



Dell EqualLogic PS4100X/PS4110X

The Dell™ EqualLogic™ PS4100X and PS4110X storage arrays provide 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. The PS4110X also offers you increased throughput with 10GbE and the flexibility of using SFP+ or 10GBASE-T (copper) so you can leverage your existing infrastructure or build out lower-cost 10GBASE-T.

Performance and capacity where and when you need it

The EqualLogic PS4100X continues the EqualLogic tradition of performance scaling linearly with capacity.¹ With up to 67% IOPS improvements on typical workloads over previous-generation EqualLogic arrays², the PS4100 Series is designed to grow with your data demands—all while providing simple management and seamless expansion. And, the PS4110X provides the same capacity and density of the PS4100X with the throughput of 10GbE.

Enterprise power with everyday simplicity

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 and PS4110 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 seamlessly expand to meet your growing storage needs. The reliable PS4100X and PS4110X also include 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 sharing.

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 firmware offers benefits to your organization so your hardware can continue to meet your current needs and is ready to grow with you as the demands of the virtual era increase. Data Center Bridging can provide deterministic performance with a converged SAN and LAN network, designed to greatly reduce or eliminate dropped packets (available on 10GbE arrays only). PS Series arrays automatically tier data to optimize pool performance at the sub-volume level—delivering the right data to the right place at the right time.

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.

¹ Based on 2011 internal Dell testing.

² Based on 2011 internal Dell testing comparing configurations of up to 3 Dell EqualLogic PS6100XV arrays to Dell EqualLogic PS6000XV arrays running Firmware v5.1 with IOMeter and FIO test tools in Microsoft® Windows® and Linux® operating system environments with typical block sizes (4 and 8K) and read/write mix (70:30 or 80:20).

Performance and capacity for your remote or branch office data center

Feature	Dell™ EqualLogic™ PS4100X	Dell™ EqualLogic™ PS4110X
Product configurations		
Storage controllers	Dual controllers, each with 4GB ¹ memory for PS-Series firmware. Each controller provides cache to flash for data protection.	
Network interfaces	Two (2) GbE copper, One (1) 10/100 copper (optional management network only) per controller	10GbE connectivity with one (1) 10GBASE-T with RJ45, one (1) 10GbE SFP+ for fibre or twin-ax copper cabling, and one (1) 100BASE-TX dedicated management port 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 ¹ , 600 GB ¹ and 900 GB	
System capacities	7.2 TB ¹ using twenty-four (24) 300 GB ¹ 10,000 SAS disk drives; 14.4 TB ¹ using twenty-four (24) 600 GB ¹ 10,000 SAS disk drives; 21.6 TB ¹ using twenty-four (24) 900 GB ¹ 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 512 per pool/1024 per group	
Host protocol	Any standards-compliant iSCSI initiator	
OS supported ¹	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 3.5/4/4.1/5, 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, PS4100, and PS4110 Series arrays can be in a group.	
Reliability	Vertical port sharing 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)	Height: 2U/8.68 cm (3.41 inches) Width 44.63 cm (17.57 inches) Depth: 54.1 cm (21.3 inches) Weight: 25.4 kg (56 lb)
Rack support	Dell ReadyRails™ sliding rails for square-hole 4-post and 2-post racks 1U/2U rail attachment brackets, designed to enable PS arrays to snap into place with screws or other hardware Dell VersaRails sliding rails for 4-post and 2-post racks 1U/2U rail attachment brackets, designed to enable PS arrays to be mounted in racks whose posts have round holes	
Dell Support and Optional Storage Service Offerings	1-Year Dell Basic Service² 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.	

¹ 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.

¹ For a complete list of supported operating systems, please visit www.dell.com/equallogic/swsupport.

² Availability and terms of Dell Services vary by region. For more information, visit www.dell.com/servicesdescriptions.

Simplify your storage at Dell.com/PSseries

