Key Requirements
for a Modern Archive

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INTRODUCTION

Data storage is experiencing exponential growth. The average enterprise organization witnessed data increases of 40+% over the past two years. This increase is driven by a variety of factors, including the proliferation of internet-connected devices, the growth of social media, and other online platforms, and the widespread adoption of technologies such as cloud computing and big data analytics.

As a result of this explosion of data, there is a growing need for effective ways to store and manage digital information. This accumulation of data presents a dilemma because much of the data collected will go unused yet must be preserved for compliance purposes as well as for future insights and analysis. This shines a spotlight on the need for data-driven organizations to deploy modern archive solutions that maximize value and preserve their vast data repositories long term.

Below, we uncover the attributes and key requirements for a modern archive.

KEY REQUIREMENTS FOR A MODERN ARCHIVE SOLUTION

- Active, project, and long-term archive use cases
- Policy-driven automation
- Simple to set up and use
- Highly scalable
- Data redundancy options – inclusive of "tape eject"
- Mixed storage targets – disk/flash, tape, cloud
- Maintains original file formats and no lock-ins
- Ransomware protection – inclusive of "air gap"
- Cost-effective long-term archive
- Supports environmentally sustainable initiatives
- File search and reporting
- API and GUI-driven interfaces
- Low-impact high-performance data transfers
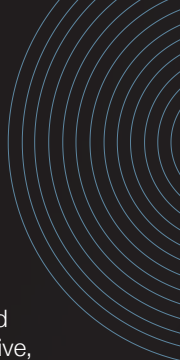
Active, Project and Long-Term Archive with Digital Preservation

Why it matters:

The ability to handle multiple use cases eliminates application silos and drives operational efficiency and economics. The solution should support the requirements for different types of use cases based on access time and cost requirements. Beyond traditional archive use cases, the ability to move complete projects off to archives and bring them back when needed can create significant value and enable the most efficient and cost-effective data preservation strategies. More than just archive, the solution should provide long-term digital preservation—making cost-effective copies that are verifiable to be complete and unaltered. (Make two copies of data with hash to digitally preserve. Restore from one if there is an error on the original restore).

Policy-Driven Automation

Why it matters:

Automation is at the solution's core to drive optimum operational agility and velocity. The solution should be able to configure policies that outline how the software will autonomously operate, not only for archive functions based on use cases but should also execute based on retention policies, scheduled automated file deletion as well as replication data that can be kept online as well as offline.

Intuitive and Simple to Use

Why it matters:

Simplicity drives operational agility and efficiency. Deployment time needs to be reasonable, and the solution should be intuitive to use and require little training to make it easy for administrators to get up to speed.

Highly Scalable

Why it matters:

The ability to scale is fundamental to investment protection as the exponential growth of data has no end in sight. The solution needs to be able to handle petabytes of data and billions of files on-premises or in the cloud(s).

Data Redundancy Options - Create and Track Multiple Copies

Why it matters:

The flexibility to define different redundancy options is critical to deliver the right protection schema depending on the relevance of data, restore times, and cost. The archive needs to enable end users to configure redundancy policies and locations. Redundant copies can be local, remote, in the cloud, or placed offline for long-term protection, security, and cost-effectiveness.

Accommodates Mixed Storage Targets

Why it matters:

Supporting different storage technologies, whether on-premises or in the cloud, is paramount to delivering the greatest flexibility and maximizing customers' ROI. The archive should store data on flash, disk, both on-premises and in the cloud, as well as in nearline tape libraries in any combination based on the requirements of access time and costs.

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Maintains Original File Formats - No Lock-in

Why it matters:

Storing data in original file formats that can be used by any application in the future is fundamental to customers' investment protection and in avoidance of vendor lock-in scenarios. There should be no proprietary device drivers or OS changes. The archive needs to be able to move data and retain its original file format(s), metadata, and permissions.

Advanced Ransomware Protection with Air Gap Copies of Data

Why it matters:

Protecting vast amounts of data from ransomware is paramount. The archive needs to offer advanced protection against ransomware, including enabling the ability to create "air gap" copies for extra protection and ransomware resiliency.

Cost-Effective Long-Term Archive

Why it matters:

A long-term modern archive solution should substantially lower operational, maintenance, utility, support, and administrative costs. It should be simple and easy to install, and free current staff from much of their storage management tasks. Archive storage costs should be predictable; and ideally, restorations should be nearly immediate without incurring an additional charge.

Supports Environmentally Sustainable Initiatives

Why it matters:

Defining and executing strategies for protecting the environment is not someone else's responsibility. Data residing on the wrong storage platform could create up to 10x higher carbon footprint vs. being stored on the right media. The archive should be able to monitor and optimize for the best access time, location, and cost with a clear view of how to best reduce carbon footprint, both continually and intelligently.

File Search and Reporting for Optimum Access and Visibility

Why it matters:

Having the flexibility to search by file, jobs, tags, projects, or users to retrieve archived projects, files, and directories is essential. Beyond merely moving data into a monolithic archive volume, indexing metadata and context makes an archive distinctively different from simple or home-grown archive approaches of the past —readily empowering the re-use and repurposing of archived content in the future.

Programmatic and GUI-Driven Interface

Why it matters:

Graphical User Interfaces as well as API interfaces allow for ease of use and programmatic storage, access, and retrieval of data. This enables use for occasional user-driven operations, with the power of automating recurring tasks. Not all organizations know exactly if and how they will leverage their archive in the future—having ease and flexibility to browse is essential.

Low-Impact, High-Performance Data Transfers

Why it matters:

Intelligent data capture and high-performance data transfers are at the core of making a solution viable to operate at scale. The solution needs to be able to allow and maintain transfer-rate governors and transfer-time windows to limit the impact on the production environment while moving data to the archive layer with high performance.

SUMMARY

Overall, the explosion of data has resulted in a growing need for effective data management strategies, including archiving, to help organizations effectively and efficiently store, preserve and utilize the vast amounts of data being generated today.

SPECTRA DIGITAL ARCHIVE

Spectra Digital Archive is powered by StorCycle software and provides digital preservation for Data at Scale. This complete hardware and software solution is designed for a cost-effective bulk archive, project archive, and automated long-term archive, all from a company with more than four decades of experience and trusted by the largest data storage users in the world.
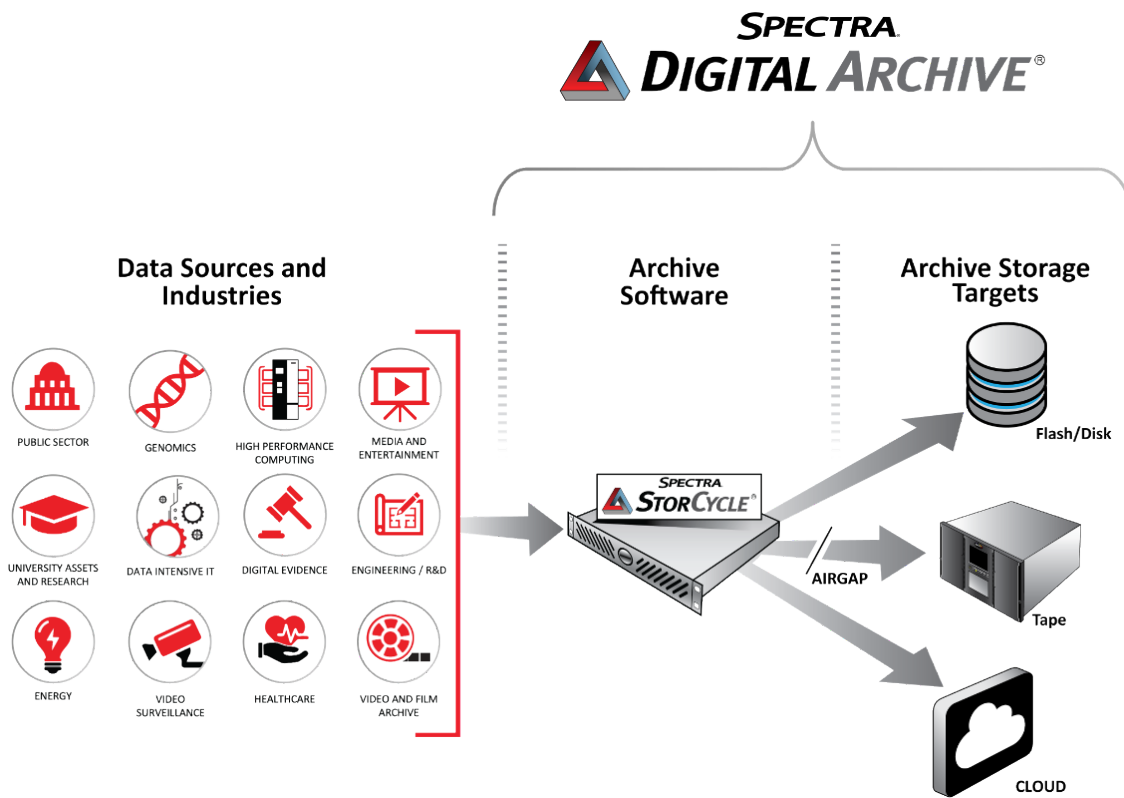
ABOUT SPECTRA LOGIC CORPORATION

Spectra Logic develops a full range of data management and data storage solutions for a multi-cloud world. Dedicated solely to data storage innovation for more than 40 years, Spectra Logic helps organizations modernize their IT infrastructures and protect and preserve their data with a broad portfolio of solutions that enable them to manage, migrate, store and preserve business data long-term, along with features to make them ransomware resilient, whether on-premises, in a single cloud, across multiple clouds, or in all locations at once. To learn more, visit www.spectralogic.com.