

## LayTec and Tandberg Data: From Backup to Automated Archiving

In just a few years, LayTec, a Berlin-based high tech company founded in 1999, has become a world leader in the development, manufacturing and distribution of optical measurement equipment used in the production of semiconductors. LayTec's rapid growth is reflected in its growing data storage needs. Using Tandberg Data's StorageLibrary T40, the company was able to take its data storage system and turn it into an automated backup and archiving infrastructure.



LayTec, GmbH is a leading manufacturer of on-site sensors which are used in the production of compound semiconductors, created by depositing layers of crystalline (MOCVD, MBE), and other thin-layer processes as well as in research and development and mass production (i.e. LEDs). The sensors measure expansion rates, surface temperatures, doping, ternary composition, wafer curvature, roughness and layer width with great precision and in real time during the layering process. The company's customers include all noteworthy semiconductor manufacturers around the globe. The firm was founded in 1999 by Dr. Jörg-Thomas Zettler, among others, as a spin-off of a research project at the Technischen Universität Berlin.

Researching and testing the measurement equipment creates a vast amount of data, which represents the majority of the 180 gigabytes of data that requires back-up. The daily differential data alone requires about 30 gigabytes of storage space. "This meant that our previous data storage system, which consisted of disk-to-disk back-up without any archiving features, had definitely reached the limits of its capabilities," remarked Tobias Schenk, LayTec's Head of Software Development and IT-Personnel.

### Safeguards for the Future and for Investments

At the end of 2006, LayTec decided to employ a flexible back-up and archiving solution, which offered a high degree of security for investments and which could be expanded in parallel with the company's growth. "During our evaluation of different products, we benefited from the expertise of Skysoft, a service provider, who not only developed a total concept for sustainable data storage that could be employed for several years, but also implemented test areas for the different manufacturers' products. This meant that we were able to use performance data to determine which product was best tailored to our purposes", explained Tobias Schenk.

Upon completion of the testing, Tandberg Data's StorageLibrary T40 proved to be the best product, from both a technical and a business perspective. The first implementation used a version which included an LTO-3 Half Height (HH) drive with an on-board capacity of 400 GB and 24 activated slots. The unit can be expanded to include 40 slots and can be equipped with up to 4 LTO-HH

### Solution Overview

Tandberg Data T40 Tape Library with LTO 3 HH

Disk-to-Disk-to-Tape Back-up via Windows 2003 Volume-Shadow-Services (VSS)

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drives to accelerate data back-up. Upgrades to LTO-4 technology can be performed by simply swapping out the drives, and the old tapes are also usable with this new technology, which provides twice as much data capacity compared to the previous version. The integrated barcode reader provides fast recognition of installed back-up tapes, without having to read them first. The Tape Library's mail slot makes it possible to eject a back-up tape after archiving for external storage and indexing. Walter Gibas, LayTec's head of sales, points out: "With the T40, we have laid the foundation for future expansion in a way that makes sense economically. Moreover, when compared with competing products, the purchase price of this automation solution makes this product favorable."

**Reliable and Stable**

A GFS (Grandfather-Father-Son) storage scheme was chosen as the tape rotation strategy. This scheme requires 12 data tapes used for daily data back-up (including weekends) which provide enough storage space for a period of three months. The Tandberg StorageLibrary T40 offers the necessary flexibility to use more tapes per back-up in cases where the volume of data back-up so requires. Along with daily back-ups, LayTec stores the data inventory on additional back-up tapes.

"I wanted to remove one tape per week for archiving. This would significantly decrease administrative costs", remarked Tobias Schenk. "Based on previous experience, I can say that the T40 is such a reliable automation solution that personnel shortages, whether caused by illness or vacation, no longer put our company's operations at risk."

**High Performance through Disk-to-Disk-to-Tape**

In order to increase and maintain the back-up infrastructure's performance, Skysoft recommended a decentralization of server services and a disk based backup system. To this end, LayTec installed its own file server, designed for redundancy, which used Windows 2003's Volume-Shadow-Services (VSS) twice a day to create a copy of the data inventory for the past 30 days from both of LayTec's main servers. This process requires about 30 GB of disk space, which is then saved to tape once a day. If, for some reason, the original data

inventory is not available on either of the main servers, users can access the data stored by VSS to find previous versions within a matter of just a few hours.

This leads to a high performance Disk-to-Disk-to-Tape system which offers flexible and cost-effective expansion possibilities. Due to the moderate up-front costs, this solution guarantees low operating costs while providing complete safeguards for the future. Implementation of the entire system, including a new Gigabit Backbone switch, took only three man-days and cost about 17,000 Euros, including both hardware and software.



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**Tobias Schenk,**  
Head of Software Development and IT-Personnel LayTec.

**About Tandberg Data**

Tandberg Data is a leading global supplier of backup and archiving technologies. Tandberg Data offers a complete range of tape libraries, tape autoloaders and tape drives (based on the LTO™, SLR™, VXA® tape technology platforms), storage software, data media and disk-based storage such as the RDX™ QuikStor. These solutions are marketed exclusively through a channel of qualified resellers and distributors. These solutions are underpinned by OEM agreements with major server manufacturers including IBM, Hitachi, Fujitsu, Fujitsu-Siemens, Apple and Dell and supported by all major operating systems and storage software applications to operate in heterogeneous network environments. All solutions are designed to meet the growing storage requirements of small and medium-sized organisations with scalability, reliability and backward compatibility features that ensure cost effective operation and long-term investment protection.

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