



Solution Brief

Dell EqualLogic blade arrays add efficiency and manageability to converged architectures

Organizations that need integrated, modular IT solutions can achieve intelligent storage consolidation with the Dell EqualLogic PS-M4110 blade array. Specific benefits include:

- Complete integration of server, storage and switching functions within a compact Dell PowerEdge M1000e blade chassis
- Reduced operating cost, through integrated storage intelligence, automated self-tuning and simplified management
- Improved efficiency and data protection, through pre-integration with industry-leading OS and application platforms
- Increased resiliency through advanced features provided standard, no additional licenses
- Broad flexibility to align storage technologies with application workloads to suit performance and efficiency goals

Growing numbers of organizations have adopted blade server architectures to help maximize productivity, simplify management and increase networking efficiency. Blades-based integration of server, switching and storage functionality helps organizations simplify management, reduce cabling, and deploy and expand application clusters quickly, in a flexible, modular approach.

Even at their most basic, storage blades can offer capacities approaching those of external, rack-mounted storage arrays, while taking advantage of backplane connectivity and chassis-based power and cooling. Yet though many storage blade products address small-footprint and cabling goals, they may do little to simplify solution-level operations. Even virtualization offers no panacea for complexity. Architecting and deploying virtualized infrastructures can require a great deal of up-front labor, including cabling, interoperability validation and network planning. Once cut over, although virtualization can enable a varied mix of applications within a single blade chassis, this efficiency can be undermined if each application brings a different storage requirement.

Fortunately, organizations now have the option to apply intelligent virtualized storage blade technologies to converged architectures. The Dell EqualLogic PS-M4110 blade array combines the ease-of-use advantages of all EqualLogic PS Series virtualized storage arrays with the form-factor advantages of a Dell PowerEdge M1000e system blade. All EqualLogic features come standard on the PS-M4110 blade array; users with valid support contracts can download new releases as needed, and turn individual features on or off at any time. By applying virtualized blade storage to blade servers, organizations can architect solutions that can provide higher levels of application support; automate operations more broadly across server, switching and storage functions; and better maximize data center productivity.

Pre-integration with OS and application platforms streamlines testing and pilot implementations

Blade servers offer a means to build integrated application solutions for quick test and pilot deployments, and then for easy scaling during subsequent expansion and broad rollout. Many organizations deploy these converged application solutions to run strategic applications on virtual machines (although use cases for physical servers also abound). Organizations that architect and deploy such converged solutions using EqualLogic PS-M4110 blade arrays benefit from integration with industry-leading operating systems and application platforms. These include Microsoft® Windows Server and Hyper-V, Microsoft SQL, Microsoft Exchange, Linux, and VMware® vSphere. This integration improves the seamless alignment of storage and compute environments and enables storage management through both server and VM management interfaces.

The high level of automation engineered into EqualLogic blade arrays can be especially vital for successful virtualization rollouts. Such rollouts usually require a systematic retooling of processes, so the ability to consolidate management across servers, storage and switching helps add operational flexibility. This flexibility is particularly important for virtual desktop deployments, where organizations tend to start with limited pilot programs, and then expand production desktops in phases.

Intelligent storage helps reduce ongoing maintenance

Blade-based infrastructures unify management of multiple IT functions, making them essential for dynamic startups and other organizations with lean IT teams. The value of Dell EqualLogic PS-M4110 blade arrays goes well beyond this, however, due to their unique, iSCSI-based virtualization. The EqualLogic blade array can significantly reduce administrative burdens through advanced intelligence that automates a variety of storage tasks. IT generalists working with Dell PowerEdge M1000e blade systems can easily manage multiple EqualLogic blades as a virtualized storage resource. These generalists can also easily monitor performance and analyze configuration options using SAN Headquarters, an interface that displays resource use in both near-real time or as trended data. In addition, automated storage tiering and continual self-tuning of performance and efficiency on the EqualLogic blade array can eliminate much of the day-to-day management burden associated with other storage solutions.

Application-consistent data protection features help increase resilience

Another benefit of application-layer storage integration – application-aware data protection – can help organizations improve application availability and business continuity. Dell EqualLogic PS-M4110 blade arrays come with the same all-inclusive feature licenses supported on EqualLogic rack-mounted models. Users can easily protect data with snapshots or clones, either on command or as automated, scheduled operations. Organizations that work with testbeds, VM farms or virtual desktops can use EqualLogic thin clone capabilities to speed the process of duplicating environments or creating standard templates.

Organizations can also use EqualLogic replication features under this all-inclusive features policy. Replication can greatly simplify the design and implementation of offsite data protection or centralized backup processes for converged application clusters. For example, organizations can deploy converged application solutions running mission-critical Microsoft SQL or Oracle databases in pairs, and use EqualLogic replication to automate disaster recovery or to consolidate data centrally.



Dell EqualLogic unified, virtualized PS-M4110 blade array can help organizations realize the full potential of blade architectures.

Flexible technology options to suit highly efficient, integrated solutions

Customers of Dell M1000e blade chassis can choose from among several drive technologies supported on EqualLogic PS-M4110 blade arrays, including SSD, SAS and NL-SAS drives. The EqualLogic PS-M4110 even offers a hybrid configuration option that combines SSD and 10K SAS drives. The unique automated tiering characteristics of the EqualLogic PS-M4110XS hybrid blade array can help boost performance for workloads presented by virtual desktops, online transactional processing (OLTP) databases, and other complex workloads

typically deployed in a blade environment.

This flexibility, coupled with blade-based intelligence, platform integration, and the all-inclusive Dell EqualLogic features bundle, gives enterprises and organizations the tools to realize the full value of their blade architectures.

For more information, go to www.dellstorage.com/data-consolidation

