



Dell EqualLogic PS6500E/PS6510E

The Dell™ EqualLogic™ PS6500E/PS6510E is a virtualized iSCSI SAN that combines intelligence and automation with fault tolerance to provide your organization with simplified administration, rapid deployment, enterprise performance and reliability, and seamless scalability. The PS6500E/PS6510E delivers low cost-per-gigabyte with up to 96 TB¹ of SATA storage in a high-density 4U chassis. A PS Series SAN built with PS6500E/PS6510E arrays can scale up to 1.5 PB¹ under a single, intuitive management interface. The PS6500/PS6510 family features a redesigned controller with a fourth Gigabit Ethernet port that can deliver improved sequential read and write performance compared to previous generations¹.

Exceptional ease of management

The Dell EqualLogic PS6500E and PS6510E are intelligent storage arrays that are designed to provide you with 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 all components are fully functional.

Modular design with enterprise reliability

EqualLogic PS Series arrays are based on a virtualized modular storage architecture that enables you to purchase only the storage you need, when you need it—to help prevent both underutilization and over-provisioning. Using innovative Dell Fluid Data™ technology, all EqualLogic PS Series arrays in a SAN work together to automatically manage data, load balance across all resources, and expand to meet your growing storage needs.

The EqualLogic SAN line is designed to meet and exceed the rugged requirements of your data center. The PS6500E/PS6510E includes fault-tolerance capabilities through fully redundant and hot-swappable components—dual-controllers, standard dual fan trays, dual power supplies, and disk drives with hot spares.

Feature-rich software portfolio without additional cost

With built-in features that help deliver high-performing, efficient storage infrastructures, the PS6500E/6510E enables best practice storage for your organization. The EqualLogic PS Series arrays include firmware and the following software with no additional software licensing fees.

Dell EqualLogic Firmware version 5.1

EqualLogic Firmware is a full-function SAN operating system that provides the following features:

Management | Microsoft® Active Directory Integration • Auditing of Administrative actions • Roles-Based Administration • Volume Management • Dell EqualLogic Group Manager CLI and GUI

Data Protection, availability and recovery | Data Center Bridging • Auto-Replication, Multi-Site • Instant Volume Restore • Multi-Path I/O³ • Multi-Volume, Writeable Snapshots • Snapshot and Auto-Replication Scheduler • Volume Cloning • Thin Clones • Volume Consistency Sets

Storage Virtualization | Enhanced Load Balancing • VMware® Thin Provisioning awareness for vSphere™ v4.1 to complement the existing Thin Provisioning • Non-disruptive array addition and removal • Automatic Load Balancing • Automatic or Manual Storage Tiering • Complete SAN Virtualization • Online Data and Volume Movement • Automatic load balancing of volumes across RAID types • Storage Pools • Thin Provisioning • SAN Data Copy Offload • SAN Zero Offload and Scalable Lock Management for VMware®

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

Dell EqualLogic Host Software

EqualLogic Host Software extends the functionality of the array-based software enabling cooperation with the host. Designed to integrate with hosts and provide enhanced performance, data protection and SAN management capabilities, the following products are included with your EqualLogic array purchase:

Dell EqualLogic Host Integration Tools for Microsoft (HIT/Microsoft) | Auto-Snapshot Manager/Microsoft® Edition for SQL Server, Exchange, Hyper-V™ and NTFS • EqualLogic Multipath I/O Device Specific Module (MPIO DSM) • Remote Setup Wizard (RSW) • PowerShell Tools

Dell EqualLogic Host Integration Tools for VMware (HIT/VMware) | Auto-Snapshot Manager/VMware® Edition (ASM/VE) • Datastore Manager • Virtual Desktop Deployment Utility • Multipath Extension Module (MEM) • Storage Replication Adapter for VMware® Site Recovery Manager (SRA SRM)

Dell EqualLogic Host Software Integration Tools for Linux (HIT/Linux) | Multipath Device Configuration • Remote Setup Wizard Command Line Interface (RSW CLI) • Host Performance and Configuration Suite (EQLTUNE)

Dell EqualLogic SAN Headquarters (SAN HQ) | Monitoring and analysis tool that provides centralized access to detailed performance and event data on multiple EqualLogic groups

Flexibility with low cost of ownership

The Dell EqualLogic PS Series arrays represent a breakthrough in storage economics, from purchase 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 PS6500E/6510E arrays provide exceptional flexibility at a low total cost of ownership.

Comprehensive data management services options

With a variety of systems built for capacity and performance, there is a Dell EqualLogic solution designed to suit your needs. And with comprehensive Dell Data Management Services that help plan, design, implement and support an efficient data management strategy and ecosystem, you can satisfy today's data availability, retention and recovery requirements while preparing to meet the demands of tomorrow.

¹Based on testing performed by Dell Labs in 2009 comparing Dell EqualLogic PS6010 Series arrays to PS6000 Series arrays

Feature	Dell™ EqualLogic™ PS6500E	Dell™ EqualLogic™ PS6510E
Product Configurations		
Storage Controllers	Dual 1GbE iSCSI controllers with a total of 4 GB ¹ battery-backed memory; Battery-backed memory provides up to 72 hours of data protection	Dual 10GbE iSCSI controllers with a total of 4 GB ¹ battery-backed memory; Battery-backed memory provides up to 72 hours of data protection
Network Interfaces	Four (4) RJ-45 1GbE copper per controller	Two (2) SFP+ per controller, One (1) 10/100 copper (optional management network only) per controller
Hard Disk Drives	Forty eight (48) SATA hot-pluggable hard disk drives	
Drive Capacities	7,200 RPM SATA II drives available in 500 GB ¹ , 1 TB ¹ or 2 TB ¹	7,200 RPM SATA II drives available in 1 TB ¹ and 2 TB ¹
System Capacities	From 24 TB ¹ minimum to 96 TB ¹ maximum	From 48 TB ¹ minimum to 96 TB ¹ maximum
Technical Highlights		
Volumes	Up to 1,024	
Snapshots	512 per volume/up to 10,000 total per group	
Volume Connections Per PS Series Group	Up to 1,024 per pool / 4,096 per group	
Host Protocol	Any standards-compliant iSCSI initiator	
OS Supported ²	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 3/3.5/4/4.1/5, ESXi 3.5/4/4.1, Citrix® XenServer™, Novell® NetWare	
RAID Support	RAID 5, RAID 6, RAID 10, and RAID 50	
TCP Network Support	IPv4, IPv6 core support	
Expansion Option	Can be combined with other EqualLogic PS Series arrays in the same SAN group, online. Up to 16 total members per group	
Reliability	Redundant, hot-swappable controllers; power supplies/cooling fans, and hot-swappable 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 Serial console Ability to configure a separate management network SNMP, telnet, SSH, HTTP, Web (SSL), host scripting Multi-administrator support	
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) PS6500E: Power consumption: 1000 VA, 1,400 Peak VA (operating maximum), Heat dissipation: 3,400 BTU per hour (maximum) PS6510E: Power consumption: 1030 VA, 1,400 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	
Dell Support and Optional Storage Service Offerings	1-Year Dell Basic Service³ is included with all EqualLogic purchases. This service covers essential telephone support during local business hours, service parts logistics available in the locality, and access to software/firmware updates. Service upgrades are available supporting faster response times, extended hours and escalation options. Dell Data Management Services help customers plan, design, implement and support an efficient data management strategy and ecosystem. This comprehensive suite of services provides flexible, personalized storage options that meet your company's specific business needs. Storage management costs and explosive data growth are top concerns for organizations—large and small. Our experts will build you a blueprint that addresses your company's storage issues today and in the future—providing fast time to value for your business. Rely on Dell to help you effectively manage your storage growth through simple and scalable service options that are right for your data, budget and business. Contact your Dell representative today for the answers to your storage challenges.	

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

²For a complete list of supported operating systems, please visit www.dell.com/equallogic/swsupport.

³Availability and terms of Dell Services vary by region. For more information, visit www.dell.com/servicesdescriptions.

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