Storage Capacity and Performance Optimization at Mizuno USA

In This Paper

- Mizuno USA needed to upgrade its SAN infrastructure to replace an aging EqualLogic system
- Data growth was also causing problems for Mizuno USA's backup processes
- Mizuno USA turned to Tegile storage technology to solve both the SAN and backup issues
Mizuno USA is a leading provider of sporting goods, apparel, and gear in the United States. The Mizuno brand originated in Japan, where Mizuno has been in the sporting goods business for more than 100 years. In the United States, Mizuno USA sells equipment used in golf, baseball, softball, volleyball, and soccer.

The IT infrastructure at Mizuno USA includes:

- Three data centers, two of which are considered primary
- Both primary data centers are production and backup for each other
- A plan to replace one data center in the next 18 months
- The environment is 98 percent virtualized with approximately 220 virtual machines on VMware 5.1 running at both primary data center locations

**Challenge No. 1: Upgrading the SAN Infrastructure**

Mizuno USA was using an EqualLogic SAN, but Mizuno USA was concerned about how efficiently it used available capacity, whether it would scale to meet future demand, and what the future held for the EqualLogic products since the company was acquired by Dell.

Mizuno USA spent seven months exploring SAN options, including two initial evaluations. One option was from a very large storage vendor that wanted to sell Mizuno USA a system of components and software. The solution felt too complex, and when pricing information took three weeks to arrive, Mizuno USA decided to keep looking.

Hybrid SAN solutions that use both flash and disk storage offered more capacity and better performance, and Mizuno USA liked the fact that hybrid SAN solutions seemed to be all inclusive, with no need to add additional software or components.

Mizuno USA chose Tegile to replace the SAN because it featured the best performance and storage capabilities for the price. Tegile’s product also offers multi-protocol support and features deduplication without performance overhead. Mizuno USA also saw in Tegile a product with an exciting roadmap and a way to improve poor SQL performance that was becoming an issue.

Mizuno USA deployed Tegile boxes in each primary data center and replicated between them. The deployment initially consisted of one “shelf” and one controller in each location.

Results of the initial Tegile deployment included:

1. **Better performance**: Mizuno USA no longer had concerns about the performance of its applications
2. **Sufficient storage capabilities**: for now and the foreseeable future
3. **Ability to replicate and snapshot data** on a continual basis
Challenge No. 2: Data Growth Negatively Impacting Backups

Like many organizations, Mizuno USA was also suffering from a deluge of data, created in part because it is easy to create and deploy virtual machines. Mizuno USA had outgrown its offsite backup solution and was looking for an easy-to-manage backup solution that could run in house and help control costs.

Mizuno USA chose backup software from Veeam, but very quickly noticed the backup process continued to struggle. The disk-based backup target with deduplication wasn't deduplicating as much as Mizuno USA expected and it filled too fast and ran too slow. As a result, full backup jobs were running for longer than an entire weekend.

Mizuno USA took stock of the backup solution and decided it liked the backup software from Veeam, which had the functionality and options Mizuno USA wanted. Veeam's solution could, for example, run backups of Mizuno USA's VMware environment at the host level.

The problem was the backup target, which wasn't nearly as efficient as it needed to be to take advantage of the Veeam functionality. In need of a new backup target, Mizuno USA decided to expand its investment in Tegile, which had customers using its technology alongside Veeam.

Deploying Tegile and Veeam together allowed Mizuno USA to split its disaster recovery and backup functions. Tegile could replicate between facilities for a full recovery in case of disaster, while the combination of Veeam and Tegile could backup locally to increase speeds and enable faster restores.

The result of the Tegile and Veeam deployment was a substantial reduction in backup failures and a reduction in the backup window. Full backups were now completed in 10 to 12 hours and nightly incremental backups took as little as five minutes.

Tegile: Flash-Driven Storage

Tegile refers to itself as a “flash-driven storage vendor.” The company sells all-flash and hybrid arrays and features the industry's only unified flash and flash hybrid system with inline deduplication. Tegile's solution works with multiple protocols (SAN and NAS) and its inline deduplication works before data hits the cache, boosting performance for all I/Os.

Customers can expect to gain four advantages when using Tegile's storage solutions:

1. Performance
2. Data reduction
3. Multi-protocol support (block and file level simultaneously, with Fibre Channel and iSCSI for block and NFS and CIFS/SMB for file)
4. High availability
Veeam: Protection for the Modern Data Center

From a data protection standpoint, Veeam can help customers with:

- High-speed recovery
- Risk elimination
- Verified protection
- Complete control
- Data loss avoidance

From a recovery perspective, Veeam’s technology includes instant VM recovery, which allows users to take an image level copy of backup Veeam creates and make what amounts to a “spare tire” for VMs. Simply replace the dead VM with the copy and it’s done.

Veeam backup and replication not only backs up the files, it backs up the entire VM. It has the ability open up a Microsoft Exchange Server database, for example, and recover the information users need to restore, such as an email, calendar item, or mailbox without having to restore the entire database.

From a risk elimination perspective, Veeam allows “sandboxing” for backups and replicas. Users can run tests to ensure their backups and replicas are in working order. The monitoring and reporting solution, Veeam ONE, goes beyond the standard features like alerts and alarms. It is all-encompassing of the user’s virtual infrastructure.

Veeam provides users with a 2-in-1 tool for data loss avoidance. It is backup and replication that includes built-in WAN acceleration and the ability to offload data to tape. Veeam features support for multiple hypervisors and its host-based replication can be used for disaster recovery.

From an architectural perspective, Veeam consists of a backup server that runs the Veeam software on a 64-bit Windows server (virtual or physical). Key components include a proxy, which is a Windows service that does the compression and deduplication during the backup process.

You can hear more about the challenges facing Mizuno USA and the features of the Tegile and Veeam solutions by watch an on-demand eSeminar at: www.eseminarslive.com/past-events/Tegile-052114.

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