

# BRINGING OBJECT STORAGE TO LIFE SCIENCE WORKFLOWS

## Leveraging Dell EMC Elastic Cloud Storage to tackle costs, capacities, and retention requirements

### ESSENTIALS

#### HIGHLY SCALABLE

- ECS provides scale and performance across billions of small and large files within a geo-distributed environment

#### CLOUD-SCALE ECONOMICS

- ECS leverages standardized, off-the-shelf components pooled with intelligent software to provide cost-effectiveness, reliability and performance

#### CONSISTENT CROSS-GEO DATA DISCOVERY AND ACCESSIBILITY

- Ability to browse and access data and data from Windows<sup>®</sup> and Unix platforms
- S3-based metadata search increases developer and workload productivity
- Compatible with AWS S3, OpenStack SWIFT, and HDFS

#### ENTERPRISE GRADE DATA PROTECTION

- ECS uses an enhanced data protection scheme comprised of triple mirroring and erasure coding to provide enterprise grade protection

### CHALLENGE

Life Science data storage requirements are increasing at a staggering rate. New instruments and processes generate exponentially more data, and the retention period for that data is increasing—in fact, much life science data must now be retained *in perpetuity*. On top of exponentially increasing storage capacity requirements, performance and collaboration requirements are also increasing. Finally, new analysis methods, instruments, and applications are changing the *kinds* of data that are stored—there is often no predefined data model that describes the data.

Traditional storage systems can't address the growth, availability, cost pressures, and resiliency that is demanded by today's life sciences research and production environments. Managing, storing, and distributing all of this unstructured data requires looking at data storage from a new and different angle; that angle is object storage technology. Object storage can be used to simply and safely store large, unstructured life science data sets, permits rapid growth, is highly resilient (especially with geographically dispersed data), and is extremely cost-effective.

### DELL EMC'S VERSATILE, END-TO-END ARCHIVE SOLUTION

Dell EMC<sup>®</sup> Elastic Cloud Storage (ECS<sup>™</sup>) is a versatile object storage solution that enables life sciences organizations to build smart archive solutions quickly and cost-effectively. ECS is a multi-purpose, object storage platform with enterprise-grade capabilities, built from the ground up using a cost-effective commodity infrastructure. A flexible deployment model means the solution can be deployed as a turnkey appliance or as a software-defined storage architecture on low-cost commodity hardware.

Advantages include:

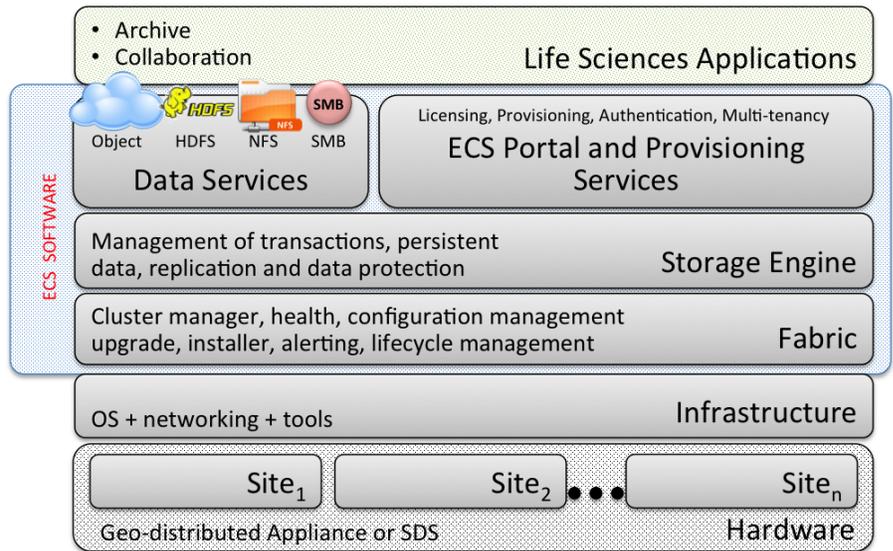
Active-active access with strong consistency: ECS presents a single global namespace across all nodes, regardless of where those nodes reside, even when distributed across multiple sites around the globe. Combined with a multi-site, active-active architecture and multi-protocol access, ECS enables collaborative access to content from any application or device.

Sophisticated data protection: With ECS, globally distributed protection is automatic and simple to configure, while failover and recovery are seamless. Erasure codes also offer more efficient use of storage, while replication can provide better performance, especially across sites. Data protection in ECS minimizes WAN traffic such that local

node/disk failures can be recovered from without going across the network; only site failures require intersite network traffic for recovery.

**Multi-protocol access:** ECS's layered architecture ensures that the same storage services (encryption, replication, erasure coding, etc.) are accessible across different protocol access methods. Compatibility with AWS S3, OpenStack SWIFT, and HDFS protocols, ECS can provide file- and HDFS-based access to the same data sets.

**Cloud-scale Economics.** ECS provides a cost-effective, globally accessible archive that delivers instant access to archive content regardless of where it is stored. Cloud-scale economy is achieved by using standardized, off-the-shelf components directed by intelligent software to provide the reliability and performance life science organizations need.



An archival strategy based on Dell EMC ECS can safeguard critical research data throughout the data's entire retention period. ECS presents a single, global namespace—even though data may be geo-distributed—that ensures continual, secure access by collaborating organizations. ECS can reduce operational costs and increase flexibility, giving life sciences organizations an important tool in reaching research and business goals.

## CONTACT US

To learn more, contact your local representative or authorized reseller.



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