

PROTECTING A PAPERLESS OFFICE

Peterson Sullivan PLLC creates a consolidated yet scalable IT infrastructure to accommodate 200 percent yearly data growth while protecting information



Peterson Sullivan PLLC may have been founded during the Eisenhower era, but today this large Seattle accounting firm uses the latest technology to help its professionals complete work on time and on budget. "Technology is vital to maintaining our firm's efficiency," says Cody Page, the firm's IT manager. "We use a wide variety of software applications for everything from capturing client data to routing work through the office."

SOLUTIONS

- BACKUP/RECOVERY/ARCHIVING
- CONSOLIDATION
- VIRTUALIZATION



CUSTOMER PROFILE

COUNTRY: United States

INDUSTRY: Banking and Finance

FOUNDED: 1954

NUMBER OF EMPLOYEES: 100+ users

WEB ADDRESS: www.pscpa.com

CHALLENGE

Accommodate 200 percent data growth by creating a consolidated yet scalable IT infrastructure and protect data with reliable, easy-to-manage backup and disaster recovery strategies that are integrated with virtualized servers.

SOLUTION

Peterson Sullivan PLLC created a consolidated, scalable virtualized infrastructure with VMware® software, Dell™ PowerEdge™ servers, and Dell EqualLogic™ storage while enhancing data protection with Auto-Snapshot Manager/VMware Edition software for automated, integrated, and scalable protection of virtual machines.

BENEFITS

Get IT Faster

- Accelerated application deployment from weeks to minutes
- Implemented Auto-Snapshot Manager/VMware Edition in one hour

Run IT Better

- Reduced virtual machine backup windows from hours to seconds using the Dell EqualLogic Auto-Snapshot Manager/VMware Edition
- Protected virtual machine data by creating multiple space-efficient snapshots per day

Grow IT Smarter

- Eliminated 75 percent of physical servers through virtualization
- Accommodated 200 percent yearly data growth





HOW IT WORKS

HARDWARE

- Dell™ PowerEdge™ 1950 servers
- Dell EqualLogic™ PS100E SAN
- Dell EqualLogic PS70E SAN

SOFTWARE

- VMware® Infrastructure 3 virtualization software
- Dell EqualLogic Auto-Snapshot Manager/VMware Edition

SERVICES

- Dell Support

“WITH THE PREVIOUS PROCESS, IT COULD TAKE MINUTES TO SEVERAL HOURS TO RECOVER OUR VIRTUAL MACHINES. WITH AUTO-SNAPSHOT MANAGER/VMWARE EDITION, IT TAKES JUST SECONDS TO PROTECT AND RECOVER FROM HYPERVISOR-AWARE SAN-BASED SNAPSHOTS.”

Cody Page, IT manager, Peterson Sullivan PLLC

One of the firm’s largest IT initiatives has been a multiyear project, shifting to a completely digital, paperless office. Over the course of the project, the Peterson Sullivan IT team had to solve three key challenges. First, they needed to create a consolidated infrastructure. “We added several new application servers to support our new paperless processes, but we quickly realized that we couldn’t keep adding servers forever. We had limited space in our data center,” says Page.

Second, the firm needed a scalable storage infrastructure that could support the massive amounts of data that the office generated. “We have a department that scans between 2,000 and 4,000 paper documents per day into PDF format. We also add thousands of other electronic documents every day,” says Page. “We were using direct attached storage, but we rapidly maxed out those drives. We needed a long-term plan to accommodate our growing storage needs.”

Finally, the IT group needed to develop enhanced backup and disaster recovery strategies to protect that large and growing collection of data.

“Those electronic documents change quickly as our employees do their jobs. If we have a disaster—or even if someone accidentally deletes a file, we stand to lose hundreds of changes and thousands of dollars in billable time,” says Page. “We needed backup and data protection solutions that would let us capture information frequently and improve overall recoverability in the event of a problem. It was clear that using our tape backup system alone wasn’t going to cut it.”

PETERSON SULLIVAN PLLC CREATES A VIRTUALIZED DATA CENTER WITH DELL HARDWARE

The challenge of creating a scalable server infrastructure was the first challenge that the IT team faced. Virtualization presented a clear solution for consolidating the growing collection of application servers. The IT group created a virtualized server environment with VMware Infrastructure 3 software running on Dell PowerEdge 1950 servers. “With quad-core Intel® Xeon® processors and up to 64 GB of memory, the Dell PowerEdge 1950 servers deliver the performance we need to run multiple applications on a single machine,” says Page.

DELL EQUALLOGIC SANS OFFER CONSOLIDATION AND SIMPLIFIED MANAGEMENT

With the company’s servers consolidated, the IT group turned its attention to the storage infrastructure, replacing its direct attach storage with Dell EqualLogic iSCSI storage area networks (SANs) to consolidate storage, simplify management, and maximize the benefits of the virtualization.

Using three Dell EqualLogic PS Series SANs in its production environment, the IT group can share capacity among all of the virtual machines. “We decided to install SANs first and foremost to save space. As our data continues to grow, we knew that SANs could help us consolidate storage even as we scaled capacity,” says Page. “We chose the Dell EqualLogic iSCSI SANs because they were highly recommended by other IT managers for their reliability and ease of use.”

By selecting iSCSI SANs, the firm was able to reduce the need for specialized administrative skills. “For us, iSCSI SANs were the right solution for a virtualized server environment,” says Page.

“WITH THE DELL EQUALLOGIC ISCSI SANS, WE DON’T NEED A DEDICATED STORAGE ADMINISTRATOR TO MANAGE THE SYSTEMS. THE SANS ARE EASY TO CONFIGURE, AND THEY ARE SIMPLE TO MANAGE.”

Cody Page, IT manager, Peterson Sullivan PLLC

“With the Dell EqualLogic iSCSI SANs, we don’t need a dedicated storage administrator to manage the systems. The SANs are easy to configure, and they are simple to manage.”

The IT group also installed an additional PS Series SAN at a remote location to build a more robust disaster recovery strategy. The Dell EqualLogic SANs are now part of a multitiered storage infrastructure that helps ensure successful data protection. “We can store our backups on disk and then archive data to another storage appliance,” says Page. “With redundant SAN arrays in the storage group plus redundancy in the controllers and disks, we created a much more reliable platform for storing data.”

AUTO-SNAPSHOT MANAGER SIMPLIFIES VIRTUAL MACHINE BACKUPS

With a solid backup strategy in place, the IT group began to explore ways to capture virtual machine data frequently throughout the day for more granular and faster recovery of the environment. “We started backing up full virtual machine images to the SAN and sending backups offsite for disaster recovery,” says Page. “The application we were using to create backups worked fine, but the process was lengthy and complicated.”

The IT group liked the idea of creating fast, space-efficient snapshots of the VMware environment, but the products on the market did not live up to expectations. “We evaluated another vendor’s tool for creating snapshots of virtual machines, but it was too cumbersome and complex,” says Page. “We needed something intuitive, easy to use, and cost-efficient.”

The Dell Support team recommended evaluating the Dell EqualLogic SAN’s new Auto-Snapshot Manager/VMware Edition software. Page’s group was able to start using the new tool quickly. “We

had to invest hundreds of hours into our current backup application to get it to work,” says Page. “With the Auto-Snapshot Manager/VMware Edition, we were up and running in about an hour.”

VIRTUALIZATION ELIMINATES 75 PERCENT OF PHYSICAL SERVERS

By working with Dell, the Peterson Sullivan IT group has achieved its goals of creating a consolidated and scalable IT environment with strong backup and disaster recovery strategies. Through virtualization, the IT group has been able to eliminate 75 percent of its physical servers. “We virtualized nearly 100 percent of our software applications, from our document management systems to Microsoft Exchange,” says Page. “We previously had two full racks of servers, and now we have less than half a rack. We were able to retire more than 20 physical servers and avoid further sprawl.”

Virtualization has also helped the IT group save operating costs while providing the flexibility for continued growth and improved data protection. “We now run 30 client/server software applications on just three VMware ESX servers and one VMware Consolidated Backup server,” says Page. “And if we need to add a new application, we can do so quickly, without the time and costs of acquiring and deploying a new physical server.”

DELL EQUALLOGIC SANS HELP ELIMINATE DOWNTIME

By using shared storage with the virtualized environment, the firm can help eliminate application downtime and avoid the costs of creating redundant application servers. “We simply can’t afford downtime. Every hour we lose is a billable hour,” says Page. “With the Dell EqualLogic SANs and VMware software tools, we can immediately move application data from one

physical server to another in the event of a problem. We don’t have to spend thousands of dollars on redundant servers.”

Integrating the Dell EqualLogic SANs into the virtualized environment has also enabled the firm’s IT group to create cost-effective test environments. “We test new software releases thoroughly before deploying them into production,” says Page. “With virtualized servers and SANs, we can easily create a test environment that uses copies of production data—and we don’t have to buy separate test servers.”

DELL EQUALLOGIC SANS REDUCE BACKUP TIME FROM ONE DAY TO SIX HOURS

With the Dell EqualLogic SANs, the IT group has established a faster and more reliable backup process. “Backing up data from the direct attach storage to tape took too long. Our backup windows were spanning nearly 24 hours,” says Page. “And because we stored metadata and raw data on different systems, we constantly had to tweak things to make them work. Our systems administrator spent approximately 50 percent of his time handling the backup process.”

Despite all that work, the backup process often ended in failure. “We had trouble matching the metadata and the raw data—in a few cases, it didn’t work, and we lost data,” says Page. “Even when the process did work, recovery took too long. In the event of a disaster, it might take us a full week to rebuild all of our data from tapes. Our employees can’t wait that long to have access to our clients’ information.”

By using the SANs for online, disk-based backups in conjunction with VMware Consolidated Backup, the IT group has dramatically accelerated backup and restore processes. “We reduced the backup window from 24 hours to just six hours. In the

event of a disaster, we could rebuild the data from the offsite SAN in four hours," says Page. Because the company uses a shared pool of storage, the IT group no longer has to worry about matching document data from different storage systems. "If something happens now, we know the business will just keep going."

SNAPSHOTS REDUCE TIME TO PROTECT DATA FROM HOURS TO SECONDS

By creating space-efficient point-in-time snapshots of data instead of entire virtual machine images, the IT group expects to accelerate the process of protecting and restoring data while also preserving storage capacity. "The Auto-Snapshot Manager/VMware Edition will help us speed up virtual machine protection dramatically," says Page. "With the previous process, it could take minutes to several hours to back up our virtual machines. With the Auto-Snapshot Manager/VMware Edition, it takes just seconds to protect and recover from hypervisor-aware SAN-based snapshots."

The Auto-Snapshot Manager also enables the IT group to automate the creation of snapshots over the course of the day. "If you back up virtual machines just once or twice a day, you stand to lose lots of work in the event of a problem," says Page. "We can use Auto-Snapshot Manager to create snapshots every hour or two, throughout the day, all without interrupting application availability."

The Auto-Snapshot Manager/VMware Edition also makes it simple to create distinct snapshot schedules for different virtual machines. "We can use the folder structure to logically group certain virtual machines together and then

schedule snapshots for each group at different frequencies," says Page. "We might want to capture one group every two hours while another once a day. Being able to fine-tune the scheduling helps us optimize our resources."

Easily integrated into the existing backup process, the Auto-Snapshot Manager/VMware Edition tool will add another layer of data protection. "We will continue to conduct image-level backups. But now we have a way to capture and restore document changes at a finer level," says Page.

READY FOR LARGER MOUNDS OF DATA

As the document scanning continues, the firm sees no end in sight for its data growth. Fortunately, the IT group's new infrastructure is prepared for scalability. "If we need to add an application, we can do so quickly in the virtualized environment," says Page. "At the same time, the Dell EqualLogic SANs enable us to add capability easily. We have already seen the scalability in action—when we added the third Dell EqualLogic SAN to the group, the capacity was immediately ready for use. That kind of scalability is not nearly as easy with products from other vendors."

With a new IT infrastructure and easy-to-use management tools, the IT group is now more confident that it can protect all of that data. "Protecting our employees' work and our clients' data is essential for our business," says Page. "We now have the hardware and the management tools to protect data without excessive costs or administrative burdens."

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