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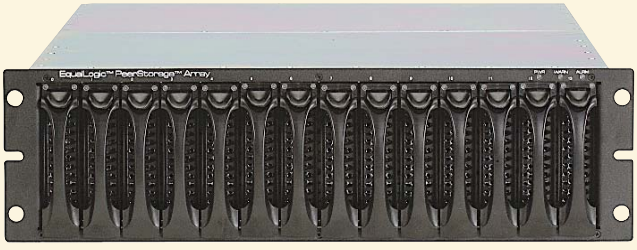
# EqualLogic offers storage versatility

**REVIEW:** PEERSTORAGE ARRAY 100E TAPS ISCSI FOR AFFORDABLE SCALABILITY, HIGHER CAPACITY

**By Henry Baltazar**




**EqualLogic's iSCSI-based PeerStorage Array 100E storage system readily expands as a company grows, and it's easy to deploy.**

EQUALLOGIC INC.'S PEERSTORAGE ARRAY 100E IS A VERSATILE iSCSI-based storage system that can grow to meet the storage needs of small and midsize IT organizations.

Given that IP networking and management are more familiar to most enterprises than Fibre Channel SANs (storage area networks), the PeerStorage Array could be an attractive alternative solution for IT shops that don't need the high performance of Fibre Channel.

In eWEEK Labs' tests, we found that the PeerStorage Array 100E, which shipped last month, was fairly easy to implement and manage.

The PeerStorage Array 100E is priced at $40,000 per array, with fully redundant dual controllers and power supplies and 3.5 terabytes of raw storage capacity. This generous storage capacity makes the PeerStorage Array 100E a bargain, especially when you consider the functionality of the included storage management software.

Because the PeerStorage Array 100E is an iSCSI-based system, it can be added to a network using standard off-the-shelf IP networking gear. (To maximize performance, EqualLogic strongly encourages using Gigabit Ethernet with jumbo frames enabled.)

Another benefit of iSCSI is that it gives the PeerStorage Array 100E added security because iSCSI clients can be required to provide credentials before they're allocated storage resources.

CHAP (Challenge Handshake Authentication Protocol) can be provided by the PeerStorage group or an external RADIUS (Remote Authentication Dial-In User Service) server.

This additional level of security is necessary because IP is a more open and well-known network (when compared with Fibre Channel SANs). IP's popularity makes it familiar to IT staffs but also makes iSCSI storage systems attractive targets for hackers and disgruntled employees.

The PeerStorage Array 100E uses Serial ATA hard drives, which are inexpensive and offer high capacity but usually sacrifice performance and reliability compared with SCSI and Fibre Channel drives.

Our test unit was equipped with 7,200-rpm drives, but with the firmware upgrade that was released this month, the PeerStorage Array 100E can support speedier 10,000-rpm drives for high-performance applications.

The PeerStorage Array 100E sets aside two spare disks in each array unit. When a disk fails, the storage unit configures the spare disks to replace the failed ones without user intervention.

## Fast SAN setup

THE PEERSTORAGE ARRAY 100E is marketed as a 20-minute SAN solution, which we found to be a surprisingly accurate claim. It was easy to get the PeerStorage Array 100E up and running, even when using the command-line interface to begin the basic setup process (giving the storage unit its name and IP address and establishing a management group).

After initial configuration, we used the Web-based management interface to set up volumes and RAID protection levels (RAID 50 and RAID 10 are supported) on our PeerStorage Array 100E.

The Web-based interface was easy to navigate, and we used it to check diagnostic information and configure advanced functions, including snapshots and replication.

Things got really interesting when we added a second PeerStorage Array 100E

### EXECUTIVE SUMMARY

**PeerStorage Array 100E** EqualLogic's PeerStorage Array 100E is a powerful iSCSI-based storage system that has strong scalability and manageability built in. With included replication and snapshot technology, the PeerStorage Array 100E can keep data protected locally and over a WAN. The PeerStorage Array 100E is priced starting at $40,000. More information is available at www.equallogic.com.

**KEY PERFORMANCE INDICATORS**

| | |
|---|---|
| USABILITY | GOOD |
| CAPABILITY | GOOD |
| PERFORMANCE | GOOD |
| INTEROPERABILITY | GOOD |
| MANAGEABILITY | EXCELLENT |
| SCALABILITY | EXCELLENT |
| SECURITY | GOOD |

+ Easy to implement; traffic can be managed using standard IP tools; useful built-in data protection. − Doesn't support storage management standards yet; replication doesn't have bandwidth control.

**EVALUATION SHORTLIST** • LeftHand Networks Inc.'s Network Storage Module • Nexsan Technologies Inc.'s ATAboy2

to our peer group. Installing a second array was easy, and it automatically triggered EqualLogic's unique load balancing capabilities.

When we added the unit to our group, volumes we had created earlier were split across two (for example, a 500GB volume divided into two 250GB volumes on two separate units). Thanks to this load balancing scheme, it was fairly easy for us to keep one system from getting overworked.

The PeerStorage Array 100E includes an auto-replication feature, which allows IT managers to replicate data over a WAN to standby units for redundancy.

However, the feature does not allow a tape preload, so we recommend IT managers stage the initial replication locally first for large volumes before moving the targets offsite. After the initial synchronization, the auto-replication feature sends over only delta changes, which should optimize bandwidth use.

The auto-replication feature was easy to set up and useful in tests. We did notice, however, that it had no bandwidth-throttling controls. Because the auto-replication function runs on standard IP, EqualLogic recommends that bandwidth-sensitive enterprises use the QOS (quality-of-service) capabilities they have in their IP networks to make sure the auto-replication feature doesn't consume all available bandwidth.

For local protection, the PeerStorage Array 100E also has built-in snapshot capabilities for quick restores.

The PeerStorage Array allows instant and scheduled snapshots. The snapshot feature can be handy because it enables IT managers to roll back data volumes and erase accidental data corruption events.

Cloning is another standard feature on the PeerStorage Array 100E. It lets IT managers make image copies of volumes. Cloning makes it possible to replicate system images so that new systems can be rapidly deployed in environments such as Web farms and blade server groups.

To connect it to Windows Server 2003, we had to download Microsoft Corp.'s iSCSI client and install it on all our test servers—a process that isn't difficult but could be time-consuming for organizations that don't have software distribution tools in place.

## Software scarcity

ALTHOUGH THE PEERSTORAGE Array 100E is easy to manage, we don't expect SAN management software vendors to rush to support EqualLogic's products because the vendor is still fairly new.

This could be a hindrance to IT shops that are trying to standardize basic SAN and storage management to third-party software packages from vendors such as AppIQ Inc. and CreekPath Systems Inc.

The PeerStorage Array 100E currently doesn't support CIM (Common Information Model), and storage management standards for iSCSI have not yet been established by the Storage Networking Industry Association. EqualLogic's product road map indicates the company will support SNIA (Storage Networking Industry Association) iSCSI standards when they become available.

On the plus side, because the storage traffic going to and from PeerStorage Array 100E units runs over IP, IT managers can use standard IP tools to monitor and manage the storage network.

Telnet, SSH (Secure Shell) and SSL (Secure Sockets Layer) can be used to access and manage PeerStorage Array 100E units. e

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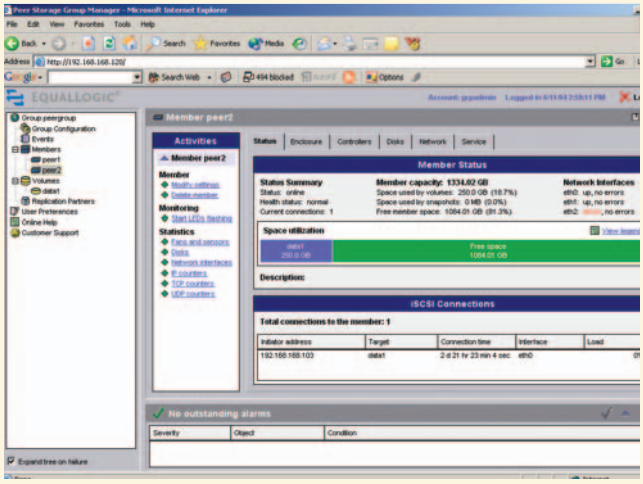

**The PeerStorage Array 100E's Web-based management allowed us to manage and allocate storage resources quickly.**

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