

# Cost-Effective Digital Archiving

Archive environments are growing exponentially, driven by both primary data growth and increasing retention requirements. Today, new drivers such as data analytics and digitization are further increasing the requirements on archives. Analytics can be applied over ever-diverse datasets, making 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 that have retention periods longer than those required by regulators.

## Reducing Total Cost of Ownership by Archiving

To meet retention requirements, many organizations simply keep their backups for a longer period of time. However, that does not allow them to extract value from the data and oftentimes it 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? It moves data from your primary storage environment to an archive environment with tiered storage, which enables you to 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. In addition, 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 that 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 they are 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.



*"By using a highly scalable and energy-efficient Oracle hierarchical storage solution, we drastically reduced data center operating costs by US\$5.3 million, stored up to 2.7x more research data, and enhanced collaboration for international research development activities."*

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## Addressing Long-Term Archive Challenges

When you design a long-term archive environment, a number of questions arise. Rest assured that Oracle's archive portfolio can answer your top questions such as the following:

- » Can we architect a solution that fits with existing and future budget requirements?
  - » Yes! Oracle's archive portfolio provides the lowest total cost of ownership through the use of tiered storage. Tiering is achieved via policies within Oracle's archive software (Oracle DIVArchive for rich media files and objects or Oracle Hierarchical Storage Manager for traditional IT files). Policies automatically move data across primary storage, tape archive storage, and cloud storage tiers. The Oracle ZFS Storage Appliance family of products provide high performance and high capacity through the combination of flash and disk, while Oracle's StorageTek tape libraries and drives provide the absolute lowest \$/GB for on-premises archival storage. Are you looking to integrate with the cloud? If so, store data with Oracle's cloud storage archive service for only \$0.001/GB/month.
- » Will we outgrow the solution?
  - » Oracle has highly scalable products and is committed to meeting the needs of the world's largest archives. Our disk storage systems can scale to multiple PB in a single system, while our tape solutions can scale to more than 33 EB behind a single point of control. Oracle's archive software scales to support billions of files or objects.
- » 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 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 archive software supports end-to-end file checksums across the life of archived assets.
- » What if the archive application becomes obsolete?
  - » Many archive applications in the market store data in proprietary formats. This means the application is required in order to retrieve the data in the future. Oracle's archive software stores data 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 Archive eXchange Format (AXF) or Tape Archive (TAR), 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. Oracle's archive software helps migrate data to newer technology, including to Oracle's cloud, so that you can always take advantage of the latest technology advancements.

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