



Save

Success Story

WASHINGTON AND LEE UNIVERSITY

Leading University Achieves Higher Level of Intelligent Data Protection with REO® & NEO® Backup and Recovery Solutions

Challenges

- Storage doubled every two years, straining backup and recovery, overtaking aging HP tape library with SDLT technology.
- Slow backup performance due to compatibility issues between Backup Exec and EqualLogic IP SAN
- Up to eight hours of administrative overhead required weekly to de-fragment files.

The Solution

REO® 9000, REO 4500c,
NEO® 4000, NEO 2000,
ARCVault™24

Benefits

- Administrative overhead reduced from eight hours weekly to a couple of hours annually managing disk-based backups.
- Expandable tape library easily scales to keep pace with storage growth.
- Sequential disk multi-streaming accelerates D2D backup performance.
- VTL with compression capabilities enables retention of more backup data on disk.

Washington and Lee University is named for two influential leaders in American history: George Washington and Robert E. Lee. Founded in 1749, the college is renowned for undergraduate divisions comprising the liberal arts college and fully accredited Ernest Williams II School of Commerce, Economics, and Politics as well as its School of Law.

Located in historic Lexington, Va., Washington and Lee also is one of the nation's best teaching colleges, offering 39 majors and more than 1,100 courses to approximately 1,700 undergraduates. In addition, the university places high priority on leading-edge technology, deploying fully equipped computer labs, and "smart classrooms" with wireless communications, Blackboard learning systems and widespread WiFi wireless access.

"With Overland's REO, we haven't spent one second de-fragmenting disks or dealing with compatibility issues. We've gone from spending eight hours a week managing disk-based backups to a couple of hours a year overseeing VTL firmware updates. Plus, REO integrates seamlessly with Overland's NEO tape libraries for complete D2D2T data protection."

Jim Bollinger
Systems and Network Engineer
Washington and Lee University

Students and faculty have access to groupware with integrated calendaring and email along with dedicated storage on the campus network. According to Jim Bollinger, systems and network engineer for Washington and Lee University, a top priority is keeping pace with ever-increasing compliance

requirements, such as new amendments to the U.S. Federal Rules of Civil Procedures (FRCP). "It's important to archive information according to policy but also make email and file system storage discoverable as electronic data," he says.

The Challenge

The four-person systems and network team oversees approximately 70 file and application servers, core network infrastructure, storage, data protection and disaster recovery. In 2007, the university undertook a year-long migration from Novell NetWare to Microsoft Windows with a planned transition to Microsoft Exchange and the addition of Symantec's EVault product in 2008 for fortified e-discovery.

As a result, the team expects a continued spike in storage, which has been doubling every two years. In 2003, the university initially responded by implementing an EqualLogic Internet Protocol Storage Area Network (IP SAN). The university became early adopters of iSCSI SANs for three primary reasons. No special training was needed as the team was very familiar with IP. Second, it was possible to leverage commodity hardware without requiring separate, expensive infrastructure. Finally, ease of implementation objectives were fully met as the IP SAN was installed in less than 30 minutes.

While Washington and Lee's IP SAN worked well supporting burgeoning storage, the university encountered disk fragmentation problems using EqualLogic as a disk target for its Symantec Backup Exec backup and recovery software. As storage continued to grow, the time spent de-fragmenting files increased to about eight hours per server per day, while systems administrators spent up to eight hours each week managing the process. Moreover, incompatibilities between Backup Exec and EqualLogic created problems with buffering and I/O sizing, which slowed the

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backup process. Additionally, there were performance and reliability problems with aging HP tape libraries that used older SDLT tape technology. With overall storage exceeding 4 TBs, Washington and Lee set out to refresh its data protection, including upgraded disk- and tape-based solutions.

The Solution

The first step involved replacing the existing HP MSL5026 tape library with a platform that supported LTO-2 tapes. Since the HP library was manufactured by Overland under an OEM contract, the team decided to evaluate other tape technologies from Overland, including the expandable NEO 2000 tape library. Each NEO 2000 module supports up to 30 LTO cartridge slots as well as up to two tape drives, which enabled adding another module to increase capacity and performance by up to eight times. "Overland's NEO 2000 would help us keep up with our constant influx of data while providing a platform that supported modular expansion," recalls Bollinger.

As data storage continued to soar, the team relied heavily on Overland's tape library family to solve backup challenges, such as characteristically slow NetWare backups and the single-threaded nature of Backup Exec, which prevented multiplexing backups simultaneously to a single tape device. As a result, Washington and Lee deployed Symantec Backup Exec 10d and multiple Overland tape libraries and added Overland's REO disk-based backup and recovery appliance.

"Our dealings with Overland were very positive so it made sense to evaluate the REO when it came to adding disk-to-disk-to-tape (D2D2T) to our backup and recovery equation," says Bollinger. "We found its iSCSI connectivity appealing, since we then could address disk arrays physically located across campus for streamlined backups and improved disaster recovery."

After determining REO could be integrated easily into its environment, the team

installed a top-of-the-line REO 9000 with 24, 500-GB drives. "We set it up and everything worked from the first time," recalls Bollinger. "It was an unforgettable user experience to drop in this purpose-built appliance and experience flawless operation."

The Benefits

For Washington and Lee University, Overland's REO VTL has transformed its backup and recovery experience. "Since implementing Overland's REO with Symantec Backup Exec 10d, we haven't spent one second de-fragmenting disks or dealing with compatibility issues," explains Bollinger. "We've gone from spending eight hours a week managing disk-based backups to a couple of hours a year overseeing VTL firmware updates. Plus, REO integrates seamlessly with Overland's NEO tape libraries for complete D2D2T data protection."

Overland's REO also played a pivotal role in decreasing the university's backup window. Configured as a VTL, the appliance writes multiple streams of data sequentially for faster, more reliable backups. The university stores up to three weeks of emails and one week of file and print data on the REO 9000 for nearly instantaneous file restores.

By 2007, the migration from NetWare to Windows, along with an ever-increasing amount of media-rich data, caused storage to double to 8 TBs. To bolster its disk backup, Washington and Lee added a REO 4500c, which is a VTL disk appliance with hardware compression capabilities. The systems and network team is experiencing 150 percent compression of digital data, including a large percentage of MP3 and video files. "Using the REO 4500c will enable us to increase retention of backup data on disk, which will become even more important once our cut-over to Windows is complete and users have even more network storage," adds Bollinger.

Washington and Lee has rounded out its tape-based data protection with two additional Overland NEO 2000 libraries, a NEO 4000 mid-range library, as well as an

entry-level ARCvault 24 tape automation product. A migration to LTO-3 tape technology is currently underway. Finally, the university is considering a general-purpose storage array, such as Overland's ULTAMUS RAID, to support aggressive storage growth while reinforcing tiered data protection capabilities. Overland will continue to play a major role in supporting the university's dynamic environment, particularly in data protection, thanks to best-of-class products and support.

Washington and Lee University found Overland's responsive technical support unaffected by the October 2007 wildfires that impacted much of San Diego, including many Overland employees. "Overland mobilized quickly and my technical support call was directed to an engineer who was working from home," says Bollinger. "When that engineer was forced to evacuate his home, my support issue was adeptly handled by someone else. In today's era, that is the definition of nimble. I've been in the industry for more than 20 years and I have to go back to the old days when Digital Equipment set the standard for excellent support to get service like that from a vendor."

About Overland Storage

Overland Storage offers the most complete set of smart, affordable data protection appliances that ensure data is constantly protected, readily available and always there. Overland Storage brings enterprise-class capabilities to mid-range customers through affordable and reliable solutions that reduce the backup window, improve data recovery speed, simplify short- and long-term data retention and make cost-effective disaster recovery a reality for all. Overland products include award-winning NEO SERIES® and ARCvault™ tape libraries, REO SERIES® disk-based backup appliances with VTL capabilities, and ULTAMUS™ RAID high-performance, high-density storage. For more information, visit www.overlandstorage.com.



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