



# Dell EqualLogic PS6010E

The Dell™ EqualLogic™ PS6010E is a virtualized iSCSI SAN that combines intelligence and automation with fault tolerance to provide your organization with simplified administration, enterprise performance and reliability, and seamless scalability. With SATA disk drives, the PS6010E delivers good cost-per-gigabyte and up to 32 TB<sup>i</sup> of high-capacity storage per array. The PS6010 features a redesigned controller with 2x the memory of previous generations. Add to that the increased throughput provided by 2 (two) 10GbE ports and the result is exceptional performance that can deliver real benefits to your organization.

## Exceptional ease of management

The Dell EqualLogic PS6010E is an intelligent storage array that is 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 your 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 growing storage needs.

The EqualLogic SAN line is designed to meet and exceed the rugged requirements of your data center. The PS6010E 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 PS6010E enables best practice storage for your organization. The EqualLogic PS Series arrays includes extensive 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 you with the following features:

**Management** | Microsoft® Active Directory Integration • Auditing of Administrative action • 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/O • 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 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 PS6010E 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.

Feature	Dell™ EqualLogic™ PS6010E
<b>Product Configurations</b>	
Storage Controllers	Dual 10GbE iSCSI controllers with a total of 4 GB <sup>1</sup> battery-backed memory Battery-backed memory provides up to 72 hours of data protection
Network Interfaces	Two (2) SFP+ per controller, One (1) 10/100 copper (optional management network only) per controller
Hard Disk Drives	Sixteen (16) SATA hot-pluggable hard disk drives (Eight (8) drive configuration available. Please contact your Dell Sales Representative for details)
Drive Capacities	7,200 RPM SATA II drives available in 500 GB <sup>1</sup> , 1 TB <sup>1</sup> and 2 TB <sup>1</sup>
System Capacities	From 4 TB <sup>1</sup> Minimum to 32 TB <sup>1</sup> Maximum
<b>Technical Highlights</b>	
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 <sup>1</sup>	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: 0.98 (minimum) PS6010E: Power consumption: 480 VA, 530 Peak VA (operating maximum), Heat dissipation: 1,640 BTU per hour (maximum) Power supplies: Dual 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 3,048 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: Sound Power Operating: <5.8 db LpA @ 20°C Air Quality: Airborne contaminant level of G2 or lower as defined by ISA-S71.04-1985
Physical	Height: 13 cm/5.12 in/3 EIA units Width: 48.26 cm/19.0 in/1EC Rack Compliant Depth: 55.1 cm/21.7 in Weight: 36 kg/78.6 lb (maximum configuration)
Dell Support and Optional Storage Service Offerings	<b>1-Year Dell Basic Service<sup>2</sup></b> 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.

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

<sup>2</sup>For a complete list of supported operating systems, please visit [www.dell.com/equallogic/swsupport](http://www.dell.com/equallogic/swsupport)

<sup>3</sup>Availability and terms of Dell Services vary by region. For more information, visit [www.dell.com/servicesdescriptions](http://www.dell.com/servicesdescriptions)

© 2011 Dell Inc. All rights reserved. Dell, the DELL logo, the DELL badge, EqualLogic, and Fluid Data are trademarks of Dell Inc. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Dell disclaims proprietary interest in the marks and names of others. This document is for informational purposes only. Dell reserves the right to make changes without further notice to any products herein. The content provided is as is and without express or implied warranties of any kind.

Simplify your storage at [Dell.com/PSseries](http://Dell.com/PSseries)

