

The Stadtwerke Lünen GmbH (Public Services Lünen) bets on StorageLibrary by Tandberg Data

Backup Power for Power Providers

Permanently rising amounts of data brought the backup solution implemented at the Stadtwerke Lünen GmbH (SWL) to the limits of its capacity and performance. Within a few weeks, a multi-level data backup solution with disk and tape was put in place in cooperation with the system vendor Cenesco. Through the implementation of the Tandberg StorageLibrary T40, SWL now has the benefit of higher performance and security for their backup and archival storage functions.

As a public services and utility company, the SWL supplies electricity, natural gas, drinking water and geothermal heat to residential and business buildings. The company employs about 230 people. In order to offer the very best to private and corporate clients, SWL continually invests in the quality of services, plants and networks. However, modern IT technical and security standards are also implemented in order to secure the many services, such as the data intensive online offering.

Within SWL, the department of organisation/revision/IT is responsible for the administration and maintenance of information technology. Besides outsourced SAP applications, the internal IT environment has typically grown heterogeneously. More than 180 Windows Workstations and Thin Clients are supplied on Citrix platforms with the usual Office applications, file, print, mail and web services, as well as database applications.

Backup System Comes Up Against Its Limits

In the past, an autoloader with DLT-4 technology was implemented for data backup and archival purposes, but it soon arrived at the limits of its capacity. This is especially true for the backup and archival requirements of Microsoft SQL databases and Exchange servers, which each require 150GB, since the complete backup of an application could not fit on one tape anymore. Furthermore, the backup window for the full backup was used almost entirely.

“The implemented DLT volumes with a capacity of 80GB were not sufficient for the backup of the servers and C-drives anymore. Additionally, our needs increased because of the introduction of a new archival system. Therefore, we urgently needed a new backup solution with better performance and more capacity,” says Klaus Melcher, assistant department head of the department of organisation/revision/IT at SWL.

Capacity, Performance, Security—a Little More of Everything

The IT specialists of SWL thoroughly tested several backup concepts. The goal was to increase the backup capacity, and also the speed of data restores in case of data loss. IT vendor Cenesco developed a custom multi-level concept with inexpensive SATA disks and the StorageLibrary T40 by Tandberg Data for the municipal corporation.

Solution Overview



Tandberg Data TapeLibrary T40
with LTO 3

Symantec Backup Exec 11.0 D

MS Windows 2003 Server

Xerox SATA disk storage with 5.5 TB



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“We have researched the technology and product in depth. Tandberg Data and Cenesco have presented the library in various workshops and tradeshow in much detail. An important criterion for our decision was that the technical support for Tandberg Data is based in Germany. Should we have a problem or need to use the exchange service, that is a definite advantage,” commented Klaus Melcher.

Customized Installation

To avoid affecting the operation of the computer centre, the complete system was pre-configured and set up by the technicians at Cenesco as much as possible. For this purpose, a standard server with Windows 2003 Server and Symantec Backup Exec 11.d was set up as a backup server. At this stage, special rack tracks were delivered and implemented in advance in the computer room at SWL. The sturdy midrange-library was scaled and custom-fit with 12 slots and a LTO-3 drive. With full occupancy, close to 5TB of uncompressed data can be written on tape. The capacity of 400 (native) or 800 (compressed) GB per cartridge respectively, provides ample space for backing up even MS Exchange on only one cartridge. The StorageLibrary T40 combines sufficient capacity on only four height units (4U). If the requirements increase, the library can be expanded with further slots and drives to a capacity of up to 64 Terabytes.

Cenesco carried out the integration onsite only four weeks after the order was placed, and thanks to their thorough preparation, there were no mishaps or glitches. The hosts to be backed up were placed

in a dedicated backup LAN with their second GbE card in order to connect them to the backup server with high performance. This backup server is connected to the StorageLibrary T40 as well as a disk subsystem from Tarox with a capacity of 5.5TB through SCSI. The inexpensive SATA disk storage is addressed as a Virtual Tape Library (VTL) by the backup software and provides quick caching and restoration of data.

Now, the planned backup jobs could be implemented in close collaboration. After an initial full backup, backup routines were implemented on several levels. From Monday to Thursday, the changed data is backed up daily in a differential backup process, first on disk and then on tape. The multi-level, secure process utilizes at present 3 of the 5.5 terabytes of the SATA system. In this process, what was backed up since the last full backup is recorded daily on tape. On Fridays, a full backup of the server data is carried out automatically.



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Differential for a Quick Restore

With the disk as cache storage and the fast tape system, SWL was able to significantly increase the performance, which in turn makes the differential backup process possible. As opposed to incremental, daily cache backups, writing to tape takes more time, but offers advantages for data restores.

In the case of data restores, SWL is able to restore mission critical data from the disk within minutes. In the unlikely case of a total failure of the production and backup systems, a recovery from tape is carried out. Only the last complete as well as the last differential backup must be restored. This procedure ensures that in extreme cases, important data is available again within minutes, and full systems within a business day.

“So far we have had no failure, but we know we are well prepared for any eventuality. Data backups have been reliable and stable so far, and their speed is astonishing. We have measured an average data throughput of 3 to 3.5GB per minute, which is excellent, and speeds up our backups considerably,” says Klaus Melcher.



Secure Investment

“With the full backup, the 650GB we are dealing with today are written to disk and then to the tapes within 18 hours, which leaves sufficient room for growth,” continues Melcher. “On Mondays, the written tape is removed and stored in a safe location for archival purposes. This routine guarantees that our data is managed in compliance with the law and revision security, and it also protects from overusing the individual media.”

The maintenance of the T40 is taken care of by Tandberg Data’s partner Cenesco. In order to be able to react quickly in an emergency, SWL decided on a support agreement with reaction time of the next business day (5x8xnext business day).

“We are very pleased with the Tandberg StorageLibrary T40. Besides backup performance and reliability, the user-friendliness of the tape library has us sold on it,” Klaus Melcher summarizes. “With the constant data growth and requirements due to legal specifications, such as the revision security of email archival, the change to the Tandberg StorageLibrary T40 was the right thing to do. The solution fulfils our current requirements for backup and archival and can be upgraded in future as needed.”

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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