DELL EQUALLOGIC PS6510E

The Dell™ EqualLogic™ PS6510E is a virtualized iSCSI SAN that combines intelligence and automation with fault tolerance to provide simplified administration, rapid deployment, enterprise performance and reliability, and seamless scalability. The PS6510E delivers the lowest cost-per-gigabyte in the PS6010 Series with up to 48 TB† of SATA storage in a high-density 4U chassis. A PS Series SAN built with PS6510E arrays can scale up to 768 TB † under a single, intuitive management interface. The PS6510 line features a redesigned 2 (two) 10GbE port controller delivering up to 10x the bandwidth per port and 2.5x the bandwidth per array compared to previous generations[1].

EXCEPTIONAL EASE OF USE

The PS6510E is an intelligent storage array that is designed to provide rapid deployment, simple management and seamless expansion. All PS Series storage arrays include SAN configuration features and capabilities that sense network connections, automatically build RAID sets, and conduct system health checks to help ensure that the array is fully functional out of the box. The EqualLogic PS6510E is designed to be cabled, 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 — helping to prevent 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 EqualLogic SAN line is designed to meet and exceed the rugged requirements of today's data center. The PS6500E includes fault tolerance capabilities through fully redundant and hot-swappable components — dual-controllers, three fan trays and power supplies, and disk drives with hot spares.

ENTERPRISE DATA SERVICES WITHOUT ADDITIONAL COST

With built-in storage features, the PS6510E enables best practice storage for top tiered data centers, organizations producing high-throughput workloads or latency sensitive business applications. The EqualLogic PS Series arrays include the following enterprise data services and software features with no additional software licensing fees:

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

DATA PROTECTION, AVAILABILITY AND RECOVERY | Auto-Replication, Multi-Site • Instant Volume Restore • Multi-Path I/O[2] • 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

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

SERVER MANAGEMENT AND PROTECTION INTEGRATION | Auto-Snapshot Manager/Microsoft® Edition[3] • Auto-Snapshot Manager/VMware® Edition[4] • 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

FLEXIBILITY WITH LOW COST OF OWNERSHIP

The EqualLogic PS Series arrays represent a breakthrough in storage economics, from purchase and setup to operation and upgrades. Unlike traditional SANs, the EqualLogic PS Series includes software and applications expected from an enterprise-level SAN at no extra cost. The PS Series scales on-demand — and online — allowing storage growth without disrupting applications. As a result, EqualLogic PS6510E arrays provide exceptional flexibility at a low total cost of ownership.

Whether consolidating a direct-attached storage (DAS) infrastructure, migrating data from an existing SAN or NAS system, streamlining data protection processes, or simply adding storage capacity, the EqualLogic PS Series from Dell offers a family of proven, high-performance, self-managing storage arrays designed to meet the requirements of today's critical datacenter environments.

[1]Based on testing performed by Dell Labs in 2009 comparing Dell EqualLogic PS6010Series arrays to PS6000 Series arrays
[2]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
[3]Qualified for Microsoft® Windows Server® 2003, Windows Server® 2008, including Hyper-V™ and Windows Server® 2008 R2 including Hyper-V™
[4]Qualified for VMware® ESX 3.5, ESXi 3.5/4, ESX 3 and ESX 4

FEATURES	DELL™ EQUALLOGIC™ PS6510E
Product Configurations	
Storage Controllers	Dual 10GbE controllers with a total of 4 GB† battery-backed memory Battery-backed memory provides up to 72 hours of data protection
Hard Disk Drives	Forty eight (48) SAS hot-pluggable hard disk drives
Drive Capacities	7,200 RPM SATA II drives available 1 TB†
System Capacities	48 TB† using forty eight (48) 1 TB† SATA disk drives
Technical Highlights	
Volumes	Up to 1,024
Snapshots	512 per volume / up to 10,000 total
Host Connections	Up to 512 per pool / 2,048 per group
Host Protocol	Any standards-compliant iSCSI initiator
Operating Systems Supported	Windows® 2000 Server, Windows Server® 2003, Windows Server® 2008, including Hyper-V™, Windows Vista®, Windows Server® 2008 R2 including Hyper-V™, Windows XP®, Red Hat® Enterprise Linux®, SUSE® Linux® Enterprise, Sun™ Solaris™, IBM® AIX®, HP-UX, Mac OS® X, VMware® ESX Server 3 / 3.5 / 4, ESXi 3.5 / 4, Citrix® XenServer™, Novell® NetWare®
RAID Support	RAID 5, RAID 6, RAID 10, and RAID 50
10 GbE Network Interfaces	Two (2) SFP+ per controller
TCP Network Support	IPv4, IPv6 core support
Expansion Option	Can be combined with other EqualLogic PS Series online in the same SAN group; PS6510E can only be in a pool with other PS5500E, PS6500X, PS6500E and/or PS6510E systems
Reliability	Redundant, hot-swappable controllers, power supplies / cooling fans, and disks Individual disk drive slot power control
Enclosure Monitoring System	Automatic spare configuration and utilization SMART Automatic bad block replacement Auto-Stat Disk Monitoring System (ADMS) to monitor health of data on disk drives
Management Interfaces	SAN HeadQuarters multi-group performance and event monitoring tool SNMP, telnet, SSH, HTTP, Web (SSL), host scripting Serial console Multi-administrator support Ability to configure a separate management network
Security	CHAP authentication Access control for iSCSI Access control for management interfaces including RADIUS support
Notification Methods	SNMP traps, e-mail, syslog
Power	AC voltage: 100-240 VAC ±10% single phase Frequency: 47-63 Hz Power factor: 0.95 (minimum) Power consumption: 1030 VA, 1,200 Peak VA (operating maximum) Heat dissipation: 3,500 BTU per hour (maximum) Power supplies: Three 440W dc
Environmental	Temperature range: 5 to 35°C / 41 to 95°F Storage temperature: -20 to 60°C / -22 to 140°F Altitude: -70 to 3,000 m operational / -305 to 12,192 m non-operational Relative humidity: 20 to 80% non-condensing operational / 5 to 95% non-condensing non-operational Shock: 5 g 10 ms ½ sine operational / 30 g 10 ms ½ sine non-operational Vibration: Random .21 grms @ 5-500Hz operational / Random 1.04 grms 2-200Hz non-operational Acoustics: LwA 6.6 Bels Air Quality: Airborne contaminant level of G2 or lower as defined by ISA-S71.04-1985
Physical	Height: 17.5 cm / 6.89 in / 4 EIA units Width: 48.3 cm / 19.01 in / 1EC Rack Compliant Depth: 96 cm / 37.8 in Weight: 74.8 kg / 165 lb
Basic and Optional Dell Support Services	**1-Year Dell Basic Service*:** Included with all EqualLogic purchases. For a period of one year – telephone support services during local business hours excluding local national holidays; service parts shipped via next business day freight method or the next most expedited shipping available in the locality; access to software/firmware updates. **Dell ProSupport**** for IT or for End-Users with NBD or 4 Hour Onsite Options: Direct access to Dell experts, 7x24x365 phone support, collaborative hardware and software support, escalation support, global Command Center management and monitoring, how-to application and configuration assistance (Dell ProSupport for End-Users only). **Additional Dell ProSupport**** Options include: Keep your Hard Drive (KYHD), Mission Critical, and Dell ProSupport for IT with Enterprise-Wide Contract.
Optional Dell ProConsult	**Storage Consulting from Dell**** offers a comprehensive suite of assessment, design and implementation services to help customers get the most from their EqualLogic PS Series product, covering data management, application performance, data protection and cost of ownership. Dell Consultants can provide practical action-oriented plans, to help deliver specific, predictable and measured outcomes through high-impact, short duration projects.

†GB means 1 billion bytes and TB equals 1 trillion bytes; actual capacity varies with preloaded material and operating environment and will be less.

* For a copy of the EqualLogic Limited Warranty and Dell's Basic Service Description write Dell Inc., Attn: Customer Service, 300 Innovative Way, Suite 301, Nashua, NH 03062 USA or see www.dell.com/warranty and www.dell.com/servicecontracts

** Availability and terms of Dell Services vary by region. For more information, visit www.dell.com/servicedescriptions

SS660_USA_110609