

Dell Acceleration Appliances for Databases

Ultra-high performance for your OLTP database infrastructure

The Dell Acceleration Appliances for Databases are easy to procure and deploy, pre-integrated solutions that enable mid-market and enterprise customers to quickly and cost-effectively boost database performance.



Extreme performance - fast!

Who will benefit from the Dell Acceleration Appliances for Databases (DAAD)?

Customers who are experiencing bottlenecks in OLTP database performance will find that DAAD provides the ability to address this issue without major platform or infrastructure overhauls, without large expenditures on additional traditional disk or compute resources, and without a significant increase in database licensing costs. DAAD is an excellent solution for database administrators who face impediments to user expansion, gaps in SLA fulfillment, and limited datacenter space availability.

DAAD connects to any database server running RHEL (and compatible), Oracle Linux UEK, and Windows Server. Dell engineering is providing reference architectures for such database environments as Oracle RAC and Microsoft SQL Server.

The highly available two-node appliance solution provides up to 25.6TB of redundant tier-1 storage capacity. The storage appliance delivers up to ~2 million random read IOPS with 0.92 millisecond latency for 4k random read which equates to 51 times the IOPS and 7% of the latency that 96x 15k conventional drives can provide. On HammerDB's TPC-C-like performance studies, the four-node Oracle RAC database on the two-node appliance can deliver >1.1M peak New Orders per Minute (NOPM) and sustained throughput of up to 12GB/s for data warehousing (OLAP) applications.

Ultra-high performance for your database infrastructure: OLTP, DSS and Hybrid Workloads

Database and operating system independent block storage provides acceleration for any database infrastructure (Oracle, MS SQL, SAP, ASE, SAP HANA, MySQL, etc.)

93% lower latency and ~2M IOPS, or more than 51x IOPS of traditional spinning disk SAN technology

Leveraging industry leading solutions:

- Dell PowerEdge Servers
- SanDisk ioMemory card
- SanDisk Ion Acceleration

Pre-integrated system that provides up to 25.6TB of flash storage for database servers on the network (with optional high availability, mirrored configuration)

Fully manageable using Dell LifeCycle Controller and iDRAC management, as well as with the SanDisk Ion plug-in for Oracle Enterprise



	IOPS		MB/s		Latency (ms)	
Workload	DAAD2.0 (6.4TB)	DAAD2.0 (3.2TB)	DAAD2.0 (6.4TB)	DAAD2.0 (3.2TB)	DAAD2.0 (6.4TB)	DAAD2.0 (3.2TB)
4K Random Read	1,752,648	1,899,667			1.01	0.92
8K Random 70/30 R/W	663,453	665,846			2.88	2.88
1MB Sequential Read			8,712	9,950		
1MB Sequential Write			5,957	5,644		

What is the Dell Acceleration Appliance for Databases (DAAD) configuration?

Following is a listing of primary components and software pre-integrated into the DAAD system:

	Standalone	High-Availability (x 2)
Servers	PowerEdge R730	PowerEdge R730
CPU(s)	2 x Intel Xeon E5-2667v3	2 x Intel Xeon E5-2667v3
RAM	384GB	384GB
Solid state disks (MLC)	4x SanDisk Fusion ioMemory SX300 3.2TB or 6.4TB	4x SanDisk Fusion ioMemory SX300 3.2TB or 6.4TB
SAN Fabric Connections	Qlogic 2662 16Gb FC Mellanox ConnectX-3 40Gb iSCSI Mellanox ConnectX-3 56Gb Infiniband	Qlogic 2662 16Gb FC Mellanox ConnectX-3 40Gb iSCSI Mellanox ConnectX-3 56Gb Infiniband
Redundancy Link	N/A	Mellanox ConnectX-3 Dual-Port 40Gb (for mirroring)
Accelerator software	SanDisk ION Accelerator software v2.5.1	SanDisk ION Accelerator software v2.5.1

For more information, contact your Dell representative.

