

PUBLIX EMPLOYEES FEDERAL CREDIT UNION

Florida Credit Union transforms data centers with private cloud infrastructure and multi-tiered disaster recovery solution



ESSENTIALS

Challenges

- Hurricane season poses extreme risk to data center safety
- More complex disaster recovery with infrastructure growth

Solutions

- EMC Symmetrix DMX-4 networked storage
- EMC Symmetrix SRDF/A remote
- EMC Centera
- EMC SourceOne
- EMC TimeFinder
- EMC ApplicationXtender
- EMC Data Domain
- VMware vSphere virtualization solution
- VMware ESX server software
- VMware vCenter Site Recovery Manager
- VMware vMotion software
- VMware High Availability software
- VMware Distributed Resource Scheduler

Key benefits

- Remote recovery of entire virtual server infrastructure in 30 to 60 minutes
- Backup storage requirements reduced by 96 percent for primary applications
- All mission-critical servers backed up in eight and a half hours compared to 12 hours
- No expansion of administrative staff as storage capacity triples

Publix Employees Federal Credit Union (PEFCU) serves the financial needs of retired and current associates of Publix Super Markets, Inc. and their family members; Crisper's associates and their family members; and all family members of a current PEFCU member. Incorporated in 1957, the Lakeland, Florida-based credit union is dedicated to protecting its critical financial and customer data assets 24x7, and especially during hurricane season.

"Hurricanes have caused many power outages in our facilities," says Karen Sullivan, PEFCU's CIO and CSO. "Once, high winds ripped a hole in our ceiling and water flowed onto the raised floors of our data center. We've always kept our data center running, but there have been enough close calls to convince us that preemptive, remote failover is absolutely necessary."

PEFCU has replicated its data and servers to a remote site for years, but failover was becoming more challenging when its physical server and storage infrastructure grew rapidly to enable new services, fraud prevention capabilities, and data retention compliance.

"We could only fail over six out of our 30 data center servers to our remote site," explains Nigel Gobourne, PEFCU's IT manager. "Those six servers took two days to complete a failover test, and we had to resolve multiple problems along the way. We weren't even close to getting the recovery timeframes we needed."

SOLUTION: MULTI-TIERED BUSINESS CONTINUANCE

PEFCU realized it could achieve more effective, efficient disaster recovery with a private cloud infrastructure that integrated server virtualization, server and data replication, storage deduplication, and disk backups.

As a first step, PEFCU implemented VMware vSphere™ to virtualize 95 percent of its production server environment. Virtualized applications include Symitar banking, remote deposit capture, EMC SourceOne™ email archiving, an EMC ApplicationXtender®/imaging solution, Yellow Hammer fraud prevention, Microsoft® Exchange email, and Microsoft SQL Server®, among others.

The credit union's virtual machine environment runs on 10 VMware® ESX® physical servers that are stored on EMC® Symmetrix® systems, which also stores all of the institution's production data. PEFCU uses EMC ApplicationXtender along with an EMC Centera® content-addressed storage to archive images of checks, statements, and other documents.

For disaster recovery, VMware vCenter™ Site Recovery Manager (SRM) is used to manage the failover of PEFCU's virtual machines from its primary data center in Lakeland, Florida, to a

remote site 200 miles away in Jacksonville, Florida. PEFCU uses EMC SRDF®/A software to replicate 4 TB of data on the EMC Symmetrix systems to the remote data center. The Centera systems also are replicated.

In addition, PEFCU is phasing out tape backup and primarily backs up all of its critical applications, such as SQL Server databases, Exchange email, and VMware virtual machines to EMC Data Domain deduplication storage systems. The Data Domain systems are replicated to PEFCU's Jacksonville site and then cascaded to a third site 400 miles away in Georgia.

PEFCU uses VMware High Availability (HA), VMware Distributed Resource Scheduler (DRS), VMware vMotion®, and EMC TimeFinder® software to ensure uptime while performing migrations, production data mirroring, upgrades, and other system administration activities.

RAPID RECOVERY IN THE FACE OF HURRICANE THREATS

Data protection is a prime concern for PEFCU's IT organization.

“If a major data center outage took down our remote deposits, ATMs, and other critical systems, our business would come to a complete halt,” explains Sullivan. “In a business impact analysis, we calculated a significant financial impact if these services were unavailable.”

Since deploying an EMC disaster recovery solution for its virtualized data center, PEFCU's data protection has significantly improved. Using VMware SRM and EMC SRDF, PEFCU fails over all of its virtual servers to the remote site in approximately one hour, compared to 24 to 36 hours when it relied on traditional replication for its then-physical infrastructure. Its recovery point objective has remained under a minute, which is a significant achievement considering that the institution increased the number of servers from six to 60 for failover capability.

“We have an excellent private cloud infrastructure that addresses all of our business continuity requirements,” says Sullivan. “VMware's SRM is well integrated with SRDF and the underlying EMC storage. SRM does a graceful shutdown of our servers and then brings them up at our remote data center so they can start accessing the data SRDF has been replicating. We also have Data Domain to recover selected virtual servers or files, or even provide another level of disaster recovery.”

PEFCU IT also takes disaster recovery testing very seriously.

“Every year, we shut down our data center and run our business from our remote site for two days as a dry run for hurricane season,” explains Sullivan. “The amazing thing is our employees and customers don't see anything different—which is exactly what we want.”

Virtualization also has streamlined disaster recovery administration.

“Our private cloud environment with EMC and VMware have taken a lot of the manual effort out of the process,” states Gobourne. “Disaster recovery has become a breeze.”

REGAINING CONTROL OVER BACKUP GROWTH

PEFCU's infrastructure growth was contributing to tape backup issues.

“As more applications were added, our backups started running during the day and we couldn't allow that to continue as it impacted production,” notes Sullivan.

To shorten backup windows, PEFCU now backs up its virtual machines to Data Domain systems. With Data Domain deduplication, PEFCU uses 2.5 TB of capacity for storing the equivalent of 69 TB of data—a 96 percent reduction in backup storage requirements.

The credit union replicates Data Domain to a remote site in Florida, and then to another site further away in Georgia. With cascaded replication, PEFCU is protected from severe hurricanes that could potentially devastate a wide geographical area across Florida.

“We now back up all of our corporate and branch servers in eight and a half hours when it used to take 12 to 36 hours to back up half of our environment,” Gobourne says. “We can restore a virtual machine in an hour compared to one to two days for restoring a physical server from tapes stored offsite.”

PEFCU also credits Data Domain for streamlined backup administration since it doesn’t require physical, labor-intensive tape handling. The credit union’s staff of two system administrators has remained steady even as its storage capacity has tripled from 10 to 30 TB and several new applications have been added in the last two years.

Data Domain also has helped reduce tape expenditures. Each week, PEFCU sends just one tape to its offsite storage facility compared to well over 10 tapes previously.

STREAMLINED ADMINISTRATION CUTS TOTAL COST OF OWNERSHIP

PEFCU also appreciates how EMC and VMware have increased availability and simplified management related to system administration. For example, provisioning a new virtual server takes less than an hour when at least two or more weeks used to be involved with purchasing and deploying a new physical server. As a result, application deployment has gone from weeks to hours.

“Our total cost of ownership has been reduced by cutting system administration tasks in half,” says Gobourne. “It’s so much easier to provision a virtual machine or run maintenance. If an upgrade doesn’t work, we just roll back to where we were before.”

Peter Kaldani, PEFCU’s systems administrator, adds, “There is very little downtime when we do system administration because of all of VMware’s high-availability features.”

The time savings are being transferred to other value-add activities.

“We’re almost always in project mode, bringing on new applications and services, such as configuring DVRs for our camera security systems, rolling out new ATMs, or updating our check imaging systems,” notes Sullivan. “We have a lot more time to work on these projects because of EMC and VMware.”

“We plan our strategy around upcoming EMC initiatives. We’re in constant contact with EMC so we’re always learning about new technologies that will save us time and money and accelerate our strategic goals.”

KAREN SULLIVAN
CIO AND CSO

PRIVATE CLOUD ACCELERATES THE DELIVERY OF NEW SERVICES

EMC and VMware's advanced technologies, comprehensive support, and knowledge transfer have been instrumental to PEFCU's business agility.

"EMC and VMware shine in their sophisticated product integration and fantastic support," says Sullivan. "With a private cloud using EMC and VMware technologies, we can be aggressive and offer our customers advanced products while ensuring extremely high service availability. Our goal is to provide IT as a centralized service in the near future, and our partnership with EMC is helping us make big strides in that direction."

Sullivan also appreciates staying informed about EMC's product direction.

"We plan our strategy around upcoming EMC initiatives," she says. "We're in constant contact with EMC so we're always learning about new technologies that will save us time and money and accelerate our strategic goals."

CONTACT US

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, contact your local representative or authorized reseller, or visit us at www.EMC.com.

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