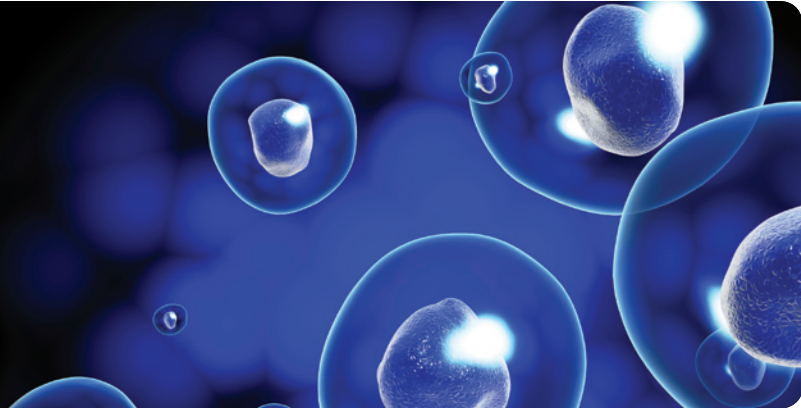




# Oklahoma Medical Research Foundation

Managing an influx of genetic information to speed time-to-discovery



## Challenge

Oklahoma Medical Research Foundation (OMRF) experienced an unprecedented influx of genetic information with the introduction of a next-generation Illumina Genome Analyzer and server virtualization. To maximize infrastructure investments and the value of genetic data, OMRF needed a storage solution capable of keeping pace with tremendous data growth and supporting a virtualized environment without costly upgrades and tedious data migrations

## Solution

OMRF deployed Isilon IQ as the primary repository for its entire next-generation genomic sequencing and analysis workflow. Using Isilon scale-out NAS, OMRF has unified both its DNA sequencing pipeline and virtualized computing infrastructure into a single, high performance, highly scalable, shared pool of storage, simplifying its IT environment and speeding time-to-results in its efforts to identify genetic precursors to diseases such as Alzheimer's, Lupus and Sjögren's Syndrome.

Oklahoma Medical Research Foundation (OMRF), a leading nonprofit biomedical research institute, experienced an unprecedented influx of mission-critical, genetic information with the introduction of a high-powered, next-generation Illumina Genome Analyzer and server virtualization. To maximize both its infrastructure investment and the value of its genetic data, OMRF needed a storage solution capable of keeping pace with its tremendous data growth while still powering its virtual data center without the burden of costly upgrades and tedious data migrations.

## New Technologies Generate Massive Data Growth

In its efforts to identify more effective treatments for human disease, OMRF generates tremendous amounts of mission-critical genomic information. This data is processed and analyzed using Linux computer servers running VMware ESX. With its previous NAS system, OMRF would have been forced to migrate genetic information back and forth between disparate data silos, slowing sequencing runs and depriving its virtual servers of the data access and high throughput required.

## Realizing the Full Potential of Virtualized Computing

With Isilon, OMRF has unified its DNA sequencing pipeline and virtualized environment into a single, high performance, highly scalable, shared pool of storage, simplifying its IT environment and significantly speeding time-to-results. With Isilon IQ, OMRF can scale its storage system on-demand to meet the unique performance demands of its mission-critical workflow, increasing operational efficiency and decreasing costs in support of their research to identify genetic precursors to diseases such as Alzheimer's, Lupus and Sjögren's Syndrome.

*"With the installation of our Illumina Genome Analyzer and Linux computer servers running VMware, traditional storage simply couldn't handle our sequence runs and day-to-day virtual data center demands. With Isilon, we now have a do-it-all solution capable of powering our research for years to come."*

— Stuart Glenn, software engineer, OMRF

By deploying Isilon scale-out NAS, OMRF has a central storage resource for its entire next-generation sequencing workflow and its virtual computing infrastructure, dramatically simplifying storage management and streamlining data access across its organization. With Isilon IQ, OMRF can cost-effectively manage rapid data growth from a single file system, eliminating data fragmentation and maximizing the performance of both its virtual servers and its DNA sequencing workflow.

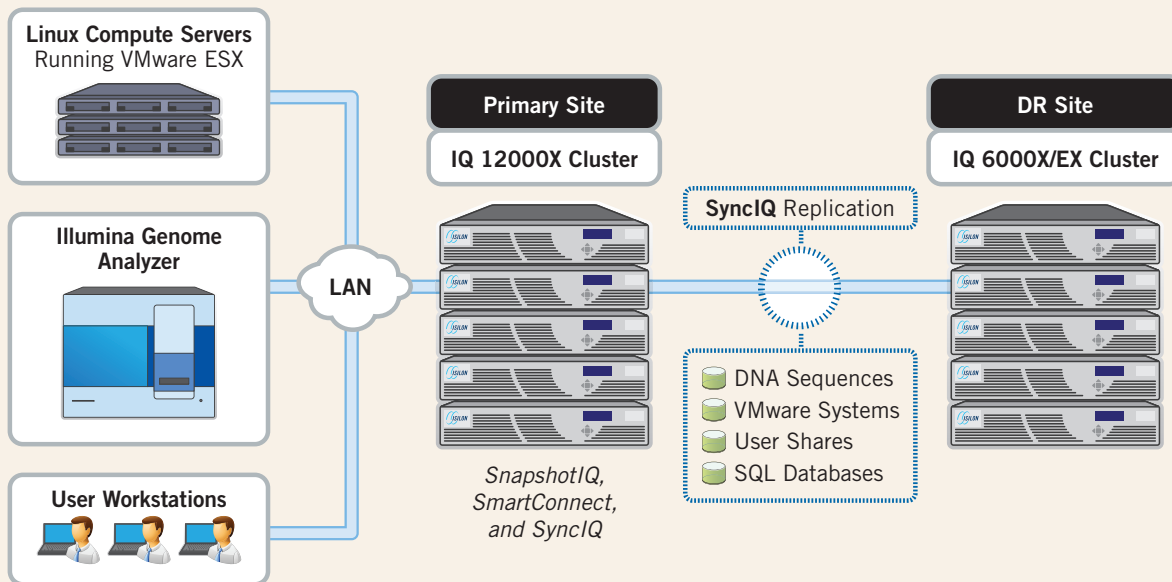
“We need storage that can support our data-intensive sequencing workflow and provide the ease of management and flexibility needed for our virtual server environment,” said Stuart Glenn, software engineer, OMRF. “Isilon lets us do it all from one solution. We can run more sequencing jobs faster and more accurately, while also scaling our system to support the demands of our virtual data center – all with very little hands-on management.”

### Securing Data in Case of Disaster

With success storing DNA sequencing data from its Illumina Genome Analyzer on Isilon IQ, OMRF began using its Isilon cluster to store high-density SNP genotype data from its Illumina iScan System, which analyzes the DNA sequences produced by the Genome Analyzer for genetic variations. With its mission-critical sequencing and analysis processes operating around the clock, OMRF needed to frequently replicate this data for robust backup and disaster recovery.

By deploying a second Isilon cluster off-site and using Isilon SyncIQ® to replicate data between the primary and off-site clusters, OMRF now has a highly reliable solution to ensure data is immediately available even in the case of IT failure or a natural disaster. SyncIQ enables OMRF to replicate data daily, or even hourly, and when combined with Isilon’s SnapshotIQ software application, provides a complete data protection and recovery solution to keep OMRF on-line 24x7x365.

*“Isilon has made the impossible possible; accelerating our research, powering our virtual environment and reducing costs all at the same time. With Isilon, our investment in next-gen technologies is secure, just like our data.” — Stuart Glenn, software engineer, OMRF*



Isilon Systems, Inc. | [www.isilon.com](http://www.isilon.com)  
3101 Western Ave, Seattle, WA 98121

Toll-Free: 877-2-ISILON • Phone: +1-206-315-7602  
Fax: +1-206-315-7501 • Email: [sales@isilon.com](mailto:sales@isilon.com)

