



# Dell EqualLogic PS4100X

The Dell™ EqualLogic™ PS4100X storage array provides a balance of cost, performance and capacity for your organization with up to 21.6 TB of SAS storage in a 2U/2.5" drive solution.

## Performance and capacity where and when you need it

The EqualLogic PS4100X continues the EqualLogic tradition of performance scaling linearly with capacity.<sup>1</sup> With up to 60% IOPS improvements on typical workloads over previous-generation EqualLogic arrays<sup>2</sup>, the PS4100 Series is designed to grow with your data demands—all while providing simple management and seamless expansion using innovative Fluid Data™ technology. Dell doesn't just sell you more storage—Dell delivers comprehensive end-to-end solutions to help you store and manage your data so you can efficiently move the right data to the right place at the right time for the right cost.

## Modular design with enterprise reliability

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. PS4100 Series storage arrays include SAN configuration features and capabilities that sense network connections, automatically build RAID sets, and conduct system health checks. All 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 reliable PS4100X also includes fault-tolerant capabilities through use of fully redundant and hot-swappable controllers, fan trays, power supplies, and disk drives with hot spares, as well as vertical port failover.

## Feature-rich software portfolio

The EqualLogic PS Series arrays include innovative firmware and host software with no additional cost or software licensing fees. EqualLogic's latest firmware release offers new benefits to your organization so your hardware can continue to meet your current needs and be ready to grow with you as the demands of the virtual era increase:

- Enhancements to Ethernet with Data Center Bridging can provide deterministic performance and a converged SAN and LAN network, designed to greatly reduce or eliminate dropped packets

- Sub-volume auto-tiering with enhanced load balancing so you can optimize pool performance
- VMware® Thin Provisioning awareness for vSphere™ v4.1 designed to provide a new level of reliability using thin provisioned volumes and facilitate graceful data recovery

EqualLogic Host Software extends the functionality of the array-based software enabling cooperation with the host. Host Integration Tools for Microsoft®, VMware, and Linux® products as well as EqualLogic SAN Headquarters (SANHQ) management software are included with your EqualLogic array purchase.

## Find your storage solution

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.

<sup>1</sup> Based on 2011 internal Dell testing.

<sup>2</sup> Based on 2011 internal Dell testing comparing PS6100XV and PS6000XV with RW70/30, 4K and 8K I/O, 32 outstanding I/O, and RAID-50.

Performance and capacity for your remote or branch office data center

Feature	Dell™ EqualLogic™ PS4100X
Product configurations	
Storage controllers	Dual controllers with a total of 8 GB <sup>1</sup> backup cache data to flash memory for data protection
Network interfaces	Two (2) GbE copper, One (1) 10/100 copper (optional management network only) per controller
Hard disk drives	Twenty-four (24) 10K SAS hot-pluggable hard disk drives (Twelve (12) drive configuration available. Please contact your Dell Sales Representative for details.)
Drive capacities	2.5" 10,000 RPM SAS drives available in 300 GB <sup>1</sup> , 600 GB <sup>1</sup> and 900 GB
System capacities	7.2 TB <sup>1</sup> using twenty-four (24) 300 GB <sup>1</sup> 10,000 SAS disk drives 14.4 TB <sup>1</sup> using twenty-four (24) 600 GB <sup>1</sup> 10,000 SAS disk drives 21.6 TB <sup>1</sup> using twenty-four (24) 900 GB <sup>1</sup> 10,000 SAS disk drives
Technical highlights	
Volumes	Up to 256
Snapshots	128 per volume / up to 2,048 total per group
Volume connections per PS series group	Up to 256 per pool / 512 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. A maximum of two (2) PS4000 and PS4100 Series arrays can be in a group.
Reliability	Vertical port failover 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 700W (max, total), +5V up to 155W; +12V up to 624W; +5Vsb up to 10W Frequency: 50/60 Hz Power factor: 0.98 (minimum) Power supplies: Dual 700 W
Environmental	5° to 40°C (41° to 104°F) Storage temperature: -40° to 65°C (-40° to 149°F) For altitudes above 2950 feet, the maximum operating temperature is derated 1°F/550 ft Operating Relative humidity: 20% to 80% (noncondensing) with a maximum humidity gradation of 10% per hour Operational shock: Half-sine shock 31G +/- 5% with a pulse duration of 2.6ms +/- 10% in operational orientations only Operating Vibration: 0.26 Grms (5 to 350 Hz) for 5 minutes in operational orientations Acoustics Category 4: <=7.2 bels at 23C +/- 2C Airborne contaminant level of G1 or lower as defined by ISA-S71.04-1985
Physical	Height: 2U / 8.68 cm (3.41 inches) Width 44.63 cm (17.57 inches) Depth: 54.1 cm (21.3 inches) Weight: 24.49 kg (54 lb)
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, TB equals 1 trillion bytes and PB equals 1 quadrillion bytes; actual capacity varies with preloaded material and operating environment and will be less.

<sup>1</sup> For a complete list of supported operating systems, please visit [www.dell.com/equallogic/swsupport](http://www.dell.com/equallogic/swsupport).

<sup>2</sup> Availability and terms of Dell Services vary by region. For more information, visit [www.dell.com/servicesdescriptions](http://www.dell.com/servicesdescriptions).

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

