CHALLENGE:

NCI's supercomputer supports more than 29 PB of data that must be backed up and archived. NCI was faced with significant forecasted growth and wanted to implement an updated, single archive to replace aging equipment in the data center.

SOLUTION:

Cloud Data Active Archive Environment

NCI evaluated the best solution for their needs and, after careful evaluation, chose Spectra's T950s, combined with SGI software and servers, because of their high data reliability, scalability and extreme cost efficiencies in terms of space, energy use and total cost per terabyte.

RESULTS/BENEFITS:

- *Increased efficiency of project data backup and archive*
- *Faster and more efficient access to all archived data*
- *Scalability that allows NCI to increase its capacity demands now and in the future*

CASE STUDY: NCI

National Computational Infrastructure

Australia's NCI Implements Active Archive

The National Computational Infrastructure (NCI) is Australia's national research computing facility, providing world-class, high-end services to Australian researchers, and to industry and government. The primary objectives of NCI are to raise the ambition, impact, and outcomes of Australian research through access to advanced computational and data-intensive methods, support, and high-performance infrastructure.

NCI Supercomputer

NCI is home to the Southern Hemisphere's fastest supercomputer and file systems, Australia's highest performance research cloud, and one of the nation's largest data catalogues. NCI

is located on the Australian National University campus in Canberra.

NCI is supported by the Australian Government's National Collaborative Research Infrastructure Strategy (NCRIS). NCI operates as a formal collaboration of the Australian National University (ANU)—the national research university; the Commonwealth Scientific and Industrial Research Organization (CSIRO)—the national research agency; the Australian Bureau of Meteorology (BoM)—the national meteorological agency; Geoscience Australia (GA)— the national geosciences agency; together with partnerships with a number of research-intensive universities, supported by the Australian Research Council.

What truly distinguishes NCI is the depth of its engagement with research communities and research organizations, and the collaborative development of research environments/digital

NCI

PREDICTING SEA LEVEL RISE

NCI partners, the Antarctic Climate and Ecosystems Cooperative Research Centre (ACE CRC), are scaling up their models on Raijin to investigate sea level rise.

READ MORE ›

Shown above: An image from NCI's website that showcases one of their major research projects

laboratories to enhance research ambition and outcomes in areas of international significance and national benefit—all of which are built around an expert team acknowledged for its innovation and well-run services.

The Solution:
Cloud Data Active Archive Environment

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NCI chose to configure their new equipment as an active archive environment. Active archive solutions turn offline archives into visible, accessible extensions of online storage systems – enabling fast, easy access to archived data. NCI's active archive provides a dense, high capacity storage solution for its cloud installation with significant economies of scale and data integrity safeguards. NCI's four Spectra T950 tape libraries conduct backup and archive. With more than 48 LTO tape

> **" The incorporation of an active archive solution provides a platform for storage growth. It allows us to keep our primary data online and accessible to users, while also increasing the reliability of our stored data across physical sites. "**
>
> *Allan Williams, Associate Director (Services and Technologies), NCI*

drives and 16 IBM TS1150 Tape Technology enterprise drives in use, the university already manages a large data repository. As data sets continue to grow over time, NCI can easily scale to meet future requirements by adding frames to its T950

libraries and upgrading their tape and enterprise drive technologies to increase capacity. In addition, Spectra's Media Lifecycle Management (MLM) feature helps ensure NCI's data is accessible when needed by providing complete media health reporting.

Why Active Archive?
- Extreme scalability
- High data reliability
- Portable data storage solution
- Lowest cost per terabyte in the industry
- Reduction in energy costs and space
- High level of performance and maximum uptime

Solution Recap

Active archives offer an intelligent framework made up of applications that offer storage virtualization and a data management platform that effortlessly stores and scales to petabytes of data across different storage mediums.

NCI's active archive helps them to effortlessly manage unstructured data and allows them to seamlessly expand the file system over all storage platforms. Their active archive becomes the optimal storage choice because it eliminates IT administrator intervention. Users have complete access to all of the organization's data, regardless of the platform it is stored on.