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Go further, faster

## Success Story

# TruWest Gets It Done Twice as Fast, More Economically, and in Half the Space with XenServer on NetApp



Another NetApp solution delivered by:

**TRACE|3**



### KEY HIGHLIGHTS

#### Industry

Financial services—banking

#### The challenge

Consolidate storage for better performance, manageability, flexibility, and server virtualization

#### The solution

Standardize on NetApp for fast provisioning, business agility, and efficiencies in a Citrix XenServer environment

#### Benefits

- Deploy Check 21 service twice as fast
- Support 25% growth in less than half the rack space
- Reduce data center BTUs by more than 27%
- Shrink RPO from 24 hours to less than 1 hour
- Reduce RTO from days to hours
- Avoid \$64K in new capex

### CUSTOMER PROFILE

Arizona-headquartered TruWest Credit Union is a not-for-profit financial cooperative that offers its members a wide variety of loan and deposit products and services. The credit union operates nine branch locations in the metropolitan Phoenix area and four in Austin, Texas. More than 68,000 members take advantage of credit union services. In 2008, the organization recorded \$58.5M in revenue and more than \$774M in total assets. ([www.truwest.org](http://www.truwest.org))

### THE CHALLENGE

#### Consolidate storage for better performance, flexibility, and server virtualization

Even as news of banking crises swirls through the industry, TruWest Credit Union consistently weathers the storms, standing out as a financially sound institution with strong annual results and a track record of first-class member service and high-quality products. TruWest succeeds with a dogged focus on cost control and a commitment to maximizing earnings delivered to member-owners in the form of lower loan rates, reduced fees, and higher interest on deposits.

TruWest's focus on efficiency and value extends to IT services. Tom Gessel, senior vice president and chief technology officer at TruWest, says that such responsibility can be

challenging in a fast-growing business.

"Loan volume has grown by 25% year over year, and our customer base by 10%. Five years ago we supported a handful of critical applications running on a dozen servers. Since then we've expanded the product line, customer base, and our application environment. To support a higher degree of specialization, every functional department now relies on from 2 to 10 major applications each. Keeping up with this growth meant expanding our server footprint to more than 50 physical systems with local storage, plus adding a SAN for our main file server and Exchange environment. We also deployed a NAS device to replace optical-disk WORM storage for records archives."

But the existing infrastructure was not growth friendly. Backup and management of stand-alone servers was increasingly labor intensive, and storage utilization on some systems ran as low as 20%, while others were near capacity. Because there were already throughput issues with the SAN, adding data to that system was not an option, nor was expanding it. "Plugging in new arrays would have further degraded performance, and upgrading meant a forklift process," says Gessel. "As for optical-disk storage—we could store a lot of data, but retrieve time was terrible. And the NAS was essentially an island that we had to manage separately."

“TruWest was one of the first five credit unions in the United States to extend Check 21 functionality to real-time check capture. Without this infrastructure in place, it would have taken twice as long and additional capital. Instead, we instantly provisioned servers and storage from existing resources, used NetApp FlexClone to create space-efficient replicas, and immediately got to work.”

**Tom Gessel**

Senior Vice President and Chief Technology Officer, TruWest Credit Union

TruWest's requirements for a consolidated storage solution included:

- Technology to facilitate server virtualization
- Improved performance and scalability
- Multiprotocol support
- Faster, simpler backup and recovery
- Advanced replication functionality to support a disaster recovery plan with aggressive recovery time and point objectives (RTOs and RPOs)
- Tiered storage for cost savings
- Management, space, and cost efficiencies

#### **THE SOLUTION**

##### **Standardize on NetApp for agility and efficiency in a Citrix XenServer environment**

After completing a comprehensive business-impact analysis that identified current infrastructure issues and requirements in light of the credit union's long-term strategies and budget constraints, the TruWest IT team evaluated storage solutions from Dell EqualLogic, EMC, HP, IBM, and NetApp. Gessel explains the decision to standardize on NetApp. “Although there were attractive elements in competing solutions, NetApp satisfied all requirements with the added benefits of superior deduplication, greater connection flexibility, and efficient mirroring capability.

“Another NetApp selling point was the company's alliances with server-virtualization vendors. We had not yet made a final decision on a virtualized-server solution and wanted the flexibility to choose the best infrastructure for our environment. We were confident that whatever path we took, the NetApp® solution would deliver complementary storage functionality.”

Working with Trace3, a solutions provider specializing in data management, networking, and server consolidation, the TruWest IT team completed requirements planning, deployment, and data migration to consolidate Microsoft® Exchange, SQL Server®, Distributed File System, and other data on NetApp. Today, NetApp high-availability FAS2050 systems provide storage resources for TruWest's primary data center in Phoenix and for the Austin data center, which also serves as a disaster recovery site. TruWest leverages a combination of FC and SAS disk drives in Phoenix and cost-effective SATA drives in Austin. NetApp SnapMirror® technology enables automated replication—typically hourly—to the Austin data center.

In addition to providing storage for Exchange, SQL Server, and Windows® fileshares (via CIFS) data, NetApp also supports TruWest's virtual-server environment built on Citrix XenServer. NetApp

provides storage (via FC and NFS) to three hosts running 18 virtualized workloads. Applications running in the virtual-server environment include the credit union's Check 21 system, as well as Microsoft Active Directory®, System Management Server, and SQL Server-based systems, including a collections application; HR and timekeeping systems; a CiRBA statistical analysis system; a Blue Coat management console; Safend security; and Mitel Enterprise Manager servers.

#### **BUSINESS BENEFITS**

##### **Getting it done twice as fast**

The XenServer on NetApp environment delivers the necessary performance in conjunction with greater flexibility to rapidly deploy and provision resources to meet business requirements. Gessel cites TruWest's ahead-of-the-industry implementation of real-time check capture—that is, making funds available more quickly by capturing checks at the point of sale and transmitting throughout the day to the Federal Reserve (versus teller-capture programs where checks are scanned into a daily batch file for a single nightly transmission). The XenServer on NetApp environment enabled TruWest to roll out the new functionality to 13 branch locations and more than 100 teller workstations in just 30 days.

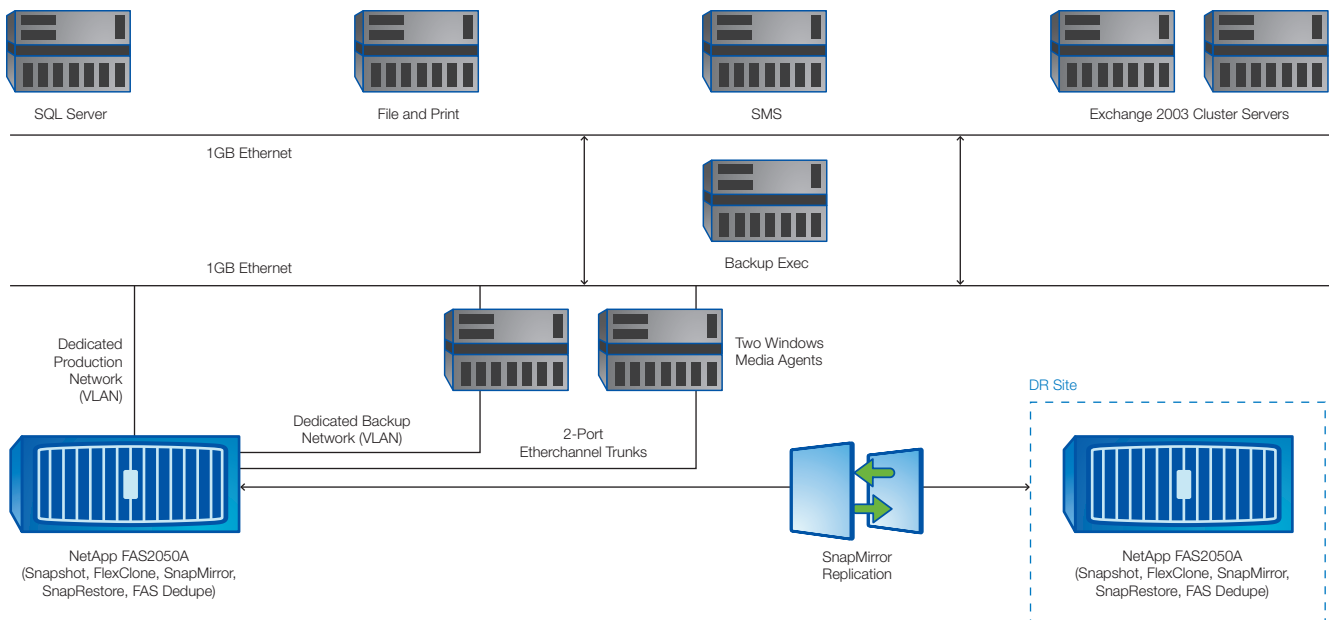


Figure 1) TruWest Credit Union storage infrastructure.

“TruWest was one of the first five credit unions in the United States to extend Check 21 functionality to real-time check capture,” says Gessel. “Without this infrastructure in place, it would have taken twice as long and additional capital. Instead, we instantly provisioned servers and storage from existing resources, used NetApp FlexClone® to create space-efficient replicas for testing and training, and immediately got to work.”

Gessel also emphasizes the importance of NetApp flexibility, including the ability to do non-forklift upgrades to larger NetApp systems that share the same architecture and the Data ONTAP® operating system. “NetApp lets us make server platform, application, and protocol decisions that are best for TruWest—we’re not forced to buy multiple storage solutions or to make tradeoffs in functionality. The XenServer decision is a good case in point. We selected Citrix XenServer in part because of the simplicity of its management tools and our ability to support the environment with a small IT staff. But we weren’t forced to make that decision before we implemented a storage solution for the business.

“The same with server connectivity—we take a hybrid approach, using FCP for our Exchange and SQL Server systems and NFS for our enterprise management console.

When we move to Xen 5.5, we’ll likely expand our use of NFS to take advantage of the Citrix StorageLink technology that lets us manage and provision NetApp NFS volumes from the XenServer console. It’s a definite benefit to be able to easily leverage the virtualization awareness inherent in NetApp arrays. But the larger NetApp benefit to TruWest is that our storage doesn’t dictate how we have to manage our applications and infrastructure. We have the flexibility to do what’s best for the business.”

#### Protecting user services

TruWest protects critical services by using NetApp Snapshot™ technology to frequently make and store online backups that can be used for fast data recovery. NetApp NDMP enables high-speed direct-to-tape backup for long-term storage and records archiving. For disaster recovery, SnapMirror replicates virtual machines and data to the Austin site.

“In the past, backup processes were complex and time consuming, so we only ran backups once every 24 hours,” Gessel acknowledges. “If we did have to restore data, the process took up to 12 hours, putting us 36 hours behind by the time we were back online. Today, by leveraging NetApp technology with our XenServer infrastructure, we can achieve within-minutes recovery of critical systems with no more than an hour’s

worth of data loss. Backup is simpler, too, as is overall administration of storage.

“Our plan is to deploy a second Citrix XenServer environment at the Austin facility so that we can utilize that facility as a second-tier data center to run additional application workloads. We’ll be further leveraging our NetApp investment, and, should the need arise, we’ll be able to run the business from Austin within minutes of a primary-site failure.”

#### Delivering maximum value in half the space

Gessel expects TruWest information-storage needs to continue unabated with the organization’s ongoing commitment to providing convenient and accessible ways to help people bank. Because of the efficiency of NetApp technologies like deduplication and thin provisioning, TruWest can now store more data in less capacity. Gessel estimates that deduplication alone represents a savings of at least 30% across data stores. In the first year since deploying the XenServer on NetApp infrastructure, TruWest avoided at least \$64,000 in new capex for servers and storage.

Gessel notes, “To date we’ve reduced our heat load by 18,000 BTUs (more than 27%) and we expect to achieve an overall reduction of at least 45% upon completion of our

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Senior Vice President and Chief Technology Officer, TruWest Credit Union

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“As for the overall XenServer on NetApp infrastructure, the integration work completed in deploying the systems and migrating data definitely gave us a jumpstart in realizing value from the investment. Trace3, working with our XenServer partner, Knowledgecentrix, provided a holistic approach to implementing the environment, minimized downtime, and helped us more quickly put the infrastructure to work. It is already playing a key role in our efforts to help TruWest control expenses, minimize risk, and deliver competitive, high-quality products to our members.”

#### SOLUTION COMPONENTS

##### NetApp products

NetApp HA FAS2050 systems

NetApp deduplication, SnapMirror, and SnapRestore® technologies

NetApp SnapManager® for Microsoft Exchange, Single Mailbox Recovery, SnapManager for SQL Server, and SnapDrive® software

##### Protocols

NetApp NAS (CIFS, NFS) and SAN (FC)

##### Environment

Citrix XenServer

##### Partner

Trace 3  
[www.trace3.com](http://www.trace3.com)



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