



CASE STUDY

LANL: Protecting the world with invaluable data supported by archive solution from Spectra



LANL's high performance computing resources depend on an available and performant archival system. LANL uses the Spectra TFinity system for long-term archival of data and Spectra has assisted LANL in migration of data to new TFinity tape libraries.



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CHALLENGE

Los Alamos ensures data retention for nuclear stockpile stewardship, storing irreplaceable research data without nuclear testing. Their protective archive tier holds 86PB, mostly on Oracle® T10000 media, with critical data copies stored offsite for disaster recovery. When new compute machines required space for water cooling, LANL faced moving their tape storage infrastructure 100 yards in just six months while maintaining access for data ingest and recall. Aging Oracle® SL8500 tape libraries raised concerns about support longevity. Determining the move's cost exceeded the system's value, LANL sought a new tape library to meet their needs.

SOLUTION

Los Alamos National Laboratory replaced its archive with Spectra® TFinity® ExaScale Tape Libraries, leveraging compatibility with Oracle® T10000 enterprise tape technology to repurpose existing drives and media while deploying LTO tape. Working with Spectra Logic, LANL completed data migration within the expected timeframe with minimal user impact. Tapes were bulk-loaded into the TFinity, with recalls delayed only by brief physical transfers. LANL now operates four TFinity libraries across three data centers. Each library includes dual High Performance Transporters and dedicated service bays, ensuring constant availability and scalability. This setup provides cost-effective, reliable storage to support LANL's high-impact research into the future.

AT A GLANCE

Challenges

- Indefinite data retention
- Relocating 86PB archive
- Minimal downtime required
- Outdated tape library system

Solution

- Deploy four TFinity libraries
- Leverage dual transporters
- Repurpose Oracle tape media
- Ensure cost-effective storage





LOS ALAMOS NATIONAL LABORATORY'S ENVIRONMENT

SOLUTION INFORMATION

Spectra TFinity ExaScale – With unsurpassed storage density packaged in the smallest footprint of any enterprise library on the market, the Spectra TFinity ExaScale offers industry-leading scalability with the speed necessary to meet requirements of the most demanding environments. Deployed by some of the most recognized organizations in the world, the Spectra TFinity ExaScale provides maximum flexibility by allowing you to select the tape technology that is the perfect fit for your business. In addition to LTO tape technology, the Spectra TFinity ExaScale is also compatible with IBM® TS11X0 enterprise tape technology and Oracle® T10000x enterprise tape technology, enabling all three in the same library.

Why Los Alamos Chose Spectra:

- Multi-media compatibility
- Seamless migration
- Scalable and adaptable to growth
- Open standard technology to prevent vendor lock-in
- Excellent customer and product support
- Superior reliability

ENVIRONMENT

- 14-frame Spectra® TFinity Tape Library with 28 LTO-7 and six LTO-8 tape drives
- 12-frame Spectra® TFinity Tape Library with 80 LTO-8 tape drives
- Five-frame Spectra® TFinity Tape Library with 26 LTO-8 tape drives
- 10-frame Spectra® TFinity Tape Library with Oracle T10K tape drives
- BlueScale® Software with standard encryption
- HPSS and IBM Spectrum Protect software

ABOUT LOS ALAMOS

Los Alamos National Laboratory (LANL) is a United States Department of Energy national laboratory founded in 1943. The Lab's mission is to develop and apply science and technology to ensure the safety, security, and reliability of the U.S. nuclear deterrent; reduce global threats; and solve other emerging national security and energy challenges. LANL applies the best scientific and engineering solutions to the national security mission and to many of the world's most difficult challenges.