

DELL EMC READY SOLUTIONS FOR ORACLE: SPECIFICATION SHEET

Pre-tested and validated architectures to ensure the scalability and reliability of the end-to-end Oracle database stack.

Technical Specifications

Dell EMC Ready Solutions for Oracle have a wide variety of sizes, configurations and deployment options to accommodate your database size, number of users and use case. Deploy your Oracle database infrastructure with greater ease and confidence.

Dell EMC Ready Solutions for Oracle with:

- [Dell EMC XtremIO and Data Protection](#)
- [Dell EMC Unity and Data Protection](#)
- [Dell EMC VMAX and Data Protection](#)

Dell EMC Ready Solutions with Dell EMC XtremIO and Data Protection Technical Specifications



Servers	PowerEdge R740 ²	PowerEdge R840 ³	PowerEdge R940 ³
Chassis ¹	8 x 2.5" SAS/SATA HDDs for 2 CPU configuration	24 x 2.5" Chassis, 12 SAS/SATA bays + 12 NVME/SAS/SATA bays, No GPU, 4 CPU Configuration	2.5" chassis with up to 8 hard drives
Processor	2 x Intel Xeon Gold 6136 12c 3.0GHz	4 x Intel Xeon Gold 6154 18c 3.0 GHz	4 x Intel Xeon Gold 6150 18c 2.7 GHz
Memory	768 GB (24 x 32GB DR DDR4 2,667 MT/s RDIMMs)	1,536 GB (48 x 32GB DR DDR4 2,667MT/s RDIMMs)	1,536 GB (24 x 64 GB QR DDR4 2666MT/s LRDIMMs)
Local Disks	3 x 1.2 TB 10K SAS 12Gbps 2.5" HDDs (inc. 1 hot spare)	3 x 1.2TB 10K SAS 12Gbps 2.5" HDDs (inc. 1 hot spare)	3 x 1.2 TB 10K SAS 12Gbps 2.5" HDDs (inc. 1 hot spare)
RAID Controller	PERC H740P	PERC H740P/H730P	PERC H740P/H730P
iDRAC	iDRAC9 Enterprise		
rNDC	Broadcom 57412 DP 10Gb SFP+ + 5720 DP 1Gb Base-T rNDC	Broadcom 5720 QP 1Gb Base-T rNDC	Broadcom 5720 QP 1 GbE Base-T rNDC
Add-on NICs	None	2 x Broadcom 57412 DP 10 GbE SFP+ Or 2 x Intel X710 DP 10Gb SFP+	2 x Broadcom 57412 DP 10 GbE SFP+ Or 2 x Intel X710 DP 10Gb SFP+



Dell EMC Ready Solutions with Dell EMC XtremIO and Data Protection Technical Specifications - Continued

Servers	PowerEdge R740 ²	PowerEdge R840 ³	PowerEdge R940 ³
HBA's	2 x Emulex LPe16002-M6-D DP 16Gbps FC HBAs	2 x Emulex LPe31002-M6-D DP 16 Gbps FC HBAs Or 2 x QLogic® QLE2692 DP 16Gbps FC HBAs	2 x Emulex LPe31002-M6-D DP 16 Gbps FC HBAs Or 2 x QLogic® QLE2692 DP 16Gbps FC HBAs
Power Supply	2 x 1100W	2 x 1600W/2000W	2 x 1600W/2000W
Networking			
LAN Switch	2 x Dell EMC Networking S4048-ON 10 GbE		
SAN Switch	2 x Dell EMC Connectrix DS-6510B 48-ports 16 Gbps		
Management Switch	2 x Dell EMC Networking S3048-ON 1GbE		
Storage	Dell EMC XtremIO X2 storage array		
System specification	Two X2 X-Bricks Cluster		
OS version	6.1.0-99_X2		
Active-Active Controllers	4		
Front-end FC ports	8		
SSD enclosures	2		
Number of SSDs	36		
Raw/Usable capacity	13.1 TiB / 10 TiB		
InfiniBand Switches	2		
Data Protection	Dell EMC Data Domain Backup Appliance		
Data Domain	DD6300		
Operating system (OS)	6.0.1.30-570211		
Number of network ports (in use)	2 x 10 GbE		
Number of enclosures (DS60)	1		
Active Tier Disks (in use)	11 x 3.64 TiB (40.03 TiB) SAS HDDs		
Active Tier Disks (spare)	1 x 3.64 TiB SAS HDD		
Cache Tier Disks	2 x 0.728 TiB (1.45 TiB) SAS SSDs		
Expandable Storage Disks	60 x 2.73 TiB (163.8 TiB) SAS HDDs 56 active (152.9 TiB) + 4 spare (10.9 TiB)		
DD Boost database application agent	4.5.1.0-1		
Software			
Database	Oracle Database 12c Release 2 (Standalone and RAC); Oracle Database 11g Release 2		
Bare-metal OS	Red Hat® Enterprise Linux® (RHEL) 7.4 x64		
Hypervisor OS	VMware vSphere (ESXi™) 6.5 U2; VM Guest OS: RHEL 7.4		
Services			
ProDeploy Enterprise Suite (optional) – default ProDeploy; upgrade to ProDeploy Plus for onsite vs remote deployment			
ProSupport Enterprise Suite (mandatory) – default ProSupport with 4-hour Mission Critical; upgrade to ProSupport Plus for a Technology Service Manager			

¹ Customers are free to choose all offered chassis types, as needed.

² The two XtremIO Virtual Copy databases that were created from the production database were tested on the listed R740 configuration

³ The two node Oracle Real Application Clusters (RAC) 12cR2 production database was tested on the two R840/R940 listed configuration.

The two virtual Oracle 11gR2 and 12cR2 databases were tested on a third R940 ESXi host with the listed configuration.

Dell EMC Ready Solutions for Oracle Design for Dell EMC Unity All-Flash Storage Technical Specifications

Servers	PowerEdge R840 ³
Form Factor	2U
Processor	4 x Intel Xeon Gold 6154 18c 3.0 GHz
Processor Sockets	4
Chipset	Intel C620
Memory	1,536 GB (48 x 32GB DDR4 2,667MT/s RDIMMs)
I/O Slots	Up to 6 x PCIe Gen 3 slots
Storage Controllers	PERC H740P/H730P
Network Interface	Broadcom 5720 QP 1Gb Base-T rNDC + 2 x Broadcom 57412 DP 10 GbE SFP+ Or 2 x Intel X710 DP 10Gb SFP+

Networking

LAN Switch	2 x Dell EMC Networking S4048-ON 10 GbE
SAN Switch	x Dell EMC Connectrix DS-6510B 48-ports 16 Gbps

Storage

Dell EMC Unity 650F	
Controllers per Array	2 (active/active)
Operating Systems	Unity OE 4.4.0.1534750794
Maximum Drives Supported	1,000 per array
Maximum Raw Capacity	16.0 PB per array
Storage Media	Write-intensive, read-intensive SSDs with various capacities: 400 GB, 800 GB, 1.6 TB, 1.92 TB, 3.84 TB, 7.68 TB, 15.36 TB
Array Enclosures	Disk processor enclosure (DPE) with two form factors: <ul style="list-style-type: none"> • 2U with 25 x 2.5-inch drives • 2U with 8 x 3.5-inch drives
Drive Enclosures	Support for: <ul style="list-style-type: none"> • 2U 25-drive trays for 2.5-inch drives • 3U 80-drive trays for 2.5-inch drives
RAID Options	1/0, 5, 6
Embedded SAS I/O Ports per Array	4 x 4-lane 12 Gb/s SAS ports for back-end connectivity
Embedded CNA Ports per Array	4 ports: 8/16 Gb FC, 10 Gb IP/iSCSI, or 1 Gb RJ45
Embedded 10GBASE-T Ports per Array	4
Maximum FC Ports per Array	20
Maximum SAN Hosts	2,048
Maximum LUN Size	256 TB

Software

Database	Oracle Database 12c Release 2 and Oracle Database 18c Release 1
Hypervisor OS	6.5.0 Build Number 8935087 (update 2)
RHEL OS	7.4, kernel version 3.10.0-693.el7.x86_64

Services

ProDeploy Enterprise Suite (optional) – default ProDeploy; upgrade to ProDeploy Plus for onsite vs remote deployment
ProSupport Enterprise Suite (mandatory) – default ProSupport with 4-hour Mission Critical; upgrade to ProSupport Plus for a Technology Service Manager

Dell EMC Ready Solutions with Dell EMC VMAX and Data Protection Technical Specifications



Servers	PowerEdge R740	PowerEdge R940	PowerEdge R940
Chassis	8x 2.5" SAS/SATA HDDs for 2 CPU configuration	2.5" chassis with up to 8 hard drives	2.5" chassis with up to 24 hard drives and 12 NVMe* for 4S config
Processor	2x Intel Xeon Gold 6136 12c 3.0GHz	4x Intel Xeon Gold 6150 18c 2.7GHz	4x Intel Xeon Platinum 8180 28c 2.5 GHz 205W
Memory	384GB (12x 32GB DR DDR4 2,667MT/s RDIMMs)	1,152GB (24x 32GB + 24 x 16GB DR DDR4 2,667MT/s RDIMMs)	3,072GB (48x 64GB QR DDR4 2667MT/s LRDIMMs)
Local Disks	3x 1.2TB 10K SAS 12Gbps 2.5" HDDs (incl. 1 hot spare)	3x 1.2TB 10K SAS 12Gbps 2.5" HDDs (incl. 1 hot spare)	3x 1.2TB 10K SAS 12Gbps 2.5" HDDs (incl. 1 hot spare)
RAID Controller	PERC H730P/H740P	PERC H740P	
iDRAC	iDRAC9 Enterprise		
rNDC	Broadcom 57412 DP 10Gb SFP+ + 5720 DP 1Gb Base-T rNDC	Broadcom 5720 QP 1Gb Base-T rNDC	Intel X710 DP 10GbE DA/SFP+ + i350 DP 1 GbE rNDC
Add-on NICs	Broadcom 57412 DP 10Gb SFP+ PCIe Adapter, full height	2x Intel X710 DP 10Gb SFP+, full height	2x Intel X710 DP 10Gb SFP+, full height
HBAs	2x QLogic® QLE2692 DP 16Gbps FC HBAs	2x Emulex LPe31002-M6-D DP 16Gbps FC HBAs	2x QLogic® QLE2692 DP 16Gbps FC HBAs
Power Supply	2x 1100W	2x 1600W	2x 2000W
Networking			
LAN Switch	2x Dell EMC Networking S4048-ON 10GbE		
SAN Switch	2x Dell EMC Connectrix DS-6610B 24-ports 16Gbps	2x Dell EMC Connectrix DS-6510B 48-ports 16Gbps	
Management Switch	2x Dell EMC Networking S3048-ON 1GbE		
Storage			
	Dell EMC VMAX 250F All Flash		
# of V-Bricks	1		2
Solid-state drives (SSDs)	16x 960GB (26TBe)	48x 960GB (79TBe)	64x 960GB (105TBe)
Mirrored cache	512GB	1TB	2TB
Data Protection			
	Dell EMC Data Domain		
Data Domain	DD6300		DD9300
Operating system (OS)	6.0.1.30-570211		6.0.1.30-570211
Number of network ports (in use)	2x 10GbE		4x 10 GbE
Number of enclosures (DS60)	1**		4
Active Tier Disks (in use)	11x 3.64 TiB (40.03 TiB) SAS HDDs		196x 2.73 TiB (534.94 TiB) SAS HDDs
Active Tier Disks (spare)	1x 3.64 TiB SAS HDD		14x 2.73 TiB SAS HDDs

Dell EMC Ready Solutions with Dell EMC VMAX and Data Protection Technical Specifications - Continued

Data Protection	Dell EMC Data Domain		
Cache Tier Disks	2x 0.728 TiB (1.45 TiB) SAS SSDs		8x 0.728 TiB (5.82 TiB) SAS SSDs
Expandable Storage Disks**	60x 2.73 TiB (163.8 TiB) SAS HDDs 56 active (152.9 TiB) + 4 spare (10.9 TiB)		None
System disks	N/A		3x 3.64 TiB SAS HDDs + 1x 3.64 TiB SAS (Spare)
Software			
Database	Oracle Database 12c Release 2 Real Application Cluster (RAC)		
Operating System (OS)	VMware vSphere hypervisor (VMware ESXi™) 6.5		
Guest OS	Red Hat® Enterprise Linux® (RHEL) 7.3 x64		
Data Protection	Dell EMC AppSync 3.5		
Services			
ProDeploy Enterprise Suite (optional) – default ProDeploy; upgrade to ProDeploy Plus for onsite vs remote deployment			
ProSupport Enterprise Suite (mandatory) – default ProSupport with 4-hour Mission Critical; upgrade to ProSupport Plus for a Technology Service Manager			



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