



# CASE STUDY

## Oklahoma Medical Research Foundation protects sequencing and genome research with Spectra

“Being a not-for-profit organization, OMRF has an especially strong emphasis on financial stewardship. The Spectra solution was a good fit. Not only in terms of financial considerations like affordability, product functionality and value for cost, but also because we like to engage in long-term relationships with our vendors, and Spectra has proven to be a trusted advisor when helping us problem solve our data storage challenges.”

*Brent Keck, Associate Vice President and Chief Information Officer, OMRF*



*Spectra BlackPearl NAS*



The Oklahoma Medical Research Foundation (OMRF) is an independent, nonprofit biomedical research institute dedicated to understanding and developing more effective treatments for human diseases. Employing more than 450 staff members, its scientists focus on such critical research areas as cancer, diseases of aging, lupus and cardiovascular disease. Internationally recognized for its research accomplishments, OMRF's discoveries have yielded hundreds of patents as well as life-saving drugs for hospitals and clinics around the world. Founded in 1946, the institute was made possible by the fundraising efforts of over 7,000 Oklahomans and continued grassroots donations from wheat farmers, energy producers and many other supporters.

### The Challenge

OMRF scientists have focused on making laboratory breakthroughs that have a tangible impact on human health so that more may live longer, healthier lives. Their discoveries have helped the lives of patients suffering from HIV/AIDS, children afflicted by a life-threatening deficiency of protein C and individuals with a rare blood disorder known as PNH. OMRF researchers have also created diagnostic and disease management tests for lupus and rheumatoid arthritis that are used in hospitals and clinics around the world.

Much of their research on autoimmune diseases is based on genomic sequencing – identifying a genetic cause or marker to improve diagnosis and treatment. OMRF's next-generation sequencers, also known as high-throughput sequencers, allow researchers to map a dozen or more entire human genomes, each of which contains three billion DNA base pairs, in just 36 hours. Just one whole genome can generate anywhere from 100GB to 200GB of raw data. As the research moves forward, analysts examine the findings, producing and aggregating even more data.



*The OMRF Research Tower is a state-of-the-art, LEED Gold project with integrated wind power systems*

# CASE STUDY: Oklahoma Medical Research Foundation

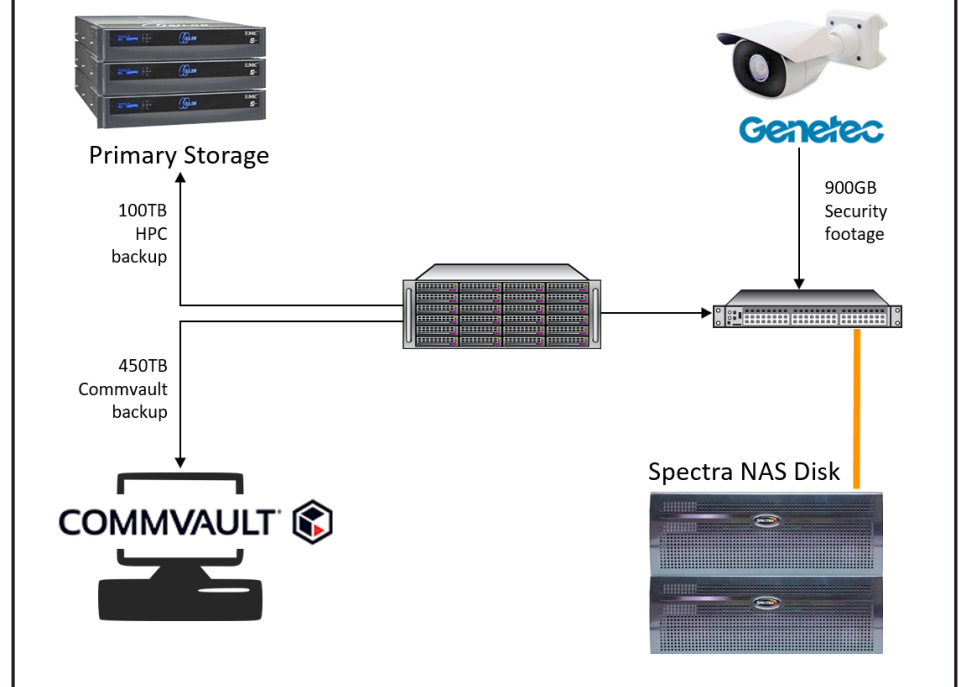
OMRF's Information Technology (IT) facility is committed to supporting the institute's investigators with technology infrastructure and services that provide the resources to catalyze scientific success – maintaining the organization's operations, infrastructure and telecommunications by handling data storage, technical consulting, network, security, large file transfers and collaboration needs. The IT group set out to procure a solution that could back up around 100TB of high performance computing (HPC) data and 450TB of Commvault secondary backup data supporting their sequencing and genome research. They hope the new solution will help them replace older LTO-5 tapes with a more responsive Spectra NAS solution providing faster access without an increased burden on their staff for administrative support to their data storage systems.

## The Solution

OMRF installed a 4U Spectra NAS Solution with one expansion chassis and seventy-nine 12TB SAS drives. The organization, which is based in Oklahoma City, backs up HPC data from their onsite Isilon primary storage to the Spectra NAS located offsite in a secure data center about 20 miles south. Backups are preserved based on data usage, with files that have not been touched in more than 90 days being deleted from the system. The Spectra NAS Solution easily handles the size of these files, providing instant replication and seamless restores, all which are critical to supporting the organization's research.

As OMRF was deploying the Spectra solution, a secondary opportunity arose. The institute was implementing a new security system with Genetec, and needed additional storage to act as a landing zone for the captured camera footage. The new security initiative has the goal of keeping research assets protected and promoting a safe working environment, limiting visitors to public areas and restricting the entry of unauthorized persons into the research spaces. The security system writes 900GB to the Spectra NAS daily, where files are kept for 30 days.

## OMRF storage workflow with Spectra Logic



In an effort to bridge the gap between administration and research, IT introduced this concurrent workflow to the Spectra architecture, effectively using the Spectra NAS technology in a joint venture for science, backup and administrative functions. Having a single system for the two use cases greatly benefits the foundation as it streamlines cross training between staff, and consolidates both their support costs and maintenance needs. OMRF anticipates that the storage will grow to almost one petabyte and is looking to expand their system.

## Why Spectra?

- User accessibility and performance
- Easy-to-use
- Cost and value benefits
- Product functionality
- Good partnership for long-term vendor relationship

## Environment Snapshot

- Spectra 4U BlackPearl NAS Solution
- Seventy-nine 12TB SAS drives
- One expansion chassis
- Commvault Backup Solution
- Genetec Security Infrastructure

## Solution Recap

**Spectra NAS Solution** – The Spectra NAS Solution is the optimal disk platform for the storage of mid-tier data, including primary storage offload, data staging, backup and archiving. Flexible, simple and affordable, the expandable NAS disk solution provides raw storage capacities from 44TB to 15.97PB. Designed for a variety of workloads, a single NAS solution can support multiple drives, including 4TB, 8TB, 12TB and 16TB enterprise disk drives. Reliable, economical and archive-ready, Spectra NAS is a disk solution that works for every organization wanting reliable, cost-effective secondary storage.