University of California Bioinformatics Research Program Leverages RAID Inc. Expertise for HPC Cluster & Storage

Challenge

A bioinformatics facility at one of the schools in the University of California system was awarded a grant from NSF to build a high performance compute cluster and storage system.

Solution

RAID Inc. optimized a compute cluster and designed a scalable, reliable storage solution ideal for the team's research needs. The best performing, most efficient storage solution for this customer consisted of a 1PB GPFS-based HPC production storage solution, a home directory and a 1PB GPFS-based archive using RAID Inc. ARI storage arrays.

GPFS concurrently addresses multiple file-based workloads and integrate heterogeneous storage hardware in addition to providing scalability, a global namespace, better application I/O performance, swift data access without I/O bottlenecks, data availability, reliability, and smart policy-based management to help them address enterprise archival, compliance and governance aspects of information lifecycle management.

The ARI storage arrays offer proven 99.999% uptime, automatic drive tiering, rapid drive rebuild, drive spin-down, virtual disk pools, thin provisioning, and sustained performance on GPFS.

Process

Examination of Current Environment: RAID Inc. analyzed each component of the customer's existing environment as well as the goals and requirements of the grant awarded from the NSF.

Solution Development and Testing: RAID's team of experts worked in tandem with the group creating the compute infrastructure to present the best, most scalable, dense storage solution.

Installation and Support: In collaboration with another vendor working on the compute and IB networking infrastructure, RAID played a critical role in trouble-shooting and remediating integration issues and successfully tuned and optimized the complete solution. RAID, Inc. continues to provide post-sales support as needed via a dedicated support engineer who is on-call 24/7/365. Additionally, the customer can count on RAID Inc.'s expertise in scaling and upgrading the new solution as priorities and workloads change.

Results

RAID Inc.'s expertise in both compute and storage was critical in ensuring the solution was integrated properly. The solution exceeded the customer's expectations, and Bioinformatics research continues to benefit from this HPC solution at the University.