From Cardboard to Cloud

Cutting-Edge Data Storage Management

By Mary Mink

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Executive Summary

Data storage trends in 2011 include cloud computing, particularly for e-mail, disaster recovery, and backup; data explosion fueling storage innovations; and the rise of tiered storage to keep storage costs down while helping businesses make the most of their information.

Safety and integrity of data are No. 1 in any storage scheme credit unions explore. However, security concerns shouldn't prevent credit unions from planning to obtain greater efficiencies and cost savings of the latest technologies, such as cloud computing.

Whether your credit union maintains its own data storage or outsources some or all storage depends on your resources, expertise, and core processing system. Despite misgivings about the security of cloud storage, all signs are pointing in that direction. "CIOs say … that cloud computing fits with some fundamental changes that are occurring in enterprise IT. One is the need for greater efficiency. A second is the move toward standardized technologies and platforms," according to *Forbes Insights.*

"The cloud is happening, whether you like it or not," says Arun Taneja, founder and president of Taneja Group, Hopkinton, Mass., a storage consulting group, in *Storage*. "It's a lot like what we saw with storage virtualization in 2000." The concept seemed inevitable but took a long time to implement.

In this report, two credit unions describe how their data storage has evolved, eliminating backup tapes and implementing a private cloud.

Introduction

Is anything more frustrating than being unable to find and quickly access the information you need when you need it? Lapses of orderliness, whether on a personal or a credit union organizational level, impede efficiency and equate to lost resources and opportunities: *Now* is when your member needs that seven-year-old account statement…. Your CEO needs those financial reports…. Your examiner needs to see that disaster recovery test documentation…. An attorney needs to review those emails from two years ago. *Now.*

Not long ago, cardboard boxes, tall shelves and metal filing cabinets, all teeming with manila folders, *were* data storage management in credit unions. Finding critical data took days or weeks vs. minutes. Then came backup tapes, microfiche, and jukebox-enabled imaging systems. Even today there still may be a credit union manager or two taking the backup disk home in a briefcase at night and calling it disaster recovery planning.

But it's a new day in data storage management. IBM, Armonk, N.Y., highlights these among storage trends for 2011:

- Cloud computing—loosely defined as combined and redistributed computer resources—is growing in appeal due to its seemingly unlimited computational resources, planning and forecasting capabilities, and flexibility. Multiplying demands for capacity are at odds with flat or diminishing technology budgets. Organizations able to implement cloud initiatives may focus on private cloud services (rather than public) out of privacy concerns regarding critical data.

- Data growing at 15 petabytes per day, and an uncertain economy, are forcing innovations, including integration of virtual storage with servers and networks to create completely virtual systems, software aggregation, and improvements such as real-time compression, deduplication, and data migration.

- Massive data growth is at odds with businesses' need to mine data for purposes of innovation while meeting regulatory requirements for security, retention, and access. Tiered storage will enable organizations to treat critical and secondary (hot and cold) data differently to maximize resources while meeting new business requirements.

Along with challenges of the day, capabilities exist that operationally can take credit unions a tremendous operational leap forward. Many initial limitations of bandwidth and capacity have been worked out. Interoperability of systems is improving. New storage possibilities exist or are emerging—storage area networks (SAN), disk-to-disk (D2D) backups, network attached storage (NAS), and cloud storage. Some credit unions are jumping into cloud storage with both feet, outsourcing everything. Some larger credit unions have built private clouds to support their many branches. Others take a combined approach, storing some data "in the cloud" while keeping some in-house.

Whatever the approach to storage your credit union chooses, it's important to address issues of keeping member information private, secure, and safe from theft and disasters while ensuring optimization of your primary and backup data storage systems.

Safe Data, Safe CU

Credit unions' most important databases store member information regarding accounts and transaction history. "These must be safe and secure from sources of insecurity—theft, phishing, and social engineering," says Robert Reh, chief information officer for Nassau Financial Federal Credit Union, Westbury, N.Y and current Vice Chair of the CUNA Technology Council.

Safe and secure "means no one can access it who is unauthorized," says Karen Jaworski, senior product marketing manager for i365, a Seagate Company, Santa Clara, Calif., a provider of online backup and recovery services, and managed disaster recovery services, to 400 credit unions among its 32,000 customers. "From a technology component, we ask things like 'How is that data protected while it's stored and during transport?' and 'Where does the protection begin?'

One way credit unions prevent loss of data due to criminal acts, equipment failures, and disasters is to create backup copies so data can be restored if original data are lost or corrupted. "How you create and store that is critical. It needs to be accessible and available should you have a disaster, and it has to be safe and secure," Reh says.

Backup with data deduplication identifies and eliminates multiple copies of the same files (say, an attachment sent to multiple email recipients) to make the most of storage capacity. (Of late, deduplication products have become available for primary storage systems as well. In the context of primary storage, these are often referred to as "data reduction" tools and refer to: compression, file-level deduplication, and sub-file-level deduplication, according to *Storage*.)

"Choice of what system you use to create your backup copies will depend on what system is available to use those tapes following a disaster. If you outsource your disaster recovery services, what system that vendor uses will help decide what system you use to create your data backups on—either removable media or electronic. It needs to be compatible with the system the vendor would use to provide access to your data backup following a disaster," Reh adds.

Some credit unions have adopted electronic vaulting, or "evaulting"—transmitting their data electronically for off-site storage for disaster recovery purposes. He explains that Nassau Financial Federal has a geographically limited field of membership. So the credit union backs up data on encrypted tapes and stores them in a branch using a Veritas system, which it has had in place for many years. (Veritas Software merged with Symantec Corp., Mountain View, Calif., in 2005.) "It's one of the more popular systems available for the hardware we have."

Reh acknowledges, "If we have a catastrophic event affecting our geographic location, a limitation we have is our backup site is only a few miles away from our primary site." He adds, "The advantage to storing data further away is if you have some major event, you can restore systems remotely."

"If you were transporting data, does protection start inside a firewall, does it start once it has crossed the firewall? How do you know everything is safe and kept away from prying eyes? We also look at what security measures are in place. So we consider the operational perspective as well as the technology that's in place," Jaworski adds.

"We run a tight ship," says Jaworski of i365. "Every year we get [Statement on Auditing Standards No. 70 (SAS 70)] Type II certified, which means all of our operations go through auditing and scrutiny to make sure we're using only card key entry, biometric verification, and what-have-you, to get into our machines that store all this data. We also do employee background checks and make sure everyone is verified who actually could have access to stored data."

Jaworski explains that i365 uses another data protection approach available to credit unions. "First, we encrypt all the data from the time it moves off the backed-up or protected machine. It's encrypted at rest. Then the wire it's sent over is fully encrypted. Then the back end is encrypted as well. Nobody can get to it unless they have explicit access to the data."

Regulators are emphasizing data leakage prevention and requiring credit unions to know where their sensitive data are stored and who has access. Vendor management is another emphasis. In an alliance with CUNA Strategic Services, Passageways, in West Lafayette, Ind., offers a portal that enables credit unions to organize vendor information in a manner ensuring compliance with regulatory guidelines.

In 2009, the National Credit Union Administration issued Risk Alert No. 09-Risk-01, emphasizing the importance of application security as a key component of a credit union information security program. The alert states, "All applications, whether internally developed, vendor-acquired, or contracted by the credit union, need to be subjected to a risk assessment and risk mitigation process. Vulnerabilities in applications increase operational and reputation risks as unplanned or unknown weaknesses in applications may compromise the confidentiality, availability, and integrity of credit union data."

Part 748 of NCUA's Rules and Regulations requires credit unions to have an information security program. It states, in part, "Each credit union should monitor, evaluate, and adjust, as appropriate, the information security program in light of any relevant changes in technology, the sensitivity of its member information, internal or external threats to information, and the credit union's own changing business arrangements, such as mergers and acquisitions, alliances and joint ventures, outsourcing arrangements, and changes to member information systems."

In-House vs. Outsourced

Core data processing systems house the largest proportion of credit union data. Storage choices depend on whether the credit union's core system—or other business systems such as home banking—are in-house or outsourced.

Larger-asset-size credit unions—more likely to have an in-house core system—generally have the resources to also duplicate data and systems in a secondary location for backup and disaster recovery, Reh says. Smaller credit unions usually depend on a vendor for that. "Of course, the

more control you turn over to other companies, the less control you have. There's some trust involved, due diligence. Contractually, you should check SAS [Statement on Auditing Standards] 70 reports to ensure the vendors are monitored annually and have proper internal controls."

Nassau Financial Federal outsources its online banking system. "There's a server on their site, under their control, accessing data through a dedicated line," Reh says, adding that with any outsourced arrangements there are issues of compatibility and security.

"Regarding the data, the systems have to be compatible. There has to be an interface established. You want to go with a vendor who has done this before with the same core system. If not, the vendor has to develop something just for you."

Whether you own your own data storage devices or rent server space from another company, virtualization is a desirable practice. *Server virtualization* is "the masking of server resources, including the number and identity of individual physical servers, processors, and operating systems, from server users. The server administrator uses a software application to divide one physical server into multiple isolated virtual environments," says information technology media publisher TechTarget, Newton, Mass.

Storage virtualization "is the pooling of physical storage from multiple network storage devices into what appears to be a single storage device that is managed from a central console. Storage virtualization is commonly used in a SAN. The management of storage devices can be tedious and time-consuming. Storage virtualization helps the storage administrator perform the tasks of backup, archiving, and recovery more easily, and in less time, by disguising the actual complexity of the SAN," according to TechTarget.

Organizations already comfortable with one type of virtualization find it less of a leap to apply it to other data center domains. "Often IT [information technology] organizations undertaking complete data center refresh initiatives position virtualization as a key part of the makeover and look to extract all possible efficiencies in one fell swoop by deploying virtualization in multiple technology areas. So it's not uncommon to see server virtualization combined with storage virtualization," according to Lauren Whitehouse, senior analyst for Enterprise Strategy Group, an IT analyst and business strategy firm in Milford, Mass., in *Storage* magazine. "Storage virtualization improves resource utilization, allowing organizations to do more with less capacity on hand," Whitehouse adds.

The shift to virtualized data centers and 24/7 operations means "there is a need to rethink the traditional data protection techniques," according to a report by Commvault, Oceanport, N.J. "Data protection and data recovery must have minimal front end impact and cannot exclusively rely on the legacy methods of streaming copying data from the production to the backend. A modern effective solution minimizes the load on production systems, reduces administrative effort, enhances data protection and recovery, eases the transition to a virtualized data center, and will enable cloud-based options when they are desired."

If your credit union stores data in-house, one consideration is the actual storage hardware units you'll use. Granted, it depends on the hardware the system is designed to run on. However, there are numerous options, according to Reh:

Methods of redundant storage protect data—and access to it—from hardware failure. The different levels of Redundant Array of Independent Disks (RAID) with data mirroring and striping are examples of redundancy.

High-availability systems provide quick—if not instantaneous—failover or transfer to other storage hardware if any hardware, such as a hard drive, fails. This can be one or more additional hard drives in standby mode, with an extra copy of data stored at least on two different drives. That way if one drive fails, the data still are instantaneously available on another drive, with the hardware operating system controlling this use of the drives. There are also data storage systems that provide complete storage hardware redundancy, such as IBM's High Availability Cluster Microprocessing (HACMP).

Different hardware configurations save hardware cost and physical space needed for the hardware. Blade servers have become popular for this purpose. However, blade servers come with other issues IT must deal with—particularly cooling requirements, since the narrow hardware usually is more difficult to keep cool. It may require upgraded cooling systems and even water cooling with radiators. But new concepts in cooling aim to keep cooling costs low with features such as variable frequency drive motors on air conditioning fans and compressors, and other equipment to cut electrical costs.

Another consideration is how you manage your storage. Storage resource management tools optimize the efficiency and speed with which the available drive space is utilized in a SAN, according to SearchStorage.com. Recently a number of software products have come on the market to help SAN administrators by automating this onerous task. Some storage resource management programs are standalone products, while some are integrated with other programs.

When it comes to efficiency, three storage technologies dominate the discussion: thin provisioning, automated tiering, and data reduction, according to *Storage*.

Data storage is of little use unless credit unions can quickly retrieve meaningful data from their storage systems. Financial services organizations spend as much as half of their data management resources on trying to make data usable, according to TowerGroup, Needham, Mass.

"You need data query software to generate reports, screen displays, tax documents, statements, or print," Reh says. The output has to be transferable to other systems—online banking, or telephone banking, for example. Some credit unions might have one system that does all of this, such as the core data processing provider. Others may select best-of-breed solutions for each business function, he adds.

Generally, the job of ensuring cost-effective, timely access and usability of data falls to the credit union's information technology staff. Sometimes it's the responsibility of a chief financial officer or chief information officer. "Credit unions are supposed to have someone designated as the information security officer," he says. "Not everyone agrees storage should be *anyone's* job

at the credit union. Some people say "storage" is not a core business of CUs and it should be outsourced."

Those interviewed for this report generally agree outsourcing storage is the most cost-effective solution for many credit unions. “You no longer need to buy hardware, software, or storage. You send it all into the cloud and let everyone else do the work for you. You don’t need to be constantly upgrading your entire infrastructure. You don’t have to be constantly purchasing additional storage. The cloud is elastic and able to grow with your business,” Jaworski says.

Deciding on whether to outsource storage to the cloud partially or completely is a balance between retaining total control and giving control to others. “There’s the operating expense [cloud] vs. capital expense [in-house]. If you bring the solution totally in-house, it’s a pretty large capital expense vs. if you go the cloud route it’s operating expense that’s easy to amortize and match with your operations,” Jaworski says.

Email management is an example. “Everybody has the same issue with email. Most of us have our email in our four walls and one guy whose job it is to deal with the email server,” says John Best, chief technology officer for Wescom Credit Union, Pasadena, Calif. He maintains it’s about the same for that person to manage 1,000 vs. 15,000 email accounts.

“There’s some thinking in the credit union industry among the higher-level CIOs that we need to get out of the business of water fountains, so to speak. We don’t have anyone on staff whose job it is to fix the water fountain. If you look at email, that’s what it’s come to.”

Other factors in storage decision-making include:

- Your credit union’s expertise in storage management and its current storage solution;
- Credit union growth plans;
- Recovery-related service level agreements; and
- Regulatory requirements.

Cloud Computing

A clear definition of “cloud computing” is still emerging. EMC Corporation, Hopkinton, Mass., a major provider of storage and backup solutions, defines it as “a broad and general term that describes computer resources pooled together and redistributed based on what users need. The result is a compute environment that can be used or consumed like a public utility—“as needed” rather than “how built.”

Most sources agree off-site, electronic storage is one function of the cloud. “Cloud storage” implies electronic transport and deposit of data, Internet browser access independent of device type or user location, and efficient use of others’ surplus storage capacity. There are private clouds owned by data owners or single third-party providers that maintain their own cloud for

customers' use. With public clouds, third parties lease space on other companies' servers on behalf of their customers.

According to Lauren Whitehouse, a senior analyst focusing on backup and recovery software and replication solutions for Enterprise Strategy Group, cloud storage:

- Provides a more cost-effective strategy than maintaining a corporate owned and operated secondary site;
- Eliminates capital and operating costs, including the acquisition and maintenance of hardware, data center floor space, as well as data center environmental factors such as power and cooling;
- Offers more predictable budgeting; and
- Facilitates disaster recovery via a remote-based copy.

About one-third of information technology executives say their organizations have or plan to have a private cloud. Even fewer (27%) have or plan to have a public cloud, according to a 2010 *Forbes* Insights study of 235 IT executives at companies with annual sales exceeding $500 million.

Conversely, a May 2011 survey of 611 IT professionals in North America and Western Europe, *Cloud Computing Adoption Trends*, says 13% of respondents anticipate cloud will have a significant impact on their IT strategy during the next five years and have a formal strategy to use numerous cloud computing services, which will result in major changes to IT infrastructure and processes. And 42% predict a moderate impact, with plans to tactically deploy some cloud computing services. Enterprise Strategy Group conducted the survey. Another Enterprise Strategy Group survey, *2011 IT Spending Intentions Survey*, noted:

"The most significant change in the IT priorities of respondents to ESG's 2011 survey is the increased importance attached to cloud computing services. When compared to 2010 survey results, the use of cloud infrastructure has increased from number 22 to number 12 on respondents' list of relative IT priorities, and the increased use of Software-as-a-Service (SaaS) for application delivery has risen from number 24 to number 14."

No comparable data were available regarding credit unions' specific plans for cloud computing. However, the 2010 Credit Union Technology Spending Survey from Callahan & Associates, Washington, D.C., included business continuity as a new category, with questions centered on budget planning and recovery objectives. A survey summary states, "Ninety-four percent of credit unions reported having back-up operations for member service in place, and 62% reported having full data redundancy and real-time replication of transaction systems in place.

Also, the survey summary states that the largest credit unions identified server virtualization and disaster recovery among their most significant tech expenses for 2010.

Generally, what makes cloud "cloud" is the third-party's purchase of storage space from other companies. Data may move from place to place depending upon space available. For credit

unions, whose reputations depend upon security and privacy of members' information, cloud raises significant questions, Reh says:

- Where are the data physically stored?
- How accessible are the data to the data's owner and how quickly?
- Who has access to the data physically and electronically? If data are kept outside the U.S., do U.S. laws still apply to access and use of the data?

"Cloud computing is very suspect in terms of what it can offer and the risks associated with it," he says. "There is concern in our industry with the sharing of data with others and the level of security necessary with outsourcing and especially cloud computing."

"Some vendors have talked about using it. They have said, 'What if we put it in our agreement that we won't outsource to offshore, or cloud computing resources will be stored somewhere in this country?' That's nice, but I'm not sure that's any better," Reh says.

Security is the top concern of the *Forbes* study participants regarding public (75%) and private (43%) cloud computing. Half of them cite control as an issue regarding implementing a public cloud, vs. 26% citing control as a concern regarding a private cloud. Other concerns the IT executives cite: lack of internal/staff expertise and difficulty integrating legacy systems.

Yet a number of credit unions have accepted these risks and are using cloud services. Core processing vendor Symitar, San Diego, has "a pretty healthy outsourcing business, and several of our competitors do, too," says Stacey Zengel, general manager of imaging solutions for Symitar and parent company Jack Henry & Associates, Monett, Mo. "That's as close to the cloud as our customers get today. Some are using third parties for outsourcing their data and have done that for a while."

Jaworski says i365 offers "cloud-connected solutions, which means we give customers the ability to do a pure cloud deployment of our solution, an on-premise deployment, or a hybrid." The company has been in business since 1997 "since before 'the cloud' was called 'the cloud.' We've faced a lot of the challenges the technology has had to overcome in terms of bandwidth speed, cost of bandwidth, security, and standards."

Is cloud the future for credit union data storage? "If other industries are any barometer, for example, LexisNexis Group [Dayton, Ohio] in the legal industry or [Anthem Blue Cross and Blue Shield, Indianapolis] in health care, at the end of the day cloud only makes sense," says Best.

"But I don't think people will run to an Apple or Amazon for cloud services. Something will rise up and become a cloud for credit unions. Someone will do it right, with the specifications of the credit union movement in mind. They will create a cloud concept that's secure—more secure than any one of us can do ourselves—that has the value proposition, being better in terms of cost," Best adds.

Attempts to develop standards promoting adoption of cloud storage are underway. The Storage Networking Industry Association, San Francisco, has formed a Cloud Storage Initiative group,

aimed at promoting cloud storage adoption and helping organizations manage their data in the cloud. The group is working on the Cloud Data Management Interface (CDMI), which will enable organizations to tag their data with special metadata telling cloud storage providers what data services to provide that data (backup, archive, encryption, and so on), according to the association. And the CDMI will enable organizations to move data among cloud vendors without recoding to different interfaces.

Among i365 credit union customers, Jaworski says, "Smaller credit unions tend to opt for the fully outsourced cloud solution, where the larger credit unions—depending upon how they're configured—opt for on-premise. That's simply because it's a larger amount of data. By having something on-premise, they can guarantee much faster recovery time and they also can feel they're maintaining total control over their data."

The more branch locations a credit union has, the more willing a credit union is to select a cloud option "so they don't have to have a presence or some sort of technology at every single branch. It's a difference of how centralized their operations are," she adds. "If you have a few branches with a lot of data, a lot of members at a centralized location, that's where the credit union probably would choose the on-premise solution or a hybrid. What the hybrid does is give the credit union redundancy of their data so they have what you call a fail-proof recovery. The data is in two places, with the second place likely to be the i365 cloud."

Beyond issues of availability and security, cloud storage raises some legal concerns, according to a 2011 report by CommVault Systems Inc. These concerns include custody and control, and authenticity and legal preservation. Carefully developed information governance policies and procedures can reduce these risks. Underlying sound policies and procedures is sound due diligence.

Your IT team and corporate counsel will want to cover these areas prior to signing an agreement with a cloud provider, according to CommVault:

- Record retention and backup policies;
- Type of data being stored in the cloud and the data's physical location;
- Authenticity and chain of custody; and
- Exit strategy for when your IT team wants to change cloud providers.

"The cloud is happening, whether you like it or not," says Arun Taneja, founder and president of Taneja Group, Hopkinton, Mass., a storage consulting group, in *Storage*. "It's a lot like what we saw with storage virtualization in 2000." The concept seemed inevitable but took a long time to implement.

He adds, "That's simply the reality of IT. Even when a paradigm-shifting technology comes along, it takes time for it to get into daily use. The cloud is similar. Implemented correctly, it's supposed to improve storage utilization while allowing you to scale up or down at will. You can pay as you grow and enjoy an easy-to-use storage system. So the question isn't why, but when and how."

Case Studies

Great Lakes Credit Union

Great Lakes Credit Union, North Chicago, Ill., with $542.9 million in assets and 41,156 members, updated its data storage systems to eliminate backup tapes and reduce paper in its offices. The credit union has a main office and eight branches in the Chicago area and is part of CU Service Centers, a network of credit union shared branches.

Great Lakes obtained its storage solution from NetApp, Sunnyvale, Calif. A NetApp appliance resides at the main branch as well as at the credit union's disaster recovery location, says Dion Rosecrans, senior network administrator. VMware, Palo Alto, Calif., provides the virtual environment for file-sharing and file service. The main branch is controlled by NetApp for common file serving. It shares users' home drives and also hosts virtual servers and virtual machines, Rosecrans says.

"Inherent to the storage device is the ability to create shares. What's unique about that, and what we like, is the NetApp has the ability to deduplicate. It takes a volume of information and compresses multiple files into a single file. Then it creates pointers to single files instead of replicating the same thing over and over," he adds.

Margie Krafft, Great Lakes' assistant vice president of information services, says, "That helps us with backups. It keeps them smaller and faster."

NetApp also gives the credit union "snapshot ability," Rosecrans says. "So snapshots are taken on our shares, for example, on an hourly basis, and those are kept for weeks" speeding data restoration for files from days or weeks ago.

"We use the same snapshot technology with our virtual environment, so we take snapshots of our virtual server, for example, and that snapshot is our backup. That snapshot is stored on the NetApp device. Then we replicate that information between our main branch and our disaster recovery location nightly and weekly," Krafft says.

She acknowledges the system was expensive up front. "But over time, it pays for itself."

An administrative tool is built into the NetApp, Rosecrans says. "It allows us to view volumes created, how those volumes are working as far as efficiency and capacity, and how close they are to being filled."

This storage setup has enabled Great Lakes to eliminate tape as a storage medium quickly. "Moving from a tape environment to a data storage medium is a much faster way of recovering data. These tools provide us a much faster recovery rate of our data than we used to have with tapes. With tapes, it could take hours to recover things. Now it's usually minutes," Krafft says.

Rosecrans adds, “We used to have to take our tapes off-site. They were encrypted but had to travel by vehicle. Now it’s just a data transfer over our network line between our main office and disaster recovery site.”

Long-term document image storage is another necessity for all credit unions. “We in the financial services industry have a lot of regulatory requirements for keeping images of documents or keeping paper documents for years. That storage media is unique because we have challenges of keeping data a year, three years, seven years and forever. There are different tools available for that,” Krafft says.

“We use a NAS [network attached storage] device. It stores PDFs, pictures, TIFs, and we access it through different media to obtain information for members or regulatory agencies.” The NAS is thousands of dollars cheaper than the NetApp appliance, she says. That’s key because estimating growth of storage needs is a challenge. When membership grows or credit unions merge, storage needs grow. Scalable storage that integrates well with the core system is a must. Some core system vendors provide imaging system, but Great Lakes has chosen a different vendor for its imaging system. Its core system is Episys from Symitar, and the credit union runs it locally.

Maintaining its own storage rather than outsourcing it is a savings to Great Lakes as a large credit union, according to Krafft. “We’d be spending a lot of money in a third-party environment because part of how they charge you is based on how much storage and data you have, how much data you transmit.” The credit union also likes knowing exactly where the data are and what physical security measures are protecting the data.

In-house storage isn’t the best for every credit union, though. She says, “Smaller credit unions don’t have the manpower and may not have the knowledge base [to obtain and run data storage systems]. That’s why they have to go out and purchase these services from third parties. But this gives them a great advantage.”

Wescom Credit Union

Wescom, with $2.5 billion in assets, 230,514 members, and 29 branches, is one of the nation’s largest credit unions. Best says Wescom has deployed large SANs to manage its demand for storage.

“We store a lot of data online. We’re one of few credit unions that take the approach that—as much as possible—everything is online for our members,” Best says. “Where a lot of credit unions follow the rule of 7, we have 11 years of storage in terms of statements.”

Best describes Wescom’s three-pronged approach to storage, which reduces paper and eliminates backup tapes:

1. A “private cloud,” a file content management solution—EMC Centera, a document-storage SAN solution. It archives, indexes, and collects all documents of the credit union, such as loan documents, signature cards, and all the other paper that typically comes through a credit union office.

2. A tiered storage solution—EMC Symmetrix VMAX—where all the credit union's databases, core information, templates, Microsoft SharePoint files, and insurance database are stored, 40 terabytes of documents in all.

3. A tapeless backup system—Data Domain, an EMC deduplication storage product. "You put an agent on the things you want to back up, and it backs them up to the tapeless backup," Best says.

"We run our entire system on what we call 'dual processing mode,'" he says. Anaheim and Pasadena offices' storage systems are duplicates of each other.

To address the credit union's need for speed when it comes to core processing, IT has converted several terabytes on the core system to flash drives. "Imagine a whole bunch of USB drives taped together. They're significantly faster than a drive with moving parts. We do that to get as much speed as possible out of the core system. More people need to consider that," Best says.

Conclusion

Credit unions often are on the cutting-edge of technology innovations. Member-facing technologies such as online banking and mobile services get a lot of attention. They have flash and excitement in the headlines and at trade shows. But storage happens behind the scenes and can seem abstract to nontechnical staff. Historically, it could challenge information technology staff to garner C-level support for storage projects. Yet it is a new day.

No question credit unions' bottom lines have suffered the effects of the recession. Instead of stalling out IT, however, leaner times have brought into focus the need for storage management projects and new ways of doing business, including outsourcing and cloud computing.

"Credit unions finally have realized 'Hey, we need to focus less on having everything within our four walls and more on the member and how to provide services to our member,'" Best says. "The reality is none of us are big enough—even compared to the smallest community bank in some cases—to provide these services in-house, with few exceptions. So we have to seriously consider getting out of our own way."

He adds, "Storage management is not an afterthought. It has to be the beginning thought."

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About the Author

Mary Mink is a business, technology, and financial services writer and editor with 20 years of experience covering the financial services industry.

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"I think there is a world market for maybe five computers." —Thomas Watson, chairman of IBM, 1943

"I have traveled the length and breadth of this country and talked with the best people, and I can assure you that data processing is a fad that won't last out the year." —Business books editor for Prentice Hall, 1957

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