

About This Government Lab

This Department of Energy lab was created in the late 1990s to study genome mapping, DNA sequencing and technology development. The mission of the institute is to advance new sequencing and other high-throughput genome-scale and computational technologies as a means to understand the evolution of living things.

The Lab IT Challenge

Challenged by the need to more rapidly backup and restore 20TB of large genomic data sets, the IT department at a California-based Department of Energy lab began looking for alternate solutions to manage their scientific data. The lab does genome mapping and DNA sequencing – extremely data intensive operations. They had struggled with tape-based solutions for some time and in early 2004 began looking for an alternate backup solution that was fast, highly available and was extremely reliable.

The IT team was frustrated by the inability to create consistent full backups since experimental data was generated faster than their tape backup units could manage. Further, the team sought a more cost-effective solution than direct attached storage for ensuring the older data sets were readily accessible.

Lab Evaluation Criteria

The company was concerned that if they lost a dataset due to a corrupted backup, they would lose weeks of research that would be costly or impossible to reproduce.

Skeptical of the product's claim of 20:1 compression ratios, the lab decided to embark on a one-month trial period where the company used a DD200 test appliance for doing nightly full backups and restores. Their desire was to "push the appliance's limits" to see if it did what it was really designed to do.

Lab Business Results

The lab's IT department purchased three DD200 recovery appliances that are now managing the backup and restore of up to 45 TB of data. One system stores backups of the relational genomic database while the other two back up MySQL data. They now do nightly full backups to the DD200 appliances using homegrown scripts that run on a Linux server. In addition, the lab is seeing impressive compression ratios of up to 60X, an important benefit that enables them to cost-effectively keep up to three months of data on site for fast restores.

CLIENT PURCHASE CRITERIA	
Client Pain Issues	Data Domain Solution
Lab was experiencing slow backups and long backup windows with tape drives	The DD200 shortened backup windows by more than 50% percent
Lab did not want to use new backup software solution and	The DD200 works with all standard enterprise

desired new solution that would work with current homegrown backup scripts	backup software solutions and many homegrown scripts; The lab is using Veritas NetBackup to store data on a disk staging device
Lab desired a solution that would hold up to 20 TB of backups within a small footprint	The DD200 fits compactly into a 4U footprint
Lab desired a solution that could compress large amounts of raw data	With the DD200, the lab was able to achieve more than 50X compression ratios for their data
Lab wanted a solution that was at a similar price point to tape.	With high compression ratios, DD200 proved to be at price, equal to tape