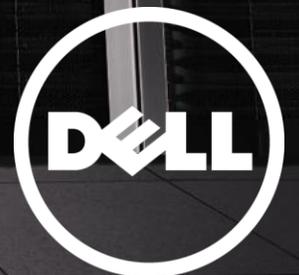# Dell™ with Oracle® 11g Database Enterprise Edition Running Enterprise Linux

Oracle 11g Database Enterprise Edition and RAC Running on Enterprise Linux 5.5

Minimum Hardware/Software Requirements (Updated 07/29/11– for details, see below)			
	Validated Component(s)	**Minimum Single Node DB Config**	**Minimum Oracle RAC Config**
Oracle Software & Licenses	Oracle 11g R2 11.2.0.2.0 Enterprise Edition	Single Node	RAC (max 8 nodes)
Oracle Patch(es)	Oracle 11g R2 11.2.0.2.0		
Operating System	Red Hat Enterprise Linux 5.5 with kernel 2.6.18-194.3.1 Oracle Enterprise Linux 5.5 with kernel 2.6.18-194.32.1.0.1		
Recommended Support Contract	Dell ProSupport and Oracle supported		
Supported PowerEdge Servers	PowerEdge 1950 IIII, 2900 III, 2950 III, R900, T610, T610 II, T710, T710 II, R610, R610 II, R710, R810, R910, M610, M610 II, M710, M710 II, M610 X, M710HD, M910 M1000 w/ M805, M905, M915, R905, R715, R815	1 Only	2
Memory	All valid PowerEdge memory configurations	Minimum supported	Minimum supported
Dell Compellent	SC-30[1,6], SC-40[1,6]	N/A (For Internal Storage) 1 (For External Storage)	1
Dell EqualLogic iSCSI Storage Array	PS4000X/XV, 6000X/XV/S/E[2], 6010X/XV/S/E[2], 6510X	N/A (For Internal Storage) 1 (For External Storage)	1
Fibre Channel Switch		N/A	N/A (For Direct Attached) 2 (8 port switches for 2-4 nodes, and 16 port switches for 5 or more nodes)1
HBAs	Qlogic - QLE2460, QLE2462, QLE2562, Emulex - LPe1150e LPe11002, LPe12000, LPe12002	N/A (For Internal Storage) 2 (For External Storage)	2 ports (Per Node)2
Ethernet Interfaces	Intel or Broadcom 1GbE NICs Intel 10GbE Server Adapters (AT, XF SR, AF DA) Broadcom 10GbE 57710, 57711	1	3 (Per Node)[3]
Ethernet Switches for iSCSI Storage Area Network	Dell PowerConnect 62xx GbE, PowerConnect 54xx GbE , PowerConnect 8024, 8024F 10GbE	2	2
Ethernet Switches (For Private Interconnect)	1/10GbE Switches	N/A	2
Raid Controllers (Used for internal storage only)	PERC 5/i, PERC 6i, CERC6, SAS 6/iR, 6 Gbps SAS HBA , H200, H700	1	1 (Per Node)
Internal Drive	All valid PowerEdge internal storage configurations	73 GB	73 GB/node

For more information, visit Dell.com/Oracle

Dell PowerEdge Servers				
	Model	BIOS[4]	ESM - BMC Firmware[4]	Notes
Dell PowerEdge™ Servers	PE 1950 III, PE 2900 III, PE 2950 III	2.7.0	2.37	
	PE R900	1.2.0	2.48	
	PE R905	4.2.1	2.44,A03	
	PE R715, PE R815	1.5.2	1.70,A02(iDRAC6)	Refer Note 1
	PE R610, PE R710, PE R610 II, PE R710 II	3.0.0	1.70,A02(iDRAC6)	
	PE T610, PE T610 II	3.0.0	1.70,A02(iDRAC6)	
	PE T710, PE T710 II	3.0.0	1.70,A02(iDRAC6)	
	PE R810, PE R910	2.2.3	1.70,A02(iDRAC6)	Refer Note 1
	PE M805, PE M905	2.3.3	1.60,A09 (iDRAC)	Requires PE M1000e blade enclosure
	PE M610, PE M710, PE M610 X	3.0.0	3.21,A00 (iDRAC)	Requires PE M1000e blade enclosure
	PE M710HD	2.0.0	3.21,A00(iDRAC)	Requires PE M1000e blade enclosure
	PE M910	2.3.0	3.21,A00(iDRAC)	Requires PE M1000e blade enclosure, Refer Note 1

Internal Disks RAID	
H700	Firmware version = 3.0-0032; Driver version = 00.00.04.31.2-1, A12
H200 (mpt2sas)	Firmware version = 07.01.34.00; Driver version = 07.00.01.00-1, A03
PERC 5/i	Firmware version = 5.2.2-0072; Driver version = 00.00.04.31.2-1, A12
PERC 6/i	Firmware version = 6.2.0-0013; Driver version = 00.00.04.31.2-1, A12
CERC6 (PE Blades only)	Firmware version = 6.2.0-0013; Driver version = 00.00.04.31.2-1, A12
SAS 6/iR (mptsas)	Firmware version = 00.25.57.00; Driver version = 4.00.38.02-3, A03

Network Interconnect	
Intel Proset GbE Family of Adapters	Driver version (e1000) = 7.3.21-k4-NAPI
Intel PROSet PT/PF Single/Dual Port Server Adapters	Driver version (e1000e) = 1.1.19-NAPI
Intel Dual Port (ET)/Quad Port (VT/ET) GbE Server Adapters	Driver version (igb) = 2.3.4
Intel 10 GbE (AT/XF SR/AF DA) Server Adapters	Driver version (ixgbe) = 3.2.9-NAPI
Broadcom NetXtreme II GbE Family of Adapters	Driver version (bnx2) = 2.0.23b
Broadcom NetXtreme GbE Family of Adapters	Driver version (tg3) = 3.115j
Broadcom NetXtreme II 10 GbE (57710/57711) Family of Adapters	Driver version (bnx2x) = 1.62.15
Broadcom iSCSI Offload Engine (iSOE)	Driver version (bnx2i) = 2.6.2.4c
NIC Teaming	
Native teaming driver	Driver version (bonding) = 3.4.0

Qlogic HBAs	
QLE 2460, QLE 2462	Bios = 2.10; Driver version = 8.03.01.04.05.05-k
QLE 2560, QLE 2562	Bios = 2.10; Driver version = 8.03.01.04.05.05-k

Emulex HBAs	
LPe1150-E, LPe11002	Bios = 2.11a0; Firmware = 2.82a4; Driver version = 8.2.0.63.3p
LPe12000-E, LPe12002-E	Bios = 2.12a6; Firmware = 2.00a4; Driver version = 8.2.0.63.3p

Fibre Channel SAN Switches	
Cisco Fibre Channel Switches	
MDS 9124	Firmware version = 3.1.2 or higher
Brocade Fibre Channel Switches	
200E, 4100, 5000, 300, 5100, 5300	Firmware version = 6.2.0c or higher

iSCSI SAN Switches	
Dell PowerConnect 54xx GbE Ethernet Switches	Firmware = V2.0.0.46, A10 or higher
Dell PowerConnect 62xx GbE Ethernet Switches	Firmware = 3.2.1.3, A23 or higher
Dell PowerConnect 8024, 8024F 10GbE Ethernet Switches	Firmware = 3.1.4.16, A06 or higher

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iSCSI Storage	
Dell EqualLogic PS4000/PS6000/PS6010/PS6510	Firmware = V5.1.0 or higher

FC Storage	
Dell Compellent SC-30/ SC-40	SCOS = V5.4.2 or higher

Software	
Oracle	Oracle 11g R2 11.2.0.2 Enterprise Edition
Operating system	Redhat Enterprise Linux 5.5 with kernel 2.6.18-194.3.1 Oracle Linux 5.5 with kernel 2.6.18-194.32.1.0.1
Dell Systems Management Tools and Documentation DVD	DVD provided by your Dell PowerEdge Server Bundle (support.dell.com)

NOTES :

1. Dell Compellent is supported only with PowerEdge Rack servers.
2. Dell EqualLogic PS6000E/6010E are supported only to be used for Oracle Flash Recovery Area purposes.
3. PowerEdge 1950 III, R610 and R610 II only support dual port Fibre Channel HBAs. 2 single port Fibre Channel HBAs are recommended for other servers.
4. This assumes you don't need any other ports for other functions on the switch. This assumes one NIC for the public network and two teamed NICs for the private network. The two teamed NIC ports for the private network should be on separate PCI buses: one on on-board NIC, one on add on NIC card. It is recommended that two teamed NIC s are homogenous.
5. Minimum BIOS and ESM/BMC/iDRAC versions. For latest updates please go to http://support.dell.com.
6. Dell Compellent supports only QLogic HBA model QLE24xx.

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