

EQUALLOGIC PS SERIES



# DYNAMIC VIRTUAL STORAGE



EQUALLOGIC

# SIMPLIFYING IT

The Dell EqualLogic™ PS Series is fundamentally changing the way enterprises think about purchasing and managing storage.

Built on breakthrough virtualized peer storage architecture, the EqualLogic PS Series simplifies the deployment and administration of consolidated storage environments.

Its all-inclusive feature set streamlines purchasing. Its intelligent software delivers rapid SAN deployment, easy storage management and comprehensive data protection. The system's dynamic virtualization enables enterprise-class performance and reliability and seamless pay-as-you-grow expansion.

This simplicity yields important benefits: success and satisfaction for our users, which is supported by the fact that

**98%**  
**of our customers**  
**would recommend**  
**the PS Series<sup>1</sup>.**

<sup>1</sup>Source: Yankee Group, EqualLogic Customer Satisfaction Survey, March 2009.

## THE DELL DIFFERENCE

### EASE OF USE

- Intelligent, automated management helps minimize tedious administrative tasks
- From box to operating SAN in minutes

### 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
- Hot swappable components

### SCALABILITY

- Modular design allows growth when needed
- Online expansion without affecting data availability
- Linear scalability — scale capacity and performance together

### 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

## THE EQUALLOGIC PS SERIES ISCSI SANS

The Dell EqualLogic PS Series is a family of virtualized iSCSI storage arrays that combine intelligence and automation with fault tolerance to provide simplified administration, rapid deployment, enterprise performance and reliability, and seamless scalability. The PS Series high performance storage arrays deliver a range of capacity points from 400 GB to 48 TB in either a 3U or 4U chassis. PS Series arrays can be combined to create a virtualized SAN that scales up to 576 TB under a single management interface.

### EXCEPTIONAL EASE OF USE

The PS Series intelligent storage arrays are designed to provide rapid deployment, simple management and seamless expansion. All PS Series storage arrays include SAN configuration features and capabilities that sense network topology, automatically build RAID sets, and conduct system health checks to help ensure that all components are fully functional. PS Series arrays are designed to be deployed, configured, and serving storage in less than one hour.

### MODULAR DESIGN WITH ENTERPRISE RELIABILITY

EqualLogic PS Series arrays are based on a virtualized, modular storage architecture that enables IT managers to purchase only the storage they need, when they need it — preventing both underutilization and over-provisioning. Using innovative data movement technology, all EqualLogic PS Series arrays in a SAN work together to automatically manage data, load balance across all resources, and expand to meet growing storage needs.

The Dell EqualLogic PS Series is designed to meet and exceed the rugged requirements of the data center. Each array comes standard with fault tolerance capabilities through fully redundant and hot-swappable components — dual-controllers, multiple fan trays and power supplies, and disk drives with hot spares.

### ENTERPRISE DATA SERVICES WITHOUT ADDITIONAL COST

The PS Series has built-in storage features once relegated to top-tier data centers, enabling best practice storage for every size organization. Unlike traditional storage arrays, the EqualLogic PS Series arrays include a comprehensive set of enterprise data services and software features with no additional software licensing fees.

### FLEXIBILITY WITH LOW COST OF OWNERSHIP

EqualLogic PS Series arrays represent a breakthrough in storage economics, from purchase and setup to operation and upgrades. In addition to the extensive included software, the PS Series scales easily, on-demand — and online — allowing storage growth without costly application disruptions or lengthy service engagements. As a result, EqualLogic arrays provide exceptional flexibility at a low total cost of ownership.

Whether consolidating direct-attached storage (DAS), migrating from an existing SAN or NAS system, improving data protection, or simply adding capacity, the EqualLogic PS Series deploys flexibly to address enterprise storage needs. As business needs change, an EqualLogic SAN can easily adapt. Its virtualized architecture allows simple redeployment of arrays, tiered storage, thin provisioning, online volume movement and much more, all without extra cost and cumbersome processes.

**“THE DELL EQUALLOGIC SAN DIDN'T REQUIRE A LOT OF STAFF TRAINING, AND WE ESTIMATE WE ARE SPENDING ABOUT 90 PERCENT LESS TIME MANAGING AND BACKING UP STORAGE.”**

Tim Owens, infrastructure manager at Columbia Distributing Company  
July 2008

# 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	PS6500E	PS6000X	PS6000XV	PS6000S	PS4000E	PS4000X	PS4000XV
<b>ARRAY CAPACITY</b>	2, 4, 8 or 16 TB	24 TB or 48 TB	6.4, 7.2 or 9.6 TB	4.8 or 7.2 TB	400 GB or 800 GB	2, 4, 8 or 16 TB	6.4, 7.2, 9.6 TB	4.8 or 7.2 TB
<b>DISK DRIVES</b>	8 or 16—7,200 RPM SATA Drives	48—7,200 RPM SATA Drives	16—10,000 RPM SAS Drives	16—15,000 RPM SAS Drives	16 Solid State Disk (SSD) Drives	8 or 16—7,200 RPM SATA Drives	16—10,000 RPM SAS Drives	16—15,000 RPM SAS Drives
<b>DRIVE CAPACITIES</b>	250 GB, 500 GB or 1 TB	500 GB or 1 TB	400, 450 or 600GB	300 or 450 GB	50 GB	250 GB, 500 GB or 1 TB	400 GB, 450 GB or 600 GB	300 GB or 450 GB
<b>FULL HARDWARE REDUNDANCY</b> Hot-swappable controllers, fans, power supplies, disks	Yes <sup>1</sup>	Yes				Yes <sup>1</sup>	Yes	
<b>NETWORK CONNECTIVITY</b>	4 Ethernet/iSCSI Ports per Controller					2 Ethernet/iSCSI ports per Controller for I/O; 1 Ethernet port for management		
<b>CHASSIS</b>	3U	4U	3U	3U	3U	3U	3U	3U
<b>MEMORY</b>	2 GB <sup>2</sup> or 4 GB	4 GB	4 GB	4 GB	4 GB	2 GB <sup>2</sup> or 4 GB	4 GB	4 GB
<b>MAXIMUM NUMBER OF ARRAYS PER PS SERIES GROUP</b>	12 PS Series arrays, including up to 2 PS4000 arrays					2 PS4000 arrays		
<b>ENTERPRISE DATA SERVICES</b>	Yes, all inclusive with no separate licenses on all PS Series arrays (see below)							

### ENTERPRISE DATA SERVICES

#### DATA PROTECTION, AVAILABILITY & RECOVERY

Auto-Replication, Multi-Way | Instant Volume Restore | Multi-Path I/O<sup>3</sup> | Multi-Volume, Writeable Snapshots | Snapshot and Auto-Replication Scheduler | Volume Cloning | Volume Consistency Sets

#### 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<sup>4</sup> | Auto-Snapshot Manager/VMware® Edition<sup>5</sup> | 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

#### MANAGEMENT

PS Group Manager | SAN HeadQuarters Multi-Group Monitoring | Rapid Provisioning | Remote Setup Wizard | Roles-Based Administration | Volume Management

#### MAINTENANCE

Auto-Stat Disk Monitoring System | E-mail Home | Enclosure Monitoring System | Detailed Historical Performance Monitoring

<sup>1</sup>Single-controller options are available for 2 or 4 TB arrays

<sup>2</sup>Single-controller options with 2 GB of memory are available for the 2 or 4 TB SATA arrays

<sup>3</sup>Qualified for Microsoft Windows Server® 2000 and 2003, VMware®, Linux® and Sun™ Solaris™ Operating Systems

<sup>4</sup>Qualified for Microsoft Windows Server® 2003 and Windows Server® 2008

<sup>5</sup>Qualified for VMware® ESX 3.5, ESXi 3.5 and ESX 3



**EQUALLOGIC**

**SIMPLIFY YOUR STORAGE AT [WWW.DELL.COM/PSseries](http://WWW.DELL.COM/PSseries)**

© 2009 Dell Inc. Microsoft and Windows are registered trademarks of Microsoft Corporation. DS606\_USA\_052009