

SIMPLIFY DATA MANAGEMENT FOR LIFE SCIENCES WORKFLOWS

Dell EMC Isilon Scale-out NAS for Life Sciences

ESSENTIALS

- Streamline life sciences scientific and business workflows with a simple, versatile storage solution
- Reduce capital and operating expenses with smart, consolidated storage technology
- Quickly and easily scale storage with immediate availability and no disruption
- Benefit from a scalable, manageable, and secure solution proven for genomic sequencing

Each day, life sciences researchers create massive data stores. And much of that data must be retained in perpetuity. Most storage infrastructures—inherently complex to begin with—are taxed to their limits. Furthermore, as data store capacities increase, the complexity of the storage technology increases, making it harder for scientists to understand where vital data is stored and how it is to be accessed.

Ultimately, this constrains the potentially life-changing work of research and development (R&D). Dell EMC® Isilon® scale-out network-attached storage (NAS), optimizes your storage requirements to match the movement of data across the R&D lifecycle—without increasing complexity and administrative requirements. You can simplify the management of data to make it easy for scientists and researchers to find, manage, and compute their data while providing concurrent access to common data assets.

STREAMLINE GENOMIC WORKFLOWS

By consolidating storage into a single, scalable volume that anyone can manage, Isilon storage increases the ease of data management while reducing dependence on specially trained IT staff. The Isilon single volume storage solution is based on preconfigured nodes that can be added just as you need them during the R&D lifecycle. In other words, you purchase only what you need when you need it. A solution can be established with as few as three nodes—and can be scaled quickly as your needs change. Once a new node is added, both capacity and performance are immediately available.

You can consolidate hundreds of existing volumes into a single volume with the Isilon single file system, regardless of your present-day scale. The result is a more dynamic and efficient storage environment that allows your storage capacity to scale precisely to your data management needs. Rapid scalability means that Isilon advanced storage provisioning can quickly adapt to massive growth in data stores without disrupting the architecture of your storage solution.

LOWER STORAGE COSTS, INCREASE SCALABILITY AND EFFICIENCY

With advances in DNA sequencing and other research instruments driving unprecedented data growth, terabytes of storage are no longer enough. Isilon storage can scale capacity from 18 terabytes to over 20 petabytes in a single file system, which rapidly accelerates efficiencies and reduces storage costs. You can scale your solution with significantly less administration time than traditional storage solutions, which means that your staff can spend time on responsibilities other than storage management.

Isilon storage systems provide greater than 80 percent storage utilization and a “pay-as-you-grow” scaling capability, reducing capital expenditures and overall storage costs.

OPTIMIZE STORAGE REQUIREMENTS

The production, analysis, and archiving of data are common patterns shared by many R&D life sciences workflows such as next-generation sequencing. Each workflow has its own unique set of storage requirements to optimize the management, access, and use of the data, and the Dell EMC Isilon® OneFS® operating system makes it easy to address those unique requirements.

With Isilon’s versatile storage architecture, you get the right storage for the right data at the right time. The Isilon OneFS operating system lets you automatically align application needs with performance, capacity, and economics. You can respond quickly to changes in workflow and demands for new performance and capacity, seamlessly adapting to workflow changes without affecting applications or user processes.

PROVEN LIFE SCIENCES SOLUTIONS

As a leader and trusted partner in life sciences workflows, Isilon has more than 150 large sequencing customers worldwide, including leading sequencing centers, pharmaceutical companies, and academic research centers. Isilon continues to enable workflows that span across the R&D lifecycle of data—from production to analysis to archive.

The Isilon single volume storage solution delivers a lower-cost, pay-as-you-go model that consolidates very large, semi-structured file-based data workflows into one easy-to-manage system. The superior adaptability of the Isilon solution allows scientists and researchers to store, access, and manage data concurrently from the same storage pool. The Isilon single storage system provides the simplicity, high availability, and scalability needed to manage life sciences workflows (genomic sequencing) today and in the future.

Isilon also delivers the highest level of system protection, supporting up to four simultaneous device failures (that is, N+4) without compromising data reliability and availability. You can change protection levels on the fly and set policy based on the changing business value of content. In addition, Isilon offers built-in “smart pooling” of data across multiple performance tiers to make dynamic, rule-based data transfers between storage pools a simple and integral part of life sciences workflows.

Isilon solutions also include Dell EMC Isilon SnapshotIQ™ with per-directory unlimited snapshots to protect against application or user errors, and Dell EMC Isilon SyncIQ® with high-performance cluster replication to protect against local disasters. Isilon also offers Network Data Management Protocol backup to tape, which is certified by major backup vendors.

ANALYTICS-READY

Isilon is the industry's first and only scale-out storage solution with native Hadoop integration, greatly facilitating implementation of today's and future analytics applications. The Apache Hadoop™ technology and its Hadoop Distributed File System (HDFS) have been adopted by many life sciences organizations for their ability to break down and store chunks of extremely large datasets for proximity or “co-located” computing. The Isilon native Hadoop integration—which reduces risk and provides greater interoperability for both physical and virtual server environments and analytics—demonstrates Isilon's commitment to supporting computing advancements for the life sciences. For more information, please see “[Hadoop's Rise in the Life Sciences](#).”

PROVEN SOLUTIONS

Dell EMC life sciences customers include leading edge research organizations around the world. Many of these organizations are dealing with exponentially growing volumes of data, while the time and costs to perform analysis must be reduced. Adding ECS as a cost-effective archival solution can protect data, increase flexibility, and provide a future-proof platform for long-term archival requirements. More information can be found at Dell EMC's ETD [Life Sciences portal](#).

CONTACT US

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



Copyright © 2016 Dell Inc. or its subsidiaries. All Rights Reserved. Dell, EMC, and other trademarks are trademarks of Dell Inc. or its subsidiaries. Other trademarks may be the property of their respective owners. Published in the USA. 12/14 Solution Overview H11212.3

Dell EMC believes the information in this document is accurate as of its publication date. The information is subject to change without notice.