Intelligent iSCSI Storage Arrays

Simplifying IT

The Dell™ EqualLogic™ PS Series is fundamentally changing the way IT organizations think about purchasing and managing storage. Built on a breakthrough storage virtualization architecture, the EqualLogic PS Series combines an intelligent, automated framework with a fault-tolerant hardware architecture to offer rapid deployment, enterprise quality performance and reliability, simplified storage management, and transparent SAN expansion.

The PS Series ...

Supports a broad range of operating systems:

- Microsoft® Windows®, including Hyper-V™
- VMware® ESX / ESXi
- Citrix® XenServer™
- Red Hat® Enterprise Linux®
- SUSE™ Linux Enterprise
- Linux
- Sun Solaris™
- UNIX®
- HP-UX
- IBM AIX®
- Novell® NetWare®
- Mac OS® X

Enterprise Data Services

Data Protection, Availability & Recovery

- Auto-Replication, Multi-Way
- Instant Volume Restore
- Multi-Path I/O[1] Multi-Volume, Writeable Snapshots
- Snapshot and Auto-Replication Scheduler
- Volume Cloning
- Volume Consistency Sets

Management

- PS Group Manager
- Rapid Provisioning
- Remote Setup Wizard
- Roles-Based Administration
- Volume Management

Maintenance

- Auto-Stat Disk Monitoring System
- E-mail Home
- Enclosure Monitoring System
- SAN HeadQuarters Historical Performance and Event Monitoring

Storage Virtualization

- Array Evacuation
- Automatic Load Balancing
- Automatic or Manual Storage Tiering
- Complete SAN Virtualization
- Online Data and Volume Movement
- RAID Load Balancing
- Storage Pools
- Thin Provisioning

Server Management & Protection Integration

- Auto-Snapshot Manager/ Microsoft® Edition[2]
- Auto-Snapshot Manager/ VMware® Edition[3]
- Automatic MPIO Connection Management
- Microsoft® VSS and VDS Providers
- Smart Copy for Microsoft® Hyper-V™, Exchange®, SQL Server®, Windows® File Systems and VMware® VMFS
- VMware® Site Recovery Manager Adapter

[1] Qualified for Microsoft® Windows Server® 2003, Windows Server® 2008, including Hyper-V, Windows Server® 2008 R2, including Hyper-V, VMware®, Linux® and Sun™ Solaris™ Operating Systems.
[2] Qualified for Microsoft® Windows Server® 2003, Windows Server® 2008, including Hyper-V™ and Windows Server® 2008 R2 including Hyper-V™.
[3] Qualified for VMware® ESX 3.5, ESXi 3.5, ESX 3 and ESX 4.

Simplify storage at
dell.com/PSseries

The Dell difference

Ease of use
- Intelligent, automated management minimizes tedious administrative tasks
- From box to operating SAN in minutes
- Monitor petabytes of storage across dozens of SANs from a single console

Enterprise performance
- Exceptional performance for both sequential and transactional applications with linear scalability as arrays are added
- Automated, real-time load balancing across drives, RAID sets, connections, cache and controllers for optimized performance and resource utilization
- Pooling capability enables appropriate service levels for individual applications

Reliability
- Fault-tolerant, fully-redundant dual controller design for no single point of failure
- Designed for 99.999% availability
- Enterprise-class RAID protection (RAID 5/6/10/50)
- Hot-swappable components, flexible online redeployment of arrays

Scalability
- Modular design allows growth when needed
- Online expansion between hardware generations without affecting data availability
- Linear scalability—scale capacity and performance together
- Manage a growing pool of storage from one single user interface

Affordability
- All-inclusive enterprise features and functionality with no additional software licenses to purchase
- Easy connection via iSCSI
- Automated features help to eliminate highly specialized administrative costs
- Adopt 10GbE and run both 1GbE and 10GbE in the same environment without de-valuing legacy equipment
- EqualLogic SANs have the lowest TCO of common storage array architectures—fully 1/3 to 1/2 the total cost of competitors over a five year period*

Enterprise Efficiency
- Addition of 10GbE supports high-performance, high-bandwidth applications such as data warehouses and streaming media
- Maximize your IT investments with an end-to-end unified fabric data center encompassing servers, EqualLogic storage and Networking
- Enterprise level virtualized storage that matches virtualized server environments

* Source: ESG Lab Report "Dell EqualLogic TCO Analysis", July 2009.

PS Series iSCSI storage arrays
PS6000 Series: Virtualized arrays designed for the enterprise data center
PS4000 Series: Virtualized arrays designed for branch office and SMB needs

PS6000E
- Enterprise performance offering great cost-per-Gigabyte
- High capacity configurations for data intensive applications

Array Capacity	Storage Controllers	Disk Drives & Capacities
4 TB	Dual	8-500 GB/7,200 RPM SATA drives
4 TB	Dual	16-250 GB/7,200 RPM SATA drives
8 TB	Dual	16-500 GB/7,200 RPM SATA drives
16 TB	Dual	16-1 TB/7,200 RPM SATA drives

PS6000X
- Balance of great performance and capacity for the enterprise

Array Capacity	Storage Controllers	Disk Drives & Capacities
6.4 TB	Dual	16-400 GB/10,000 RPM SAS drives
7.2 TB	Dual	16-450 GB/10,000 RPM SAS drives
9.6 TB	Dual	16-600 GB/10,000 RPM SAS drives

PS6000XV
- High performance for demanding enterprise applications

Array Capacity	Storage Controllers	Disk Drives & Capacities
4.8 TB	Dual	16-300 GB/15,000 RPM SAS drives
7.2 TB	Dual	16-450 GB/15,000 RPM SAS drives
9.6 TB	Dual	16-600 GB/15,000 RPM SAS drives

PS6000S
- SSD system for exceptional low-latency, high-IOPS performance at affordable value

Array Capacity	Storage Controllers	Disk Drives & Capacities
400 GB	Dual	8-50 GB SSD Drives
800 GB	Dual	16-50 GB or 8-100 GB SSD Drives
1.6 TB	Dual	16-100 GB SSD Drives

PS6500E
- High-density system for huge capacity and scalability at best cost-per-Gigabyte in PS Series

Array Capacity	Storage Controllers	Disk Drives & Capacities
24 TB	Dual	48-500 GB/7,200 RPM SATA drives
48 TB	Dual	48-1 TB/7,200 RPM SATA drives

PS6500X
- High-density, high-performance for capacity-intensive, primary applications

Array Capacity	Storage Controllers	Disk Drives & Capacities
28.8 TB	Dual	48-600 GB/10,000 RPM SAS Drives

PS6510E
- Great for tiered storage applications with strong random IOPS performance

Array Capacity	Storage Controllers	Disk Drives & Capacities
48 TB	Dual 10GbE	48-1TB/7,200 RPM SATA drives

PS6510X
- Performance and capacity for bandwidth hungry applications such as video streaming

Array Capacity	Storage Controllers	Disk Drives & Capacities
28.8 TB	Dual 10GbE	48-600 GB/10,000 RPM SAS drives

PS6010E
- Entry-level, highest capacity front-loading 3U array with 10GbE bandwidth

Array Capacity	Storage Controllers	Disk Drives & Capacities
4 TB	Dual 10GbE	8-500 GB/7,200 RPM SATA drives
8 TB	Dual 10GbE	16-500 GB or 8-1TB/7,200 RPM SATA drives
16 TB	Dual 10GbE	16-1TB GB/7,200 RPM SATA drives

PS6010S
- High performance and capacity at a low cost per Gigabyte

Array Capacity	Storage Controllers	Disk Drives & Capacities
800GB	Dual 10GbE	8-100 GB SSD drives
1.6 TB	Dual 10GbE	16-100 GB SSD drives

PS6010X
- Balanced value for performance, cost and capacity

Array Capacity	Storage Controllers	Disk Drives & Capacities
4.8 TB	Dual 10GbE	8-600 GB/10,000 RPM SAS drives
9.6 TB	Dual 10GbE	16-600 GB/10,000 RPM SAS drives

PS6010XV
- The premium high-performance, high-capacity array in 10GbE series

Array Capacity	Storage Controllers	Disk Drives & Capacities
4.8 TB	Dual 10GbE	8-600 GB/15,000 RPM SAS drives
9.6 TB	Dual 10GbE	16-600 GB/15,000 RPM SAS drives

PS4000E
- Entry configuration for affordable capacity

Array Capacity	Storage Controllers	Disk Drives & Capacities
2 TB	Single/Dual	8-250 GB/7,200 RPM SATA drives
4 TB	Dual	16-250 GB/7,200 RPM SATA drives
8 TB	Dual	16-500 GB/7,200 RPM SATA drives
16 TB	Dual	16-1 TB/7,200 RPM SATA drives

PS4000X
- Great balance of cost effective performance and capacity

Array Capacity	Storage Controllers	Disk Drives & Capacities
6.4 TB	Dual	16-400 GB/10,000 RPM SAS drives
7.2 TB	Dual	16-450 GB/10,000 RPM SAS drives
9.6 TB	Dual	16-600 GB/10,000 RPM SAS drives

PS4000XV
- High performance for demanding remote office applications

Array Capacity	Storage Controllers	Disk Drives & Capacities
4.8 TB	Dual	16-300 GB/15,000 RPM SAS drives
7.2 TB	Dual	16-450 GB/15,000 RPM SAS drives
9.6 TB	Dual	16-600GB/15,000 RPM SAS drives