Easily replace Tier 2 and Tier 3 disks with tape for lower-cost archiving

Reduce the costs of power, cooling, floor space and administration in tiered infrastructures

Highlights

- Significantly lower the total cost of retaining infrequently accessed data over a long retention period
- Archive digital assets so they can be referenced and monetized for years to come
- Create storage tiers with inexpensive tape rather than costly disk storage
- Reduce the high power, cooling, floor space and administration costs associated with disk storage
- Leverage over 60 years of IBM industry leadership in innovating tape technologies

An arts center with an extensive video, music and photographic archive needs easy and fast access to files after they are moved from cache or disk to less expensive tape storage.

An insurance company needs a complete storage tiering solution to meet a range of data storage and access needs, including anticipated tremendous growth in bio-data information.

A storage service provider with a disk, tape and mainframe environment serving customers in life science, oil and gas exploration, geo-physical research, and general businesses wants to enhance services by improving customer access to files in long-term retention.

These are only a few of the many types of organizations that can benefit from deploying IBM® Spectrum Archive™ Enterprise Edition (Spectrum Archive EE) for long-term data retention in tiered infrastructures. Spectrum Archive EE can run any application designed for disk files on tape. Using Spectrum Archive EE to replace disks with tape in Tier 2 and Tier 3 storage can improve data access over other storage solutions as it improves efficiency and streamlines management for files on tape.

Significantly, Spectrum Archive EE can play a major role in reducing the cost of storage for data that does not need the access performance of primary disk. By replacing Tier 2 and Tier 3 disk storage with tape, organizations can achieve a new operational efficiency and cost effectiveness—at about 10 percent[1] of the cost of purchasing equivalent disk-based environments. Spectrum Archive EE also simplifies the use of tape by making data access transparent to the end user and enabling storage management under a single infrastructure.

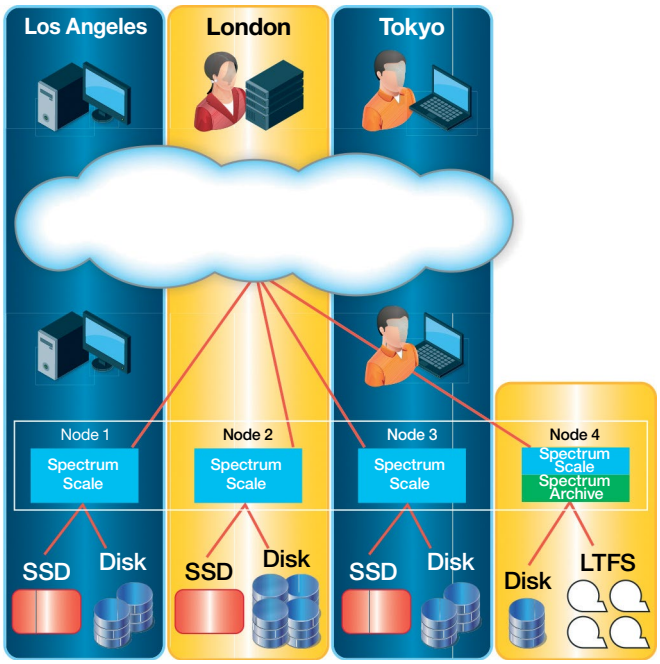
Get more—faster—from your unchanging and static data

In many storage environments, a large percentage of files are hardly ever accessed or changed. And while they must be retained due to regulatory requirements, it is almost impossible to predict their future access patterns. Traditionally, inexpensive tape was the medium of choice for this data's long-term storage. Then disk storage's decreasing cost per gigabyte and high annual growth rate for density convinced many organizations to change to spinning media for their long-term and tiered needs. Now, after only a few years, many organizations have found they cannot sustain the cost of continuously expanding disk storage for data that is rarely touched. They need a way to reduce the costs of power, cooling, floor space and administration resulting from disk storage.

But unchanging data that is infrequently accessed still has performance requirements. And while the volume of data—including static data—is increasing at an explosive rate, when the time comes for access, organizations need an efficient way to retrieve their information. In regulated environments, for example, government agencies often require the organizations they oversee to keep data for long periods—and when an audit occurs, organizations must access and utilize that data to prove compliance. In business environments, the growing ability to perform analytics on "big data" to gain business insight and monetize archived assets make storage and data access critical tools in gaining a competitive advantage.

Case study: Meeting long-term and immediate needs

A scientific research institute needs to store and have file system access to all its data for at least 10 years to meet legal obligations—but it also plans to keep some data for as long as 30 years. It uses Spectrum Archive not only as a long-term solution for archiving data, but also as a portable medium with accessibility features that allow sharing data with other researchers without worrying about proprietary exchange formats.



Using Spectrum Archive EE, organizations can easily share data access to both tape and disk storage across a global storage environment.

Extend high availability and I/O with simplified administration

The Linear Tape File System™ (LTFS) is a self-describing format for archiving data to tape that was developed by IBM and has been adopted as an industry standard. Significant to archive environments, it enables users to make upper-level software changes without impacting their ability to access data. It also allows businesses to transport, share or sell data without concern for the format upon data exchange.

Spectrum Archive EE combines the ease of use of LTFS with the scalability, manageability and performance of IBM Spectrum Scale™, long an industry leader in high availability and high input/output (I/O) capabilities. Spectrum Archive EE extends the abilities of Spectrum Scale, however, with simplified tape administration. Spectrum Archive EE relieves the complexity of transferring data from tiered disk storage to tape. For organizations of any size, the result is the ability to move beyond simply adding storage to optimizing and streamlining data management—while also reducing the costs of storage infrastructure and power.

As needs for capacity, I/O and data availability grow, Spectrum Archive EE allows users to easily expand the tape tier of Spectrum Scale. The ability to add media and provision it in the Spectrum Archive pool of Spectrum Scale allows expanded archive capacity with minimal downtime and without impacting the availability of data already in the pool. Performance of the tape drives and of the Spectrum Archive EE server is load balanced by the Spectrum Archive EE software to ensure the highest possible data rate and data availability.

Case study: Accessing and sharing archived data

A university keeps its scientific data on premises with separate file systems for active data and archiving. But faculty members often need to take data with them to research at other locations, and joint research projects often receive data from other locations. To provide data access across all media, the university uses Spectrum Archive for seamless integration of tape into its data archive. In addition, Spectrum Archive EE enables end users to transparently access data from tape, even when working off campus.

Why IBM?

IBM Spectrum Archive featuring IBM Linear Tape File System technology provides direct, intuitive and graphical access to data stored on tape cartridges. As a continuous innovator, IBM invented the LTFS format standard and was first to market the open standard file system for single Linear Tape-Open (LTO) tape drives. LTFS is an outgrowth of a decade of leadership as a founding member of the LTO Consortium and market-leading supplier of LTO tape drives, libraries and cartridges. IBM continually upgrades the file system in order to offer more benefits to suit today's business needs.

With the introduction of Spectrum Archive EE and the enterprise-level management of Spectrum Scale, tape now addresses the primary concerns of organizations requiring scalable tiered data—ease of scalability, improved I/O and transactional performance, improved data availability, and faster deployment and provisioning times.

With over 60 years experience with tape technologies, IBM continues to innovate data storage products to help organizations back up and restore data for business continuity, recover their data in times of disaster, and archive for data protection and long-term retention.

For more information

To learn more about IBM Spectrum Archive Enterprise Edition, please contact your IBM representative or IBM Business Partner, or visit: **ibm.com**/systems/storage/spectrum/archive

Additionally, IBM Global Financing can help you acquire the IT solutions that your business needs in the most cost-effective and strategic way possible. For credit-qualified clients we can customize an IT financing solution to suit your business requirements, enable effective cash management, and improve your total cost of ownership. IBM Global Financing is your smartest choice to fund critical IT investments and propel your business forward. For more information, visit: **ibm.com**/financing

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Actual available storage capacity may be reported for both uncompressed and compressed data and will vary and may be less than stated.

[1] IBM analysis based on a list price comparison of a 1 PB IBM TS3500 Tape Library, 1 Spectrum Scale license and 1 Spectrum Archive EE license, compared to the cost of IBM DS5100, including annual maintenance.

Please Recycle

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