



Stewardship Solutions

"FalconStor NSS technology gives us the ability to meet the interests of our company, especially in terms of being able to provide rapid recovery for our most critical systems."

– Richard Plank, Server Administrator, Mennonite Mutual Aid

Mennonite Mutual Aid

Falconstor NSS allows financial institution to fully harness the strengths of VMware, transitioning from a sprawling server environment with DAS to a tiered, virtual infrastructure with a remote DR site

Background

Mennonite Mutual Aid (MMA), headquartered in Goshen, IN, helps members of the Mennonite Church denomination to integrate their finances with faith values by providing a range of financial and insurance products. Offering its members insurance, banking, investments, and financial advice, MMA serves both individuals and affiliated organizations.

Challenge

MMA operates a multi-platform environment including Microsoft Windows and IBM iSeries (AS400) servers. The Microsoft Windows platform is used for various applications, file and print services, and web hosting. The IBM machines are used to manage both client- and coverage-related data for the company's primary products.

According to Richard Plank, Server Administrator, MMA had several challenges. For starters, the company's outdated backup process was a major impetus for infrastructure change. Data on the IBM servers was backed up to tape with 3590 tape drives. On the Microsoft Windows side, two CA ARCserve hosts were used to back up to Cybernetics disk-to-disk-to-tape (D2D2T) storage devices. LTO-3 tape drives attached to the Cybernetics units wrote virtual tapes to physical tapes. Tapes for both server platforms were physically taken offsite for DR purposes. Because they were not encrypted, security was a huge concern. Although the system was functioning adequately, the backup window was impacting production. In addition, MMA was running out of Cybernetics capacity and faced a major forklift upgrade.

Another problem was significant server sprawl, resulting in more than 60 physical Microsoft Windows servers. But the real trigger for change was a management directive reducing recovery times for certain critical applications to four hours. This required looking at the infrastructure in a totally new way, since previous recovery time objectives (RTOs) often exceeded five days.

FalconStor Solution

To address these challenges, Plank and his team took the logical first step of classifying applications and servers into tiers based on RTOs. Tier 1 would be configured with four-hour RTOs, while the remaining tiers could tolerate days before recovery. The Tier 1 servers included the web hosting environment, which had recently been revamped to bring website management in-house, and two applications heavily



Industry

Finance

Company Profile

Founded in 1945 and headquartered in Goshen, IN, MMA helps people and groups integrate their finances with faith values through its insurance and financial services. Rooted in the Anabaptist faith tradition, MMA also offers practical stewardship education and tools to individuals, congregations, organizations, and businesses.

IT Environment

- > VMware ESX Server
- > Microsoft Windows, IBM iSeries AS400 servers
- > CA ARCserve backup to Cybernetics High Speed Tape Cache
- > InforTrend storage arrays
- > IBM WebSphere, Lotus Domino, Agility CRM, OnBase document management

IT Challenges

- > Ensuring business continuity, high availability for critical applications
- > Reduce RTO for top-tier applications
- > Backup window impacting performance
- > Tape security concerns
- > Forklift upgrade for D2D2T backup capacity
- > Server proliferation

Solution

- > FalconStor® Network Storage Server (NSS)

Benefits

- > High availability; RTO reduced from 5 days to 4 hours
- > Continuous data protection
- > Consolidated, virtual infrastructure
- > Flexibility
- > Improved productivity

used by the sales force: Agility for customer relationship management and OnBase for document management. There was a strong push from management to ensure that the website and these applications were not only highly available, but performing optimally, unaffected by backup operations.

Working with their trusted partner, MapleTronics Computers, the MMA team implemented a new solution to virtualize their storage and servers. Plank explains, "Our project started with consolidating storage. It was the SAN vendors who suggested server virtualization because they said it would really improve our DR."

The focus so far has been on Tier 1 applications, with the additional tiers being virtualized over the course of a year. "We chose the virtual server route because it works very well with consolidated storage," Plank says. "Once you have that in place, it leads you to the next step of establishing a DR site because of the replication capability that the SAN provides."

Plank and his team looked at many Fibre Channel (FC) and iSCSI storage solutions to start this process, including the FalconStor® Network Storage Server (NSS) solution. MMA was particularly impressed by the way in which FalconStor NSS separates the gateway server from physical storage devices. The MMA team selected FalconStor NSS because of its innovative data protection features, including FalconStor MicroScan™ technology, which reduces the amount of data sent over the WAN during replication.

Because virtual storage and servers were implemented simultaneously, Plank was able to use VMware ESX Server and the FalconStor NSS gateway solution to provision servers for in-house web hosting. With MapleTronics assisting in the physical-to-virtual (P2V) conversion, MMA was immediately able to eliminate a dozen physical servers from the test and development environment, followed by an additional 18 servers for the web hosting environment.

Deployment Details

MMA's primary site includes a pair of FalconStor NSS gateway appliances (primary and failover) atop two InforTrend storage arrays: 1) a primary storage array with 3TB of serial-attached SCSI (SAS) drives, and 2) a secondary storage array with 10TB of near-line SAS drives. The primary array is used to provision LUNs for virtual servers in the production environment using two VMware ESX clusters. FalconStor NSS mirrors these LUNs to the secondary storage array and creates primary LUN snapshots on it. As more servers are virtualized, more secondary storage will be used to provision LUNs for new virtual machines.

The DR site, hosted by MapleTronics, includes a pair of VMware ESX servers, a FalconStor NSS gateway appliance, and a 14TB near-line InforTrend array. With FalconStor NSS, LUNs for critical Tier 1 servers are replicated to the DR site. As more servers are virtualized, their storage will also be replicated to the DR site.

Business Benefits

MMA is pleased with the results of the solution, particularly the speed in which it can provision new servers, which improves productivity and flexibility in the storage environment. The virtual storage/virtual server infrastructure also enables IT staff to complete security patch installations from home over the VPN and reboot servers in seconds, saving time and resources. "It's opening up new ways to think about how we do business and how IT actually supports the people we serve in the company," observes Plank.

FalconStor MicroScan technology reduces the amount of data sent over the WAN during replication, minimizing bandwidth and storage requirements. "While we don't have any actual benchmarks yet, we have noticed that FalconStor MicroScan reduces the amount of data transferred by 4:1 to 10:1," Plank says.

Marty Lantz of MapleTronics states, "A big advantage on the FalconStor side is its link with VMware through the FalconStor Storage Replication Adapter (SRA) product for VMware Site Recovery Manager. It's obvious that FalconStor has a very tight relationship with VMware, and that the products perform extremely well together." Lantz thinks of storage as the virtualization foundation, adding, "What came out of this project for MapleTronics was an affirmation of what we thought all along — that centralized, virtualized storage is the framework on which to build your whole virtual environment."

From Plank's perspective, the FalconStor NSS implementation enables his team to meet the interests of the company, and in turn enables the company to meet the interests of its customers. "It's important for us to provide a highly available environment and complete business continuity, and FalconStor technology makes that happen. Our customers come to MMA because they trust us, and we take that very seriously."

Future Plans

As more servers are virtualized, MMA's storage will also be replicated to the DR site. The plan is to eventually eliminate tape backup for DR, instead making the remote data center a hot site. For this reason, MMA has recently purchased the FalconStor Virtual Tape Library (VTL) solution to replace the 3590 tape drives for the IBM iSeries servers. Preliminary testing indicated that FalconStor VTL provides the ability to back up large files in as little as 1/10 the time as the current backup system. MMA plans to leverage FalconStor VTL to cut its backup window in half.

When implementation is complete, the data will be replicated to the FalconStor VTL at the DR site. Plank expects that most of the Microsoft Windows backup will be replaced by FalconStor snapshot and replication technology. With the FalconStor solutions fully in place, MMA will be able to eliminate physical transport of unencrypted tapes and the need for traditional tape backup as a primary DR strategy.

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