

Intelligent Data Management For the University of Zürich

The Central Computer Science department of the University of Zurich (UZH) offers teachers and researchers the opportunity to use different hardware or infrastructure. However, until now there has not been a possibility for long-term archiving of data. In a survey on the need for such a solution, there was exceptionally high and positive feedback from all institutes.

With the new archive solution, active data management was a particularly important feature to allow different retention periods to be considered. Once the period has expired, the persons responsible for this data must be informed automatically.

The faculties and institutes work with an average of 20 TB of data, however some departments such as genetics can easily utilize up to a petabyte (PB). In addition to different retention periods, legal requirements must also be considered, such as the requirements of the Swiss National Science Foundation.

The UZH is a so-called comprehensive university and with almost 30,000 students it is the largest university in Switzerland. The university, founded in 1833 as the first by a democratic state, combines seven faculties and over 150 institutes with a wide range of study options at bachelor's, master's, and doctorate levels.

As a member of the "League of European Research Universities" (LERU), UZH is one of the leading European research universities and regularly receives awards in the fields of medicine, immunology, genetics, neuroscience, structural biology, and economics. Twelve scientists from the University of Zurich have received Nobel Prize awards to date.

UZH provides academic services for business and society and shares its knowledge in a variety of ways.



**Universität
Zürich** ^{UZH}

Data Management Requirements

The archiving solution must consume little power and the data should be available offline. Therefore, the UZH decided to save the data on tapes. There were specific requirements that the new solution needed to meet, including, among other things, that the data management must be operated on-premises. This is not only required for data protection, but certain measurements and research results are particularly worthy of protection and also represent the intellectual capital of the UZH. In addition, a connection to the existing Active Directory (AD) is necessary so that authorizations and responsibilities can be stored. For reasons of availability, the solution must be operated geo-redundantly.

Script capability, API support and licensing played a major role in the reasons for the decision. This made it possible to automate the processes according to the requirements. The retention period for data is usually five or ten years. Some data, such as raw meteorological data, must be preserved forever. These retention periods are linked to the individual data. After the retention period has expired, the group responsible for this data is automatically notified by email of the pending deletion. Active intervention is required if the data needs to be retained. Coupled with the ease of licensing, which is based on performance rather than capacity, StrongLink was the only solution that met all requirements.

"StrongLink's revolutionary technology reduces storage costs to a minimum and intelligently simplifies data management."

Volker Wester, Managing Director, Cristie Data GmbH



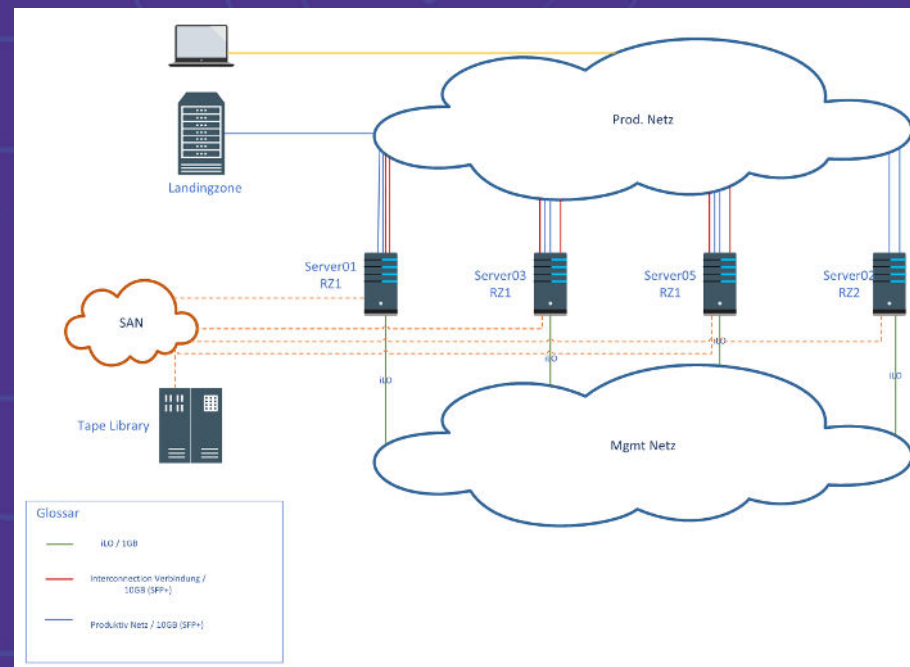
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The Solution

The UZH's IT department first commissioned a proof of concept. After a successful test, a constellation with four nodes was set up.

Three nodes are in the primary data center and one in the secondary data center. HP was the chosen hardware for the management nodes alongside Quantum tape libraries using LTO-7 tapes. The archive is designed for 11 PB. In four to five years, the central IT department expects 3 PB of data - currently it is 140 TB.

The data to be archived is first stored in a landing zone, from there it is transferred to the archive via the StrongLink cluster and written to tape. The landing zone holds 50 TB.



About StrongLink and Cristie Data

Since 2008, StrongLink has been helping large enterprises reduce costs and simplify data management through the use of AI and smart data management. StrongLink's solution manages data across any storage type and medium - including file system, cloud, or tape storage - including LTO libraries. StrongLink analyses the data with valuable insights and AI-based recommendations.

Cristie Data has stood for reliable storage, backup, and disaster recovery solutions for over 50 years. The Cristie group of companies serves more than 300,000 installations worldwide and works with the most advanced technology partners for modern data management. As a manufacturer, the company develops its own software solutions in the areas of system replication, migration, and disaster recovery.

As a strategic partner, Cristie supports StrongLink both commercially and technically.



“The feedback from teachers and researchers is very positive. With long-term archiving, we were able to close an important service gap. It was particularly important to us that we could continue to use the LTO-7 tapes that we would otherwise have had to dispose of after upgrading our backup solution to LTO-9. In this way, we not only protect our investments from the past, but it's also good for the environment.”

Thomas Wacker, Team Leader Server Storage Backup at UZH