A Job Well Done

Remote office backup consolidation aids data protection, compliance and lowers costs
Small- and medium-sized businesses (SMBs) with distributed environments can use many of today’s products to consolidate their remote office backup, thereby economizing and gaining control for legal and corporate governance compliance while adding a level of disaster protection. What’s more, streamlining the process leaves remote office personnel free to be more productive in their real jobs.

Remote office backup consolidation can be achieved using an affordable storage area network (SAN), virtual tape library (VTL), disk-to-disk (D2D) and continuous data protection (CDP) backup technology, as several SMBs have discovered, to their considerable benefit.

As Tom Major, chief strategy officer, LeftHand Networks, points out, “Centralizing backup greatly simplifies management for customers with multiple facilities. They can leverage their investment in IT staff and tape libraries at their primary site, while greatly increasing the reliability of their restores.”

Using a SAN

Schenck Business Solutions is a full-service regional accounting and consulting firm with 550 employees in 11 offices. In early 2004, the firm overhauled its entire IT infrastructure, migrating to Microsoft Windows platforms, changing its wide area network (WAN) and replacing its Fibre Channel (FC) SAN with EqualLogic’s Internet Small Computer System Interface (iSCSI)-based SAN solution to support its business-critical operations while providing integrated backup and recovery functionality. Schenck partnered with EqualLogic to create an enterprise-wide storage infrastructure providing on-demand storage provisioning and remote replication for data protection.

After nearly 18 months in production, the EqualLogic PS Series storage arrays have become an integral component of Schenck’s strategy within its data center. Since storage is now centralized on the SAN, all company data can be controlled and protected with sophisticated management features, full hardware redundancy and comprehensive backup procedures.

“The best part about using EqualLogic’s PS Series arrays is that everything I need to create, manage and protect an enterprise SAN is included, allowing me to lay the foundation for a virtual data center that gives me incredible flexibility,” says Jim Tarala, CIO and CTO at Schenck.

Schenck initially deployed two PS100E arrays in its Appleton, Wis., headquarters as the core of its new all-Windows data center. All of the new Windows servers boot directly from the SAN, allowing the firm to provision and re-provision servers on the fly. Later, a third array was installed in the company’s remote office in Green Bay for replication over the WAN for secure and efficient data protection. Schenck is up to five EqualLogic arrays, and four have been upgraded to the PS300E, with the remaining one slated for upgrade.

“We’ve combined replication technologies to back up our smaller offices to the SAN and then use EqualLogic’s SAN-to-SAN replication tools to achieve true business continuity,” Tarala adds.

“The distributed nature of LeftHand’s SAN — with our modular nodes that can be installed anywhere — makes it ideal for centralized backup scenarios,” says LeftHand’s Major.

Managing Remotely

Businesses with multiple facilities face a unique set of challenges surrounding backup and recovery. Frequently, remote sites don’t have resident IT staff, impacting the types of backup and recovery procedures that can be put in place and reducing the success rate of backup. For example, by centralizing backup to a LeftHand Networks SAN, one university was able to utilize the IT staff at the main data center to manage backup/recovery and consolidate backup hardware. The same remote copy capabilities also allowed the school to affordably maintain multiple copies of data in multiple remote sites. In the case of a disaster, user and application traffic can be rerouted to an available copy of the data, allowing business to continue to function.
Benefits of this scenario include:

- Using LeftHand Networks’ Remote IP Copy, data from the satellite campuses is copied to the main data center for backups.
- The copies of data are mounted to the backup server at backup time and the data is archived to tape. This not only alleviates the need for personnel to monitor backups at remote sites, but also speeds up the backup process by taking it off of the network and offloading the backup process from the application servers.
- The university consistently maintains reliable backups, completed using the higher-end tape library available at the main data center.
- The university’s main goal was centralizing backup, but they now also have a secondary copy of data at the main data center, which can be utilized in the case of disaster.

A wholly owned subsidiary of Blue Cross/Blue Shield of Montana, Western States Insurance (WSI) is one of the 100 largest insurance agencies in the United States and the top employee benefits broker in Montana. Whenever an existing insurance agency is acquired, WSI must integrate customer data and years of historical records, requiring data backup and restoration, typically taking four or five days.

WSI has since significantly reduced time spent backing up the company’s customer relationship management (CRM) database and restoring data to alternate locations for testing and integration development. Prior to deploying the LeftHand SAN, data protection was dependent upon manual tape backups, a “failure-prone” process. Now WSI has two disaster recovery sites, and through centralized management, one system administrator can easily supervise all 26 locations.

WSI says that it has saved $50,000 per year by choosing the LeftHand SAN over alternative FC and outsourced solutions for data storage and disaster recovery.

Eagle County, Col. is the home of Vail and Beaver Creek ski resorts. The IT department manages the infrastructure that keeps all aspects of this thriving mountain community operating smoothly. Eagle County’s original direct attached storage (DAS) model was difficult to manage and scale, and backups weren’t completing in the backup window. In 2003, Eagle County purchased a 12TB LeftHand SAN to support such standard applications as e-mail, office automation, faxing and Web services, as well as many other custom applications in use throughout the county.

The LeftHand SAN offered dramatic improvements in the daily backup scenario and the ability to replicate data to a remote site, all utilizing the IP infrastructure. “Many of the things that we initially tried to do with our backup vendors, such as utilizing their agents for database applications, were problematic,” says John Denardo, CTO at Eagle County. “We ended up returning the software and doing it all using LeftHand Networks’ snapshots, backups and Remote IP Copy.

Schenck Business Solutions uses EqualLogic PS300E iSCSI SANs with Microsoft Data Protection Manager (DPM) to replace host-based replication, remote office backup agents and remote office tape drives. EqualLogic replication provides disaster recovery for DPM in a nine-office environment.

Source: EqualLogic
“We replicate to our disaster recovery (DR) site seven miles away over a pair of bonded T-1s,” he adds. “We have scripted disk images using Symantec’s PowerQuest V2i Protector product [now part of LiveState Recovery], and all of those servers are scripted to ‘disk-image’ themselves up to the storage unit every night. Those images are replicated out to our DR site using Remote IP Copy, which combines snapshot and asynchronous replication. We have a 60-tape SDLT as a backup line of prevention; it’s probably the last line of defense, kind of the third backup in the scenario.”

**Using a Virtual Tape Library**

VTLs leverage industry-standard high-speed disks to provision virtual tape drives and libraries to backup servers attached to an iSCSI or FC SAN to maximize performance and return-on-investment.

“Virtual tape libraries are particularly proficient at solving backup and recovery issues, and are rapidly gaining widespread recognition across companies of all sizes in Japan,” says Noboru Aoki, sales manager and director of FalconStor Japan.

Sharp Corporation was already using large-scale tape libraries for its backup operations. However, the increasing amount of data coupled with a limited backup window created an urgent need for a high-performance backup system. Sharp considered adding more tape libraries, but was looking for a cost-effective solution. Factoring in the rapidly decreasing cost of disk, Sharp decided to test FalconStor’s VTL Appliance. FalconStor’s solution consolidates backup resource management while enhancing backup operation reliability and accelerating recovery speed.

“FalconStor’s VTL product met our needs for high-performance backup solutions,” says Noriyuki Koyama, counselor of Sharp’s IT Strategic Planning department. “It reduced our cost for adding new machines, and made our backup operations more flexible. As our IT environment grows in the future, we expect the VTL solution to seamlessly take on the task of managing the backup of additional application servers.”

The VTL Appliance required no changes to Sharp’s existing storage environment, so testing was quick. Results indicated that backup speed doubled and data restoration speed tripled.

**Using Disk-to-Disk Backup**

“The challenge most organizations face is that they do not have a data protection strategy for their remote offices,” says Michael Parker, group manager, product marketing, Symantec Corp. “The data at remote offices is simply not being backed up, or tape drives sit idle because there are no trained or designated resources to ensure backups are actually running.”

To address this, Symantec Backup Exec 10d for Windows Servers software includes Backup Exec Continuous Protection Server. This solution eliminates backup windows and delivers Web-based end-user file retrieval functionality. Backup Exec 10d continuously protects data in real time.

Cincinnati Thermal Spray (CTS) provides an extensive variety of coatings that increase resistance to wear, heat, oxidation, corrosion, abrasion and erosion for aerospace, automotive and steel industry products and components. “Design and project information are mission-critical,” says Steve Wilson, IT manager, CTS. “Our projects require rapid turnaround and on-time delivery to meet our customers’ demands. Losing that information means losing business. With our plants in the Midwest, we’re highly susceptible to severe weather conditions.”

The company relies on Symantec Backup Exec software for backup across four Midwest and Eastern U.S. remote offices. “We use CDW as our sole source,” says Wilson. “CDW has backup and recovery experts on staff, and they married Backup Exec 10d to a CDW-sourced Overland Storage REO 4000 disk-based backup and recovery appliance for us. Backup Exec 10d and the Continuous Protection Server will provide us with a systematic approach to real-time data protection by connecting all of our offices to a centralized disaster recovery site, helping improve backup reliability, simplify administration and reduce management time. [It will help us] drive down hardware costs by eliminating the need for separate backups and additional storage hardware in each office, and empower our users to retrieve their own files without calling IT. We already have another site to add to our backup network.”

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