Solving Digital Archive Challenges with Oracle's StorageTek Portfolio

"Oracle's StorageTek tape, NAS and SAN storage solutions fit our needs perfectly, providing an integrated architecture that ensures we can store 100 terabytes per day and manage hundreds of thousands of assets effectively and efficiently."

Brian Noecker, Vice President, Information Technology
T3 Media

Driving Archive Growth

Archive environments are growing exponentially, driven both by primary data growth and increasing retention requirements. Gartner predicts 30 to 60 percent compound growth in data through 2015.[1] Increasing regulations require you to keep this data for longer periods of time in an accessible and tamper-proof format. Today, new drivers such as data analytics and digitization are further increasing the requirements on archives. Further, analytics can be applied over ever diverse datasets, making even data once thought to be of little value important enough to retain for the long term. This leads to internal business opportunities that are driving strategies with retention periods longer than required by regulators.

Reducing Total Cost of Ownership Through Archive

To meet retention requirements, many organizations simply keep their backups for a longer period of time. However, that doesn't unleash the value of the data and often times will not meet regulatory requirements. A true archive strategy can help organizations lower overall storage costs, lower backup costs, improve file access, and ease management.

How does an archive environment help you lower storage and backup costs? By moving data from your primary storage environment to an archive environment with tiered storage, you can lower overall storage costs. Instead of an architecture designed to support active data storage and recall, archive storage environments leverage tiered storage and higher capacity storage technologies, such as tape, for long-term data storage. Simply by implementing tiered storage, you can save over 3x in your storage environment. And, implementing tiered storage today is easier than ever thanks to archive management software that automatically moves your data to the appropriate tier of storage based on policy. Moving data off the primary system means less data to back up in your backup environment. A common estimate states as much as 80 percent of a company's data is not accessed after 90 days. This data is perfect for moving off your primary system to an archive environment. The savings from that type of move can be more than 82 percent, simply by implementing a joint backup and archive strategy.

Other benefits of a true archive system include improved file access and easier management. Today's archive solutions ensure that all files are always visible, even when stored on technology such as tape. And for faster access to those files, you can keep all or a portion of a frequently accessed file on disk. All of this archive flexibility is set by policies, so that your administrators are not burdened with archival, staging, or migration tasks.

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Addressing Long-Term Archive Challenges

When designing a long-term archive environment, a number of questions arise. Rest assured, Oracle's StorageTek archive portfolio can help you address every one of these questions:

- Can we architect a solution that fits with existing and future budget requirements?

  Yes! Oracle's StorageTek archive portfolio provides the lowest total cost of ownership through the use of tiered storage. Tiering is achieved via policies through Oracle's StorageTek Storage Archive Manager (SAM) software, which automatically moves and copies data to and from primary disk, archive disk, and tape archive tiers. Oracle's ZFS Storage Appliance and Oracle's flash-optimized SAN storage systems provide high performance, while StorageTek tape libraries and drives provide the absolute lowest $/GB storage for less active data.

- Will we outgrow the solution?

  You can try, but Oracle has the highest scaling products on the market today and is committed to meeting the needs of the world's largest archives. Our disk storage systems can scale to 3.5 PB in a single system, while our tape solutions can scale to more than 33 EB behind a single point of control. Oracle's StorageTek SAM software can support billions of files.

- How do I ensure the data in the archive is not corrupted over time?

  Oracle's disk and tape solutions have built-in data integrity validation to ensure that the data sent from the host is properly recorded. Periodic validation checks can be performed over the lifetime of the data to ensure the data is still accurate. Additionally, Oracle's StorageTek Tape Analytics software can proactivly monitor the health of the tape libraries, drives, and media for the life of the storage system.

- What if the archive application becomes obsolete?

  Many archive applications in the market store data in proprietary formats. This means the application is required to retreve the data in the future. Oracle's StorageTek Storage Archive Manager stores data on tape in an open format so that data is always available with or without the archive software that wrote the data. By storing data in an open format, such as TAR or LTFS, you can be assured that you can always access that data, even separate from the application.

- How do I address hardware lifecycles?

  Hardware eventually reaches its end of life, and data must be migrated to newer technologies. While tape can help ease this pain by having 2-3x longer lifecycles than disk, you still need a seamless way to initiate data migrations. StorageTek Storage Archive Manager software helps migrate that data from old technology to newer technology.

Lowest TCO with Tape

- Less than 1/26th the cost of disk[2]
- Consumes 1/105th the power and cooling of disk
- Maximum shelf life is 3x higher than disk
- Average years between migrations 2-3x higher than disk
- Uncorrected bit error rate is 10,000x better than disk ($10x1^{-19}$ versus $10x1^{-14}$)[3]

CONTACT US

Learn more at Oracle.com/goto/tape.

[1] Source: Gartner Symposium, "Ten Critical Tech Trends for the Next Five Years," October 2012
[2] Source: The Clipper Group, "Revisiting the Search for Long-Term Storage — A TCO Analysis of Tape and Disk", May 2013
[3] Source: Horison Information Strategies, "The Era of Colossal Content Arrives," October 2012

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