CASE STUDY

The Friedrich Miescher Institute for Biomedical Research chose Spectra Logic for backup and disaster recovery of their critical research data.

> "We are impressed and happy with the density and cost effectiveness of the Spectra Logic offering. Innovation in tape is what Spectra Logic does – and very well – so we have grown very comfortable with entrusting our critical data to their libraries."

Dean Flanders, CIO at FMI

Two Spectra T950 tape libraries

FMI
Friedrich Miescher Institute for Biomedical Research

About FMI

The Friedrich Miescher Institute for Biomedical Research was established as an independent research institute in 1970 by a joint decision of the then separate companies Ciba AG and J.R. Geigy AG. FMI was named after the Basel scientist, Friedrich Miescher (1844-1895), who first purified nucleic acids. FMI is affiliated with the Novartis Institutes for BioMedical Research and the University of Basel, employing some 360 people conducting cutting-edge biomedical research in oncology, epigenetics and neurobiology.

The Challenge: Massive Storage with Accessiblitiy

At FMI, ongoing research experiments are designed to validate a hypothesis and the amount of data created to validate a particular hypothesis can be vast. Higher resolution instruments allow scientists to see more than ever before, but as a consequence the storage resources required to support these instruments has dramatically increased.

FMI's high-throughput sequencing experiments can effectively sequence entire genomes to validate a particular hypothesis. Part of the challenge in terms of supporting this activity from an IT perspective is that at the time of the experiment, FMI's researchers have no way of knowing which piece of data will prove to be critical. As a result of this, a vast amount of data must be captured and then immediately archived in such a way that it remains easily accessible and quickly retrievable in the long term.

The Solution:

For its primary file storage, FMI had installed the HSM file system SAM-FS from Oracle with disk storage from Nexsan. As a part of this, FMI wanted to implement a backup and DR solution and selected two Spectra T950 tape libraries to handle all non-transactional of data within FMI's infrastructure. FMI's data is automatically copied from the SAM-FS file system to the

Information on FMI's international PhD program from their website.

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Nexsan storage array, which acts as a disk target, and then copies it to the first Spectra T950 as an onsite data backup.

This data is then later copied to a second T950 library in an offsite location and retained for disaster recovery purposes. In total, the two Spectra Logic libraries provide 600TB of raw storage capacity today with the ability to grow to over 16PB of raw storage as needed in the future.

FMI's storage infrastructure – underpinned by its two Spectra Logic T950 tape libraries – has stood up to the significant challenges posed by the strains of its cutting edge research activities. Around 5TB of new data per week is written to the Spectra Logic libraries from additional data.

The overall implementation has transformed FMI's disaster recovery capabilities, by allowing the disaster recovery data to be constantly accessible.

"In the event of a significant incident affecting our primary data center, we are able to shift from our normal disk staging process to a tape staging process with no changes. Recovery of normal file systems would require restoring all data before operations could resume, which could result in an outage lasting for days," said Flanders. "The advanced features in Spectra Logic's BlueScale management software give us extra peace of mind that our data is securely backed up and retrievable should we ever need to re-use data for future experiments."

Environment SnapShot

- Two Spectra® T950 tape libraries
- Oracle x4-2L servers
- Solaris 10
- SAM-FS HSM file system
- 164GB FC SAN with redundant fabric between three data centers
- Nexsan storage arrays

> "Our storage needs double approximately every two years. Therefore, scalability is extremely important and with Spectra Logic's libraries we know we can scale up with the simple addition of frames. We know our investment is protected and that our archiving and DR infrastructure will grow with us."
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> ***Dean Flanders, CIO at FMI***

FMI Network Diagram