InfoWorld
2011
TECHNOLOGY
OF THE YEAR
AWARDS

Unified, virtualized IP-based storage

Efficient consolidation for the virtual era

Simplifying IT

Dell™ EqualLogic™ unified, virtualized IP storage is ideal for fast-growing companies and organizations. EqualLogic's frameless, peer storage architecture enables live, non-disruptive firmware upgrades and maintenance, as well as linear scaling of capacity and performance with each array added to the group. Advanced integration with leading operating system, hypervisor and application platforms helps streamline operations, optimize resources, and protect data in Microsoft®, Linux®, and VMware® environments. A groundbreaking, all-inclusive software model allows access to the latest product features, and enables multiple generations of EqualLogic PS Series and the new FS7500 to work seamlessly to provide file and block access from a single, virtualized pool.

The Dell Difference:

Seamless scalability

- Live, online, array-based expansion eliminates the need for maintenance downtime
- Frameless, peer storage architecture simplifies growth through linear scaling of performance, throughput and capacity
- Persistent design and all-inclusive software policy enable multi-generational storage pools

Virtualized operations

- Advanced intelligence to automate device discovery, configuration, security, provisioning, and RAID management operations
- Automated load balancing across SAN resources
- Consolidated management across arrays
- Flexible, automated storage-tiering features

All-inclusive software model

- All software features available to all customers with active support contracts; new feature activation requires no additional purchase of licenses
- Bundled features include virtualized storage tools, OS and application platform integration modules, management and monitoring tools, data protection features, and backup and recovery tools

Integration-based optimization

- Advanced integration tools for VMware, Microsoft® Windows® and Linux® server environments
- Application-aware data protection for Microsoft® SQL Server®, Exchange Server, Hyper-V® and VMware® vSphere™ platforms

EqualLogic unified, virtualized IP-based storage
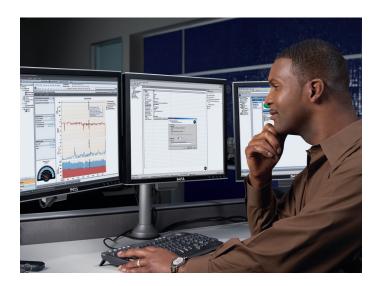
Exceptional ease of management

EqualLogic storage is designed to provide rapid deployment, simple management and seamless expansion. All EqualLogic storage products include host integration tools to simplify operation in Microsoft Windows, Linux and VMware environments. A browser-based Group Manager interface helps streamline management, while application-layer integration helps simplify storage operations supporting industry-leading virtualization and database platforms.

Enterprise-class performance

A breakthrough, scale-out architecture gives EqualLogic storage performance and scalability once reserved for top-tier data centers, enabling best-practice storage for every size organization. Automated storage tiering, built upon solid state, SAS and nearline SAS disk technologies, migrates data automatically across storage tiers to optimize performance.

Unified, virtualized storage

With its unified, virtualized architecture, EqualLogic enables organizations to manage both block- and file-based storage in a group — through a single GUI instance — that can seamlessly grow to up to 2 PB[1] in capacity, providing flexibility and operational ease for any mix of structured application data and unstructured file data.

"With the EqualLogic virtualized architecture, BMC can add different arrays for three or more tiers of storage within a single SAN for the different application requirements. At the same time, it can flexibly expand the SAN on demand and move volumes on the fly between tiers without any disruption to the application."

—Joseph Ciccolo
  Systems Manager for
  Information Technology
  Boston Medical Center

Exceptional lifecycle economics

EqualLogic solutions represent a breakthrough in storage economics, from purchase to operation and upgrades. A cornerstone of Dell Fluid Data™ solutions, EqualLogic gives you the power to do more by helping you get the most from your data across its entire lifecycle. Its innovative implementation of the standard, IP-based iSCSI protocol enables both extensive virtualization and excellent return on investment. In addition to the comprehensive software bundled standard with each array, EqualLogic storage scales easily, on-demand and online, enabling storage growth without costly application disruptions, lengthy service engagements, or forklift upgrades. The all-inclusive EqualLogic software policy even enables multiple generations of hardware to run the latest firmware in a single, unified storage pool. As a result, EqualLogic storage provides exceptional flexibility at a low total cost of ownership.

EqualLogic PS and FS Series Virtualized Storage

Dell EqualLogic PS Series iSCSI SAN arrays

	PS6010 Series	PS6510 Series	PS6500 Series	PS6100 Series		PS4100 Series	
Best for	10GbE enterprise environments	GbE enterprise environments				GbE branch office and small- to medium-business environments	
Chassis Height	3U	4U	4U	2U	4U	2U	2U
Network Connectivity	10 Gb Ethernet	10 Gb Ethernet	4 x 1 Gb Ethernet	4 x 1 Gb Ethernet	4 x 1 Gb Ethernet	2 x 1 Gb Ethernet	2 x 1 Gb Ethernet
Maximum Raw Array Capacity	32 TB	96 TB	96 TB	13 TB	72 TB	21.6 TB	36 TB
Number of Drives	8 or 16	48	48	12 or 24	12 or 24	12 or 24	12
Drive Options	Hybrid SSD & 15K RPM SAS; 7.2K RPM SATA II	15K RPM SAS; 10K RPM SAS; 7.2K RPM SATA II	10K RPM SAS; 7.2K RPM SATA II	SSD; Hybrid SSD & 10K RPM SAS; 15K RPM SAS	15K RPM SAS; 7.2K RPM NL-SAS	15K RPM SAS	15K RPM SAS; 7.2K RPM NL-SAS
Cache	4 GB battery-backed memory			8 GB cache-to-flash memory for data protection			

Dell EqualLogic FS7500 Scale-out NAS solution

Feature	Description
Protocol support	CIFS (SMB 1), NFSv3, NDMP, SNMP, NTP, iSCSI, Active Directory, LDAP, NIS
Storage arrays supported	New or existing EqualLogic PS Series arrays with firmware version 5.1 or higher
Storage nodes	Dual controllers operate in an active-active environment mirroring the system's cache Each controller contains 24 GB of memory protected by the EqualLogic FS7500 backup power supply
Expansion capability	Up to two FS7500 nodes per EqualLogic group; up to eight EqualLogic PS Series arrays per FS7500 node
Management	EqualLogic Group Manager graphical user interface, CLI interface
Front-end NAS connectivity	Four 1 Gb IP ports per node for front-end CIFS/NFS connectivity
Backend storage array connectivity	Four 1 Gb IP ports per node for back-end iSCSI connectivity
Snapshot capacity	Up to 10,000 per EqualLogic group

PS Series array software features

Management	Data protection	Storage virtualization	Maintenance
• Browser-based Group Manager • Roles-based management • LDAP and Microsoft® Active Directory integration • Flexible scripting options (Perl, Python, Powershell, CLI)	• Space-efficient snapshots • Multi-way replication • Clones & template-based thin clones	• Port virtualization • Thin provisioning • Auto-load balancing & tiering • Storage pool-based partitioning • Online array decommissioning	• Email home/email alerting • Detailed audit logging • Enclosure monitoring system

PS Series host software features

Microsoft® integration	VMware integration	Linux integration	SAN Headquarters

• Auto-Snapshot Manager for Microsoft (Hyper-V™, Exchange®, SQL Server and Windows® file systems)
• VSS and VDS providers
• Enhanced MPIO
• Remote Setup Wizard
• Powershell tools
	• Host Integration Tools for VMware vSphere Plugin
	  - Datastore Manager
	  - Virtual Desktop Deployment Utility
	  - Auto-Snapshot Manager for VMware
	• Storage Replication Adapter for VMware SRM
	• Enhanced MPIO (Mutipathing Extension Module)
		• Enhanced MPIO
		• Tuning & log-gathering utilities
		• Remote Setup Wizard
			• Utilization & performance monitoring
			• Multi-site, multi-group monitoring
			• Events and alerts
			• Formatted reports, graphs and archives

[1] Maximum NAS capacity is 509 TB.

Simplify your storage at Dell.com/PSSeries