

Credit Union Deploys SAN to Meet Disaster Recovery Objectives

Keesler Federal Credit Union deploys Cisco MDS Directors for disaster recovery and storage of mission-critical data.

EXECUTIVE SUMMARY
<p>Keesler Federal Credit Union</p> <ul style="list-style-type: none"> • Financial Services • Biloxi, MS • 500 <p>CHALLENGE</p> <ul style="list-style-type: none"> • Establish disaster recovery solution • Reduce time of recovery
<p>SOLUTION</p> <ul style="list-style-type: none"> • Upgrade SAN fabric to deploy a multi-protocol Fibre Channel solution for current and future storage needs
<p>RESULTS</p> <ul style="list-style-type: none"> • Holistic data protection coverage while improving disaster recovery initiatives • Immediate improvement with IT staff efficiency through storage provisioning • Features to help ensure upgrade is compatible with future versions

Challenge

Keesler Federal Credit Union (KFCU) is the largest credit union in Mississippi, with over US\$1.5 billion in assets. Founded in 1947 on Keesler Air Force Base in Biloxi, Mississippi, KFCU today serves over 184,000 members worldwide. The credit union has 14 branches in south Mississippi and four branches on Royal Air Force Bases in the United Kingdom.

KFCU’s main data center is located in Biloxi, where the company has DS3 connections. A second data center located in Gulfport was already in place for development. According to Terry Hutchinson, who manages network operations for KFCU, the credit union did not have a disaster recovery plan in place and initially created the Gulfport data center to fulfill that need. But Hutchinson soon discovered that the Gulfport site was not reliable.

“Our Gulfport data center was only 10 miles away from our Biloxi site, and during the time of Hurricane Katrina, the Gulfport site was flooded with over four feet of water,” says Hutchinson.

“Following Katrina, we concluded that the site in Gulfport wasn’t what you would call reliable, and we decided to create a backup site that was at least 300 miles away from our main data center. A 50 megabit metro ethernet connection on a fiber backbone now links our main site in Biloxi to the new location which is dedicated to our SAN [storage area network] replication.”

According to Hutchinson, KFCU wanted to be able to establish recovery point objectives (RPO) and recovery time objectives (RTO) to recover financial systems within a maximum of 24 hours in the event of a disaster.

“We needed to establish a plan for what we would do if disaster were to hit again and the building was no longer available or AT&T Communications was completely down,” says Hutchinson. “We began thinking of reliable storage solutions that would help us with our timelines in establishing recovery point objectives and recovery time objectives that would get us up and running in a timely manner.”

Prior to the upgrade, KFCU did not have a SAN solution in place and instead utilized a third party for a tape- and disk-based storage solution.

“Everything we did in terms of storage was local disks and tapes that were shipped to a third-party hot site that would bring up our main financial system in the event of a disaster,” says Hutchinson. “As we thought seriously about our disaster recovery plan, we knew that we needed a more reliable storage solution that could be managed in-house.”

“We’ve been up for 30 weeks on the MDS platform, and we have not had a single outage. High availability is a crucial part of our disaster recovery project along with having flexibility, and the MDS 9222i switches have helped us achieve both.”

— Terry Hutchinson, Senior Network Engineer, Keesler Federal Credit Union

Solution

Hutchinson and his team spent an entire year thoroughly reviewing available storage solutions.

KFCU had already worked with Praesto Group Inc, a Silicon Valley based VAR [value-added-reseller], on a successful legacy firewall migration project to an ASA5500s security appliance and was interested in discussing requirements for the credit union’s disaster recovery initiatives with them. Since Praesto Group was not only a Cisco Premier Certified Partner, they were also Cisco Advanced Data Center Storage Networking Certified, which made KFCU very comfortable with Praesto Group offering both a turn-key Unified Storage and SAN networking solution end-to-end.

After carefully evaluating KFCU’s disaster recovery initiatives, Syrus Mirzaei, the CEO and Chief Architect for Praesto Group, knew that the credit union would require additional features to help protect their investment in the Cisco MDS directors.

“Since Larry Mayo the VP of IT asked us directly to design a solution that would last a minimum of 5 years, we knew that the MDS-9222i director had feature-rich capabilities that the credit union would benefit from like Fibre channel over IP, iSCSI gateway, vSAN, line rate encryption, SAN Routing and Continuous Remote Replication,” says Mirzaei. “We recommended four Cisco MDS-9222i Multiservice Module Switches that would integrate with the IBM System Storage N 5600 Unified Storage sub-system.”

“The deployment process with the MDS 9222i switches was quite smooth, and the process was fairly easy,” says Hutchinson. “The question mark on the command lines helped out tremendously, and even though the commands are different than the regular switches or routers, they were very intuitive and easy to pick up once we started the install.”

According to Hutchinson, the MDS switches helped the team achieve one of KFCU’s objectives, which was to gain the ability to virtualize mission-critical servers as a part of the company’s disaster recovery plan.

“Having the ability to virtualize most of our mission-critical servers with the SAN is critical for us and was one of the features that most impressed us with the MDS 9222i switches,” says Hutchinson. “The virtualization ability is a key component in our disaster recovery strategy, and it also helps us establish better recovery point and recovery time objectives because of the VMware replication and having the ability to bring up mission-critical servers rapidly. In addition, the vSAN feature of the MDS switches gave us ease of management and allowed for more efficient storage network

utilization. Should we decide to go to Fibre Channel tape backup in the future, the function to do that is already built into the MDS directors.”

The high availability that the MDS 9222i switches provided KFCU was another result of the upgrade, according to Hutchinson.

“We’ve been up for 30 weeks on the MDS platform, and we have not had a single outage,” says Hutchinson. “High availability is a crucial part of our disaster recovery project along with having flexibility, and the MDS 9222i switches have helped us achieve both. In terms of scalability, we’ve got one slot on each of the MDS modules where we can add a blade of ports whether Fibre Channel or a gig of Ethernet. Our goal is the five 9’s across our mission-critical servers and the MDS switches are helping us work towards that goal.”

According to Hutchinson, the Cisco MDS 9222i switches integrated smoothly with the IBM Storage System N5600 arrays and met KFCU’s requirements for flexibility and scalability.

“KFCU is pretty much a Cisco shop, and we honestly didn’t consider many other vendor solutions and chance mixing the design because we wanted to stick with one vendor for the obvious reasons,” says Hutchinson. “The MDS 9222i switches provided compatibility with our existing environment. To meet our iSCSI requirement, we had 4-gigabit Ethernet ports for iSCSI integration and the Fibre Channel ports. We definitely wanted a director-class switch for scalability, which the MDS switches delivered, and I especially like the hardware-based encryption feature through IPsec should we need to encrypt member-sensitive data across the LAN or WAN.”

Results

Hutchinson says significant improvement in access times for file share drives and server speed as a part of employee productivity and disaster recovery measures were among the biggest outcomes from KFCU’s upgrade to the MDS 9222i Modular Switches.

“After implementing the MDS 9222i switches, we conducted tests and saw significant improvement in accessing file share drives and the server speeds,” says Hutchinson. “The response time was definitely noticeable after we began production, and overall this has helped with our profit line for employee productivity. It has also helped us surpass our RPO and RTO reduction goals for disaster recovery. Previously it had taken us 18-24 hours to bring back servers in a disaster recovery scenario; after the upgrade, those numbers were reduced to less than an hour. If we can increase employee productivity in terms of response times from our SQL [Structured Query Language] database while reducing RPOs and RTOs, we believe there is even more cost savings to be had in our overall efficiency.”

Having the ability to partition storage space in real time and without interrupting service is another result of the MDS upgrade.

“If extra server space is required, it is easy to obtain it without disrupting service,” says Hutchinson. “I recently had our SAN administrator bring up 100 GB of storage in real time, and he did so without any down time.”

“Considering our security requirements for our sensitive financial data, we wanted our SAN to have a variety of security features,” says Hutchinson. “The tape and disk encryption functionality in the 9222i switches can perform mission-critical tasks and has created a natural migration path for KFCU to encrypt tape, an attractive built-in feature of the MDS directors.”

Additional server and application availability through virtualization is another benefit of the MDS 9222i upgrade, according to Hutchinson.

“This SAN project has given us the infrastructure to have more available resources and has helped us establish better RTO and RPOs,” says Hutchinson. “At times we have projects that come up in real time, and the new SAN infrastructure has helped reduce the amount of time that it takes to bring up a new server or an application on the network through the virtualization technology and the SAN, allowing us to provision capabilities such as increasing file sharing. With our new SAN, we are now able to perform this task in a matter of seconds without scheduling downtime for maintenance and replicating our mission-critical data to meet our RTO and RPOs. With our disaster recovery and business continuity planning now under way, our next phase will include an upgrade to an IP-based network for MPLS [Multiprotocol Label Switching], and this is another reason why we chose the MDS 9222i switches.”

PRODUCT LIST

Cisco MDS 9222i Multiservice Modular Switches

For More Information

To find out more about Cisco application, storage and switching solutions, please visit <http://www.cisco.com>.



Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV
Amsterdam, The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

CCDE, CCENT, Cisco Eos, Cisco Lumin, Cisco Nexus, Cisco StadiumVision, Cisco TelePresence, Cisco WebEx, the Cisco logo, DCE, and Welcome to the Human Network are trademarks; Changing the Way We Work, Live, Play, and Learn and Cisco Store are service marks; and Access Registrar, Aironet, AsyncOS, Bringing the Meeting To You, Catalyst, CCDA, CCDP, CCIIE, CCIP, CCNA, CCNP, CCSP, CCVP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Collaboration Without Limitation, EtherFast, EtherSwitch, Event Center, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, iQuick Study, IronPort, the IronPort logo, LightStream, Linksys, MediaTone, MeetingPlace, MeetingPlace Chime Sound, MGX, Networkers, Networking Academy, Network Registrar, PCNow, PIX, PowerPanels, ProConnect, ScriptShare, SenderBase, SMARTnet, Spectrum Expert, StackWise, The Fastest Way to Increase Your Internet Quotient, TransPath, WebEx, and the WebEx logo are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0809R)