# Lyve Migration Services

Unlocking Legacy Data for AI and Analytics





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### Lyve<sup>™</sup> Migration Services Unlocking Legacy Data for AI and Analytics

Data is everywhere. Throughout human history, analog archival information has been recorded on stone, paper, film, and photographs—written in old languages and available only to select individuals or privileged small groups.

Turns out, this isn't just an analog data problem.

Digital information that's been created over the past century—stored in different media types, including hard drives, tape, optical storage, and flash—is often locked away in physical archives that are inaccessible globally and in real time. To recover and migrate this data requires a tremendous amount of effort and resources. As such, data that was not migrated to newer digital recording technologies over the past few decades is seemingly lost.

This means zettabytes of the world's data is trapped in legacy tapes and other storage media, stuck in off-site vault storage. But what if this data could help solve some of humanity's greatest economic, scientific, and existential challenges? The power of artificial intelligence (AI) and data analytics can provide greater insights for massive data sets than ever before. Today, however, only 32% of business data gets used. The rest—which can be valuable and even necessary for maintaining regulatory compliance—is disconnected, hard to access, and likely deteriorating on aging technology.

Data archives require regular technology updates and migrations—a challenging task for many businesses. As a result, data archives are neglected, leading to a loss of information and the breakdown of technology that is required to access it. Over time, business storage archives accrue an abundance of untapped data stored in several media formats.

Free the information that's trapped in your legacy data vaults with Lyve Migration Services, a simple, streamlined process for migrating high volumes of data from aging storage devices of any media and data format directly to a private, hybrid, or public cloud platform in a secure and methodical way. By consolidating your data in a centralized digital repository, you can protect it from physical deterioration, theft, and other security risks. Further, you can unlock the potential to access, restore, mine, analyze, monetize, and deploy it in ways never before possible.

In the new Data Age—the age if IT 4.0—data is continuously being created at endpoints, often processed at the edge, and then transmitted to the cloud to be analyzed as part of stilllarger sets of relevant data. The migration and activation of all available data sets is crucial for driving digital transformation—and for surviving and thriving as part of the IT 4.0 revolution.

Lyve Migration Services enable organizations from all industries to regain access to their data, potentially turning a stagnant cost center into a valuable business asset. Once data is liberated and ingested into a cloud platform, it becomes available to the application of data analytics, thereby empowering companies to exploit the inherent potential and worth of previously inaccessible data.



## Solving Humanity's Most Pressing Challenges

Over the past five decades, the most costeffective means for storing cold data was on digital tape cartridges, stowed in an off-site vault to ensure their physical safety. Once a backup or archive was created on tape, it was given to a courier, placed on a truck, driven to off-site storage, and placed on a shelf. While this offered businesses some measure of protection, it was essentially an air-conditioned room with a fire suppression system and swipe-card access.

Today, things are different. Data is more abundant and important than ever; there's an almost endless actionable supply of it. Data infrastructure has evolved, too. Over the past decade, the public cloud has become ubiquitous, scalable, and increasingly affordable, providing built-in data redundancy.

With the current shift to IT 4.0, we're moving beyond the cloud to the edge. As such, tremendous computing capability is no longer limited to large centralized data centers. Rather, it can occur closer to the data sources themselves. The sheer volume of data created at endpoints shifts the data gravity to the edge of the network, drawing computing power and applications closer to deliver decisions in real time.

Legacy data trapped in the world's data archives holds the potential to deliver immense value and potential breakthroughs in research, understanding, processes, and practices in a wide variety of sectors—but only if it's brought in from the cold and made available to us. Bringing decades of cold data to life will release the potential for life-critical data to solve many of humanity's problems, small and large, across a variety of disciplines—including healthcare, education, research, energy and mining, agriculture, environmental and space sciences, and media and entertainment.

### A Complex Process Made Simple

Lyve Migration Services eliminate the need to maintain old-school vaulting storage systems, allowing all that data to be available online. Restores are no longer an issue, as data retention plans can become more proactive and robust. Access to data is available in minutes or hours instead of days or weeks. And analytics and big data tools can be used to interrogate the vast collection of historical data, offering new insights and business opportunities.

Seagate offers unprecedented capabilities in volume and scale, enabling clients to liberate all the data in their archive—from one tape to a million tapes and other storage media of any type and format—with no up-front cost to migrate the data to the cloud. Seagate's global-scale, leading expertise in efficient data management and recovery, and the most advanced edge hardware solutions, assures secure data transport from the edge to any cloud service.

Reliable data migration from tape to cloud is typically a complex process. It requires extensive resources, including legacy tape drives to read the tapes, the software and file systems originally used to write the data, extensive use of proprietary technologies, and a highly methodical process to ensure data integrity, auditability, and security.

With more than 40 years' experience, Seagate provides professional data migration services that enable transformation in the datasphere. Our data migration services allow you to store your data where it fits your workflow best—on premise in a private or hybrid public cloud. Additionally, Seagate handles all data with care, observing the most stringent security standards. Our migration services take inventory of our clients' data while giving them the option to choose which data they'd like to migrate, thus saving on overhead costs wherever possible. Seagate is equipped to support any data record, format, or storage media—including analog records such as paper, books, photos, and film, and digital formats like tape, optical, disk, or flash storage. But it's more than a generic data read operation. We understand the entire workflow and the hardware and software tools that were used at the time of data creation. As such, we can recover even essential and missing pieces of data. Our engineers are programming a software tool that helps with proprietary data formats or hardware that may not exist anymore to retrieve as much data as possible in support of our clients' business or digitization strategy.

### What's in It for Customers?

Clients will gain an incalculable advantage by adding years or decades of latent data back into their data sets so it's accessible to Alenabled deep analytics. In addition, converting archived data into data that's always available has numerous benefits. Maintaining data in the cloud provides flexibility, whereas being bound to legacy storage infrastructure may inhibit a company's ability to modernize its systems to be more flexible, efficient, and secure. Cloud storage can be significantly less expensive than long-term physical storage, as well as its required technology migrations and upgrades.

Data in the cloud is always on, while data in a decentralized vault is expensive and difficult to access—and it's always decaying and at risk of deterioration and permanent loss. Additional costs include the need to maintain legacy devices and software licenses to provide access when necessary. Not to mention the fact that expertise on using legacy infrastructure is difficult to come by. Migrating data to the cloud simplifies regulatory compliance and data audits.

#### The Data Benefit

Whether a company is backing up directly to the cloud or still using local storage devices, the ongoing storage of a historical data collection continues to cost time and money. And when a project lead or analyst needs access to this data, they'll have to wait days for a courier, often to find out the company no longer has the right device or software to read the old media. So, what's the solution for accessing all this cold data? Lyve Migration Services help clients by rapidly migrating cold data directly to the cloud, regardless of media type, data format, or volume. This enables customers to retrieve their legacy data online in a fast and reliable manner.

When it comes to data management and data storage practices, Seagate understands the unique challenges and regulatory requirements that exist between different industry sectors. The regulatory landscape is constantly changing. We proactively keep up with complex requirements for data retention, ensuring the migration of legacy archive data complies with all legal and regulatory requirements specific to each industry, while simultaneously safeguarding the integrity and security of the data. We help identify any possible compliance gaps and security vulnerabilities and make sure they are eliminated during the migration process



### Industry-Specific Benefits

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#### **Media and Entertainment**

The media, entertainment, broadcast, and publishing sector has seen exponential data growth in past 20 years. Media assets such as video, animation and effects files, audio, security, and news footage require large-volume durable storage that can grow to multi-petabytes on demand. Improved access to that data at the production, commercial, and consumer levels can drive big market advantages.

The media industry has conventionally maintained tens of thousands of tapes with historical media content. The tapes are often stored off site, with the media deteriorating and the hardware necessary for reading the tapes becoming increasingly obsolete. Digitization and long-term preservation of analog films, photos, and media formats—as well as liberating valuable legacy entertainment files—enables clients to better track and manage assets, and to recut, remix, upres, restore, and monetize this content of the modern era of dispersed digital distribution.





#### **Education and Research**

Universities have one of the largest collections of backup tapes in the world, including historical and cultural information spanning the disciplines of archaeology, aerospace, biology, chemistry, and more. The rules that govern management of student records and research projects are complex and far reaching. Vast sums of money are wasted each year in this sector storing cold data that the industry must retain off site—data that's inaccessible to research and learning without significant cost and time implications.

#### **Healthcare and Medical Research**

Healthcare and life sciences is a data-intensive sector, and its data is among the most sensitive. Research and scientific discovery, clinical trials, hospital records, and individual patient information all generate large volumes of data that require long-term, secure storage.

Not long ago, patient data was maintained in hard copy files on site, but after a slow evolution, most records and data are now stored on disk, tape, and optical media—in on-site data centers and off-site storage facilities—and often involve multiple copies spread across multiple locations. While many organizations are putting new data into the cloud, enormous volumes of aging data still reside in cold storage, which is becoming increasingly difficult and expensive to maintain and access.

Moving historical and legacy patient and scientific research data into the cloud doesn't just make it more accessible and easier to manage, it also opens the door for big data opportunities and breakthrough healthcare research analytics. It can increase the pace of innovation and discovery, potentially bringing treatments, medicines, and cures to market sooner.



#### **Energy, Environment, and Minerals**

The mining, energy, and environmental sectors must comply with complex corporate data retention requirements and regulations. Additionally, this sector generates large volumes of research, meteorological, geological, and production data that is often used more than once, requiring ongoing access for years and even decades. Geophysical and meteorological data recorded up to half a century ago is still very relevant to understanding resource and climate models today. This is even more pertinent with the addition of new technology, software, and data analytic tools that were not available when this data was first recorded.



#### **Financial Services**

Finance is a heavily regulated industry. As such, the handling and storage of financial services data is subject to an array of complex laws and regulations. The management of financial services data may also differ between public, private, and not-for-profit organizations, and is further complicated by the size of the organization and whether its financial data relates to a domestic or global field.

Data covers many subsectors, including accounting, banking, stock market, superannuation, investment, insurance, credit, taxes, and other related services. In addition to being highly complex, the majority of this transactional information is confidential, requiring high levels of security, encryption, and traceability. Further, it is subject to periodic audits by governing bodies, with data retention periods varying significantly between each subsector or type.

For many organizations, the complexity of managing various data sets presents challenges in regard to what data needs to be retained, what data can be destroyed securely, and what data is needed purely for compliance and auditing matters. With most financial services data residing on backup tapes in off-site vaults, it's difficult for organizations to proactively manage.



#### Retail

Data management and storage in the retail industry has undergone many changes in the past quarter century, evolving continuously as market trends become more global and ecommerce dominates. Retail companies need access to both real-time statistics and historical data to gain a deeper understanding of trends and customer needs, as well as to improve inventory management and sales forecasts. Predictive analytics systems rely on historical data to inform projects. As data management transforms from a cost center to a revenue generator, all data must be on hand.

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#### **Engineering and Construction**

The building industry is realizing significant new benefits from data mining and analytics, including better site selection, enhanced design complexity, and forecasts for material and labor costs earlier in the planning process. Throughout construction, there is a recurring need to review project data for adherence to code regulations. This becomes an expensive and time-consuming endeavor when information is decentralized and stored off site.

### But Wait, There's More

With off-site data vaults no longer an essential part of IT infrastructure, businesses are free from the costly and cumbersome investment required to maintain them. By migrating data to the cloud, IT and data managers can eliminate the large, ongoing cost of off-site storage fees and legacy infrastructure maintenance.

Perhaps most importantly, Lyve Migration Services deliver the restoration, migration, and preservation of a company's data assets. We have the physical infrastructure, the software, and the processes that will enable any client to access their data in ways that were previously not possible.



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