

SPECTRA LOGIC FIELD STUDY REPORT

JULY 2012



Taneja Group conducted in-depth telephone interviews with 8 Spectra Logic customers, who comprised varying company sizes and industry verticals. The interviews took place over a 3-month period in early 2012. We were after deeper insight into the leading storage-related challenges these customers faced, and how Spectra Logic’s tape solutions helped them to meet these challenges.

Our interviews revealed that these IT administrators and directors consider Spectra and tape-based storage solutions to be invaluable players in their corporate storage environments. Customers described their Spectra Logic libraries as foundational storage tiers for file data storage, data retention, backup and disaster recovery. The libraries are especially well-suited for environments with high capacity and scalability needs, long data retention requirements, shrinking data center space, and the need to protect IT investments.

Most of the representative companies had already owned tape libraries for many years and looked to Spectra when their old libraries reached end of life. The professionals we interviewed described why they chose tape libraries as a storage tier and why they specifically chose Spectra Logic libraries. The cost of long-term data retention was by far the major driver for purchasing tape libraries. Most of the interviewees combined tape-based data retention with disk for more active data and for backup application storage targets. Disk tended to be either VTLs or deduplication systems with tape as the tertiary storage tier. Most of the corporations backed up at least some of their data directly to tape.

The overall economics of tape vs. disk were particularly compelling for long-term data retention, with customers citing portability, low cost of ownership, reliability, and durability. But once customers made the decision to invest in a tape library, Spectra’s purchase price was not a major driver in the decision between different tape vendors. Service and support quality, reliability, scalability, product design, and density with a small footprint were among the major drivers.

Additional drivers included the professional and supportive sales process and excellent product functionality. The consensus of opinion is that Spectra Logic is an excellent tape library choice with superior support over its competitors.

CUSTOMER INFORMATION

Type of Company/Industry	Title of Respondent	Use Cases for Tape	Spectra Products
Hospital Administrator	Storage Management Team Lead	BU/DR/AR	T950, T-Finity

Aerospace Engineering	Manager, Corp. IT and HPC	BU/DR/AR	T950, T120, T50e
IT Services	Lead Engineer	BU/DR	T120
Global Engineering	Sr. Backup Administrator	BU/DR	T680, T950, T50e
Brokerage Research	IT Analyst	BU/DR/AR	T950
Federal IT Services	HPC Technical Director	AR	T950, T-Finity
International Scientific Computing	Associate Director	BU/DR/AR	T950
Financial Services	Systems Engineer	AR	T950, T120, T50e

Detailed Field Study Results

In each customer section we first describe the interviewee's role and responsibilities, their challenges, and their Spectra deployment and storage environment. We then include key illustrative quotes and summarize the customer's experience. Most of the customers granted permission to use their names and company names; a few remained anonymous due to their companies' privacy policies.

CUSTOMER #1: DANNY BROCK, COMMUNITY HEALTH SYSTEMS

We interviewed Danny Brock, the Storage Management Team Lead for Community Health Systems. CHS is a large provider of general acute care hospitals throughout the U.S. Brock's group provides IT support, backup and recovery services for the majority of their hospitals.

The company has owned a Spectra Logic T950 at the corporate site for the last four years, and recently purchased a Spectra T-Finity for a disaster recovery (DR) site. The T950 is used to store corporate data. Most of the hospitals have local VTLs that back up and then replicate over the WAN to the T-Finity. CHS uses Tivoli Storage Manager and EMC NetWorker for data movement between disk and tape.

The team then archives the replicated data and stores the archives to the T-Finity. Data that cannot be deduped or does not need a fast restore is stored directly onto tape as the more economical choice. About 35% of corporate data is going onto tape now and Brock believes this percentage will grow, particularly around email.

Challenges and Drivers

- **Challenge: Scalability.** The company frequently scales its storage environment. They needed a tape library with highly scalable infrastructure for additional and upgraded drives.
- **Challenge: Environmental factors.** The company needed to control space and costs in its data centers. It uses VTLs in the field but tape is more economical for environment factors like density in a small footprint, rackspace, power and cooling costs.

Spectra Logic Experience

Brock was not involved in the T950 purchase but was instrumental in subsequent upgrades and in the T-Finity purchase. The company was happy with the exceptionally reliable T950. However, they needed some upgraded features for the T950 and a new library for the DR site. The T950 had 6 LTO-4 drives and 160 licensed slots. Brock upgraded it to 18 LTO5 drives, licensed the remaining slots and added 2 partitions. He has maxed out the frame but can add another frame to get another 1300 slots with lower power usage, and maybe more drives as well.

When it came to buying a new tape library for the DR site, the team looked hard at Spectra Logic and IBM. One of the biggest factors for the T-Finity choice was Spectra technology, especially media lifecycle management (MLM), which alerts them if the media is bad. Spectra's small footprint and low power consumption were the other big factors since floor space was at a premium at the DR site. In regards to purchase costs, Spectra Logic and IBM were in the same ballpark. But Spectra's low power consumption and footprint resulted in lower costs over time.

Support has been good and increasingly methodical. Initially this was a challenge to Brock, who could not skip to where he knew the problem was until they went through everything the support engineer wanted them to do, such as upgrading firmware and updating software. He now keeps the firmware upgraded and the software up to date as a matter of course and support calls have gone faster.

Key Quotes

"The biggest factors for the T-Finity were first of all Spectra technology, especially its media lifecycle management. Since it is located in the DR site, we pay a premium for that floor space. So Spectra's small footprint and low power consumption were the other big factors."

"We had the T950 for 4 years, and only had to call support once. It's been very reliable so we trusted the reliability of the T-Finity."

"Obviously cost plays in everybody's decision but Spectra Logic and IBM were in the same ballpark. So cost was a wash. But Spectra's power consumption and footprint were low so that played into lower costs over time."

Summary

Business continuity in the field depends on local backup to VTLs and fast replication back to disk in the corporate data center. CHS uses its Spectra libraries for corporate backup and for longer term data retention. Spectra's small footprint and low energy costs have proved highly economical in the data centers.

CUSTOMER #2: HPC MANAGER, AEROSPACE COMPANY

This company is a subsidiary of a large technology company and specializes in aerospace engineering. We interviewed their Manager of corporate IT infrastructure and high performance computing (HPC) groups. He manages the HPC team who architects, manages and maintains the high performance computing storage environment. His IT team supports infrastructure put in place by the corporate IT group.

The environment under management consists of one T950, two T120s, and one T50e at the HPC site. The majority of the libraries do basic backup functionality while the T950 and one of the T120s also do active archive, which uses tape as NAS storage for unstructured data. One of the two T120s is deployed on the corporate side for archiving engineering documents, and will ultimately become a long-term archive. The HPC environment also uses active archiving to off-load data sets to tape from high-speed spinning disks. Stub files keep the storage locations transparent to users.

Challenges and Drivers

- **Challenge: Shrink operating costs.** The Manager's objective is to decrease high capital and operational expenses related to managing the data storage environment. He works closely with IT service providers to contract out storage purchases, converting capital expenses into operating expenses. He controls OPEX by ensuring compatibility across engineering data sets for economical data exchanges.
- **Challenge: Reduce liability.** He has seen an explosion of data in his field yet FAA regulations require them to keep data available for the life of the aircraft plus 20 years. This translates into keeping data available for 50-75 years. He outsources much of this responsibility and potential liability to a Spectra reseller who keeps long-term data quickly retrievable on Spectra tape libraries.

Spectra Logic Experience

A major customer and partner had recommended Spectra Logic libraries to the Manager's team. His company frequently shares engineering data sets with partners, and a corresponding Spectra deployment would ensure compatibility for sharing and for an extra layer of data redundancy.

Following the proof of concept for new tape libraries, the next step was successful user tests in an HPC environment. The Manager compared test results between Spectra and a leading library that his company already owned. He found that Spectra was one-third to one-half faster than the other vendor's equipment. This speed made a tremendous difference in performance over time.

His initial consideration was that performance and cost are important ongoing factors. Cost is an important reason that his company went with tape, which has huge economies of scale. Spectra was not the cheapest tape solution of the ones the team tested but it provided the best set of features and support expertise over other tape vendors.

Key Quotes

"The overall path was definitely headed away from tape and towards spinning disk. Now that whole war cry has sort of disappeared. Everyone realized that tape is not dead. They just didn't understand how far tape has come."

"From our side we've always been an advocate of tape. It's been a battle between tape and the disk behemoths out there with their loads of marketing dollars."

"We went through hell to get Spectra Logic in and no one could argue. I won't do that for a device I don't believe in."

Summary

Tape offers distinct advantages over disk including cost, density, reliability, availability and ongoing R&D investment. The Manager reported that his biggest problem to date is remembering when a library is due for its maintenance period.

CUSTOMER #3: DAMION JEDLICKA, AFNI, INC.

We interviewed Damion Jedlicka, Lead Engineer for AFNI's IT services on behalf of their customers' call centers. He oversees IT infrastructure building and ongoing technical support, and splits his time fairly evenly between three areas: 1) R&D planning for product offerings, 2) internal IT environment including Exchange, storage, and backup, and 3) energy usage and networking infrastructure.

AFNI owns two large corporate data centers and nine regional data centers. Disk-based storage includes HP/3PAR, HDS, NetApp, and some VTLs. On the tape side there are Spectra Logic and legacy IBM tape libraries. Due to their positive experience with Spectra, AFNI is moving away from legacy IBM tape libraries and will use Spectra exclusively from now on. AFNI uses TSM 5.5 for backup and recovery and plans to upgrade to TSM 6.

Challenges and Drivers

- **Challenge: Fast implementation.** Time-to-market is crucial for his team so they have no time to deal with leisurely deployments. Speed of implementation is essential for new IT purchases, especially with a critical purchase like a major tape library.
- **Challenge: Performance, capacity and density with minimal power usage.** He needed to deploy a backup solution that would be fast enough and with capacity enough for 24x7 server backups. At the same time he needed to preserve data center space and lower energy costs.

Spectra Logic Experience

Jedlicka was directly involved in the initial Spectra library purchase as well as current purchases. About two years ago AFNI owned an IBM tape library. But tape storage was growing and he requested presentations for new tape libraries from several vendors including IBM and Spectra Logic. At the same time AFNI needed to replace an older VTL with an economical new model that would serve as a disk cache between the servers and the new library. They chose an inexpensive Overland VTL since it would only be caching new backup data and quickly moved it to the back-end library. They purchased a Spectra Logic T120 for the tape library and have since standardized on Spectra for new library purchases. Budget has been approved to purchase an additional T120.

Tivoli Storage Manager (TSM) backs up according to policies set for different server groups, which comprise about 400 individual servers. The server groups have differing backup windows with some of them scheduled during the workday. TSM backs up the majority of data to the VTL where it resides on disk for 1-2 days to preserve a fast restore. Data over 2 days old is less likely to need an immediate restore, so is backed up to tape where it can economically remain online and available. TSM also backs up some data directly to storage pools on the Spectra Logic library.

Adding additional tape drives to the Spectra library would allow more direct data backup with a minimal difference in restore times. In the future, Jedlicka would prefer to dispense with the VTL and backup directly to Spectra tape. The cost of the added tape drives would be an issue but from an engineering perspective he prefer a single-step backup rather than backing up to VTL and then to tape.

Key Quotes

"I like tape. I like tape because of this library."

"The Spectra account team has been very proactive and very helpful."

"They didn't push the big library just for nice-to-have robotics. The Spectra rep knew what we needed and he was very careful to focus on our needs and not what he wanted to sell us."

Summary

Jedlicka reported that Spectra is absolutely satisfying their backup needs, and they are demanding more out of tape than they did before. Their primary improvements are speed, capacity and density with minimal power usage. Switching from LTO2 to LTO5 also helped a good deal with LTO5's much greater capacity and throughput speeds. Additional drivers were service and support and Spectra's

laser-like focus on tape. Customer support compared to other vendors they have dealt with is top-notch.

CUSTOMER #4: WILLIAM ALEXANDER VESEY, BOMBARDIER AEROSPACE MONTRÉAL

We interviewed William Alexander Vesey, Senior Backup Administrator for Bombardier Aerospace Montréal. Bombardier specializes in transportation technology. Vesey oversees all backup and recovery throughout the company, which include remote office backups all over the world. Bombardier uses EMC Legato Networker for backup and recovery operations.

The company owns one T680, one T950 and 1 T50e for remote backup. They are in the process of purchasing additional Spectra libraries for remote sites in the UK and US. The majority of Vesey's backup customers do daily incremental backup and a full weekly backup. Databases are fully backed up every day to disk and some application servers are incrementally backed up eight times per day. Tape serves as a long-term data storage repository for data such as engineering documents, whose retention period may number in the decades. He stores tape off-site but tape requests are filled within a couple of hours. Ease of data access and retrieval is one of the reasons they went with tape for long term, offsite retention.

Challenges and Drivers

- **Challenge: Good cost per TB.** Backup and recovery is a global operation at the company. Vesey requires a reasonable purchase price, high performance, encryption support, and high capacity in a small footprint.
- **Challenge: Exceptional customer service.** He and his team require reliable vendor service including healthy ongoing relationships and single points of contact.

Spectra Logic Experience

The company's initial Spectra Logic purchase was before Vesey's time but he has been enormously satisfied with Spectra since he joined the company. Due to that level of satisfaction, he is now standardizing on Spectra Logic globally for backup and recovery and is considering adding archiving to the Spectra Logic use cases.

Vesey remarked that in his experience, disk backup vendors often make inflated claims for features like compression and deduplication ratios, and throughput numbers that they never end up meeting. He was pleased to report that the throughput numbers Spectra Logic reported during the purchasing process were the numbers they actually got.

He proposed adding additional Spectra libraries to handle data growth but ran into some pushback from disk evangelists. The organization understood the need for tape in general but not everyone agreed to the same scope or priority for tape. However, Spectra Logic's proven performance, reliability and capacity convinced the company that they should invest in Spectra again for multiple remote sites.

The main drivers for the new purchases were density with a small footprint, low cost per TB, excellent vendor service, performance, and encryption support. Good relationships and single points of contact were also strong requirements. Vesey commented that although some vendors behave as though support calls are an annoyance, Spectra views every support call as an opportunity to improve.

Key Quotes

"Some vendors behave as though support calls are an annoyance, but Spectra views every support call as an opportunity to improve."

"Spectra Logic solves problems in a very timely fashion. I really appreciate that."

"The account reps are fantastic. Not only do they contact us on a regular basis to get our feedback, but they're doing these types of surveys through Taneja Group for customer feedback. Keep up the good work."

Summary

At present Bombardier is archiving production data to disk. They are considering using Spectra Logic for active archiving to gain the efficiencies of tape for archives as well as backup and recovery. To Vesey, the primary aspect that separates Spectra from others is that when something breaks down, Spectra quickly takes care of it. He cannot say that for other vendors, who are so big they drown in their own red tape.

CUSTOMER #5: IT ANALYST AT BROKERAGE RESEARCH FIRM

We interviewed an IT Analyst with a brokerage research firm. The Analyst manages the UNIX infrastructure for trading systems and also manages storage, including backup.

The Analyst's company bought two T950 tape libraries and deployed each one in a different data center. He deliberately keeps data movement between the two to a minimum, preferring to keep storage localized. He plans to upgrade at some point with newer tape drives. He is also considering buying additional frames for the libraries since his company is growing its data very quickly. The firm uses Symantec NetBackup V6 for backup and recovery.

Challenges and Drivers

- **Challenge: Immediate customer support.** It is extremely important to him that incremental and full backups run with excellent reliability. Any problem that threatens the process requires immediate customer support.
- **Challenge: Comprehensive maintenance contracts.** He prefers his maintenance contracts to include proactive support. He also wants to see upgrades and fixes added under the existing maintenance contract instead of as separate charges.

Spectra Logic Experience

His company previously owned an old StorageTek tape library that had reached its end of life, and it was time to make an upgrade or replace decision. He was open to upgrading by adding new drives but development on the StorageTek libraries had stalled at Sun, and there was a risk of the backup solution not working with it. In addition, Oracle had bought Sun by this time and he found their support policies were unacceptable.

They looked at additional tape library vendors and found that a Spectra library could replace the StorageTek at a similar cost. It took an effort to get the money to buy the Spectra library since there was a strong pro-disk contingent at the company. Their perception was that buying disk would be less expensive than investing in two new tape libraries: one to replace the outdated StorageTek and another to handle fast data growth. The Analyst's position was that any new disk vendor will make purchase and maintenance cheap for the first year, but once they start charging regular prices it would become very expensive to purchase additional disk.

For example, he was looking at a Data Domain system for backup deduplication. He rejected it since his company would shortly be doubling its storage requirements, and scaling the Data Domain system would be very expensive. Another factor in the decision is tape's regular capacity expansion. Disk needs shelves to expand. With tape, regular LTO upgrades double capacity so his company can save

on tape storage space even if the data is growing. It is also simple to add tape cartridges to the libraries.

At the time of the interview the Analyst was in the middle of a support issue with Spectra. For the most part he is positive on their support practices but would have preferred that the support team be more proactive with this particular issue. He is looking forward to improving tape loading times, which is not an issue with everyday operations but can impact large tape loading projects. [Spectra has addressed this and will be offering Bulk TAP for much faster load/unload times.]

Key Quotes

“There is some pushback from other people in the company to go with disk instead to handle growth. A lot of these guys think disk is less expensive. It’s true that upgrading Spectra, especially two libraries, is a lot of money. But any new disk vendor we bring in will make things cheap the first year. And maybe they’ll give you free maintenance at the beginning, but once they start charging it’s very expensive.”

“Disk needs shelves to expand. With tape, buying a higher upgrade of LTO doubles capacity so I can save on tape storage space even if data is growing.”

Summary

The customer uses the Spectra Logic libraries to store incremental backup during the week and full backups every weekend. Archiving to the library is minimal since the compliance group prefers to vault retained data off-site. At present they retain backup data for 3 years but may shorten that time in the future. The Spectra libraries will continue to support backup retention.

CUSTOMER #6: DAVIN CHAN, CSC COMPUTER SCIENCES CORPORATION

Davin Chan is an HPC Technical Director at Computer Sciences Corporation (CSC), an IT support organization that numbers top-level federal agencies among its clients. Chan has operational responsibility for HPC tape archive systems at a client site’s super computing division, and is responsible for all archiving at the client site.

The client site already owned Spectra equipment when Chan came on board. The installation consisted of six T950s that were a mixture of 2, 3 and 4 frames. Chan has since worked with them to expand all of the libraries to 8 frames each. They also have a T-Finity on loan as a test environment.

Challenges and Drivers

- **Challenge: Support fast-growing data storage at client site.** Data is already at the petabyte level and growing fast. Backup and recovery must support big data throughout multiple client sites.
- **Challenge: Support Tier 1 client.** This very important tier 1 client requires the Director’s company to maintain a high level of support in a highly regulated and data-intensive environment. The Director must trust vendors like Spectra give him the level of support that this large government agency needs.

Spectra Logic Experience

The agency previously owned StorageTek Powderhorns that had been on-site for about 20 years. In a technical refresh, the agency chose Spectra Logic for its technology offerings and support practices. The agency also uses Spectra’s media lifecycle management (MLM) utility to help identify and replace bad media.

The agency uses SGI's Digital Migration Facility (DMF) to cache top priority data to disk, but the majority of data is stored to tape. Data location stays transparent to users since a requested file is immediately recalled from tape and distributed to the appropriate disk cache. Restoring data is a big chunk of their operations between HPC and stored data. Their current uncompressed capacity with LTO 5 is 88 PBs and they write about half a PB of data each month.

Chan appreciates Spectra upgrades and support. He is looking to Spectra to improve current robotic performance and mount speeds, which are acceptable but there is always room for improvement. Spectra engineering and support have been very responsive and Chan believes they will make the upgrades available. He also appreciates getting good advance notice on new releases and technology offerings so he has ample time to prepare.

Key Quotes

"The support that I have received from Spectra Logic has been excellent."

Summary

The Spectra libraries are the long-term storage tier of the customer's HPC environment, and must be extremely reliable. Top priority active data is cached on disk but it is economical for them to store the bulk of the data on tapes. Their primary drivers for using tape libraries vs. disk are much higher capacity and lower ongoing cost.

CUSTOMER #7: ASSOCIATE DIRECTOR, LARGE COMPUTING FACILITY

We interviewed an Associate Director at a large computing facility that provides international clients with big data storage and HPC computing. The facility is responsible for storing and distributing petabytes of incoming data from all over the world, and actively supports more than 1500 active computational research projects. The computing facility uses DMF to archive files while a major partner uses CommVault Simpana to move data into the libraries.

The facility owns two Spectra Logic T950s, each deployed at a different data center within the same campus. The data centers serve as DR/business continuity sites for each other.

Challenges and Drivers

- **Challenge: Tape and disk must meet demanding requirements.** Storage solutions had to have critical features such as high performance and reliability, low energy needs, and the capacity to work with multi-site operations.
- **Challenge: Economical options for customers.** The computing facility's customers range from corporations with large computing budgets to smaller scientific firms with minimal budget. The facility's storage offerings must suit both budgetary ranges and everything in between.

Spectra Logic Experience

The facility's libraries were StorageTek Powderhorns that had been in operation for 15 years. The Powderhorns were past their end of life and would not support the current generation of tape drives. The libraries were at capacity for 1-1/2 years, during which time the facility stored backups on the disk arrays. It was clearly time to get off the old tape and install a storage infrastructure that would be useable for years.

When he and his group issued a request for proposals, they required that only one vendor spearhead each proposal and provide a single point of contact during the proposal period. They did not require tape libraries but were willing to consider them in the proposal. Whether tape or disk, the data

storage solution had to meet certain critical criteria including performance, multi-site operations, cloud enablement, power and cooling requirements, high capacity, strong reliability, and more. Security and sophisticated backup features were also desirable.

SGI was the vendor that submitted the winning proposal, which included both disk storage and Spectra Logic tape libraries. The primary factors for choosing the Spectra libraries included purchase and operating costs, the ability to work with current tape technologies in an open framework, and a dense solution for high capacity with a smaller footprint.

The facility stores most active random access data onto disk and stores older data and sequential data, such as backup, to the Spectra libraries. The low initial and incremental costs were a trade-off with robotic speeds but the robotics are acceptable and very economical. Reliability and durability were additional factors and Spectra's encryption capabilities were important as well. They also liked the self-service options on the Spectra including field-replaceable components.

A large part of their business is supporting customers' computational projects, which require fast random access. This is disk's great strength. However, disk-only storage has some serious cost and reliability considerations that would impact the facility's customers including limited and expensive scalability and durability. Some of these partners have budgets that require low cost tape instead of expensive disk.

Key Quotes

"We have multi-pronged considerations for our buying decisions. I would say the top reasons for choosing Spectra were cost including cost per GB and operating costs, the ability to work with current tape technologies in an open framework, and a dense solution for high capacity with a smaller footprint. Reliability/durability is another factor -- it's tough to kill data on tape -- and Spectra's encryption capabilities were important as well."

"We needed to get into high capacity storage for backup and archiving, with a long-term growth path, and Spectra offered us that. We were looking out 10 years so they had to give us a roadmap to show they understood the issues."

Summary

The Director is constantly reassessing and planning for the optimal storage environment, including balancing differing storage and computational needs among his company's scientific customers. The Spectra Logic libraries are an important part of the infrastructure with cost-effective, high capacity storage for backup and archiving and a long-term growth path. Reliability is also a consideration as tape is generally more reliable and recoverable than disk.

CUSTOMER #8: LARGE FINANCIAL SERVICES COMPANY

We interviewed a Systems Engineer at a large financial services firm. The Engineer is in charge of backup and recovery for the company and was heavily involved in a major Spectra Logic library purchase around four or five years ago. At that time the company purchased two T950s, four or five T120s, and a two T50e libraries. They were deployed within 4 months as part of an entirely new backup environment.

The Spectra Logic libraries comprise the long-term retention layer of the company-wide backup and recovery environment. The main data center is in Texas where the master backup server keeps all the backup metadata. The firm uses NetBackup to backup data from remote sites but some of sites are converting to Avamar to use deduplication. EMC Data Domain is in the data center and stores deduplicated active data. The plan is to use tape for more long-term archival for data that they must retain for over a year.

Challenges and Drivers

- **Challenge: Observe stringent data regulations.** The financial firm's data is highly regulated, which requires high reliability in its data storage infrastructure. This is true both on active disk and on long-term data retention on tape.
- **Challenge: Enable older data recovery.** Financial data retention periods can be very long. The firm must be certain it can recover even old stored data upon request.

Spectra Logic Experience

The company originally owned an ADIC tape library but experienced frequent downtime, and decided to replace it. First they contacted Sun about StorageTek but Sun was not responsive. They began looking at Spectra Logic and made the decision to go with them for scalability, durability for long-term retention, ease of data access and retrieval, density in a small footprint, power efficiency, support, and cost per GB.

Spectra Logic durability is a big issue for this financial firm, which has many regulatory requirements for long-term data retention. Tape rather than disk makes sense for this usage case because it is simple to migrate the data to tape and send it off-site. The Engineer also makes sure he can recover aging tapes by keeping a few older drives within the upgraded library frame. This makes it possible to cost-effectively keep several generations of drives in the same frame for ease of recovery. And since tape capacities are getting larger, using tape for archival makes even better economic sense than it did even two years ago.

Support and reliability have also proven excellent. The company averages just a couple of open cases a quarter, and even then the primary issue is general maintenance. Downed libraries are rare and Spectra support has been very responsive.

At present the backup environment is using NetBackup on the front end so the bulk of retained data will be in the backup catalog. They are considering adopting active archiving as part of a highly automated tiered storage environment, including cloud-based storage access. They are actively exploring eDiscovery options for retained data.

Key Quotes

"We're very, very happy with Spectra Logic. Support has always been very responsive and helpful to us."

"We have a lot of long term legal requirements to hold onto things for 6-7 years. To us, at least right now, it makes better sense to put it on tape because we can reconstitute it to tape from disk and send it off site. We're not using any space for it and it's easy to recover later if we need it."

"Moving data from disk to tape is a fairly simple process. We might not replace a whole library, refreshing drives maybe. But it's easy to keep the old drive in there so you can restore older data. Before, you had to keep an old library around for restore and hope it didn't break because it was not supported anymore. Now, we can have several generations of drives in the same frame."

Summary

The Engineer reported that results from the Spectra purchases have been top-notch. Recently the Systems Engineer's manager raised the idea of a technology refresh and asked whether they should replace the four-year-old libraries. The Engineer told him there was no need to replace them since the existing frames will take new drives as upgrades.

Taneja Group Opinion

These customers were from companies that must have storage reliability and performance. Highly regulated financial services and healthcare, HPC, federal government, top-level scientific computing,

transportation engineering: all of these environments must have storage tiers that they trust to retain large volumes of valuable information for many years. For each one of these customers, Spectra Logic tape libraries are a vital storage tier for archiving, backup and/or disaster recovery operations.

Taneja Group recommends that IT decision makers seriously consider tape for their long-term retention, backup and recovery needs. Tape can also be an excellent alternative for operations where disk is the traditional choice such as big data storage or active archiving. Tape is intrinsically more reliable than disk, which normally requires RAID to protect disk and data integrity. Along with reliability is hugely scalable capacity, which makes tape highly suitable for fast-growing active archives. At the same time, tape's high density makes for energy efficiency and compact footprints in the data center.

We believe, based on this primary research, that Spectra has earned its position as one of the leading providers of tape solutions in the industry. This study demonstrates that Spectra tape can be a great solution for many data storage needs, and therefore customers should not forget about tape as they consider how best to satisfy their data storage requirements. Spectra tape should be included on every IT buyer's short-list as a candidate supplier of data storage solutions.

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