Quantum®

FIVE MUST HAVES
FOR A LIFE SCIENCES DATA ARCHIVE

1 Ability to Scale to Hundreds of Petabytes

Life sciences research generates a huge amount of data, almost all of it unstructured. The digital images generated by microscopes, sequencers, and other scientific instruments can quickly grow into hundreds of petabytes of storage, and into billions of files. Any life sciences data archive needs to be architected to address the scale requirements of these use cases.

2 Secure and Cost-Effective Data Protection

Once research data is generated and processed, it forms the basis for current research and must be stored in order to be accessible for future scientific analysis. It is far too valuable to be lost. But protecting data of this type, at this scale, using traditional backup approaches simply doesn't work. Many research institutions use ActiveScale™ object storage technology for its ability to manage these large volumes of unstructured data. Its erasure coding method maximizes the durability and availability of their archive, and object locking helps prevent unintentionally deleting files.

3 Integrated Data Classification with No Performance Impact

One of the biggest challenges with managing a life sciences data archive is knowing exactly what data is in the archive. What can be deleted? What must be kept and protected? How long must these files be retained based on grant requirements? Can the files be moved to lower-cost storage? A Quantum long-term storage solution can leverage the integrated data classification in the All-Terrain File System (ATFS) as a way to 'tag' files on ingest before storing the files in a highly resilient object store.

4 A Dashboard to Find Files Instantly, Instead of Waiting Hours or Days

With traditional storage alternatives, it can take hours or even days to find a file, which impacts research productivity and costs time and money. Since research archives can quickly scale to millions of files or more, many research organizations struggle to know exactly what data they have. Quantum ATFS classifies data immediately on ingest without impacting performance, unlike past solutions that struggled with applying this complex analysis to such large inputs. Along with a dashboard that allows administrators to search and analyze data in real time, data can be discovered, used, and protected more efficiently and effectively.

5 Make it Easy to Meet Varying Grant Retention Requirements

Much research is grant funded, and the data retention requirements vary depending on the grant. A 'smart' scientific research archive should make it easy for the administrator to meet the requirements of these grants in as little time as possible. Quantum's solution uses ATFS integrated data classification, allowing users to tag a specific grant or research immediately on ingest. This time-saving feature makes it easier for any scientist to manage performance, cost, and retention requirements across the timeline of a grant.

ACCELERATE SCIENTIFIC DISCOVERY WITH A SMART ARCHIVE

Quantum's solution for a smart data archive uses Quantum's ActiveScale object storage platform with Quantum's ATFS NAS interface and data classification engine to provide an easy-to-use, highly resilient 'smart archive' that is ideally suited as a repository for imagery used in life sciences.

To learn more about Quantum's Smart Archive solution, visit www.quantum.com/smart-archive.

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