



Backup Express

Success Story: Bertelsmann Stiftung

Faster Protection at Lower Cost

Profile of the Organization

- The Bertelsmann Stiftung foundation employs about 300 employees.

Company Needs

- Independence from data growth
- Faster restore in case of disaster
- Optimization of RPO and RTO
- Block-based backup and recovery
- Focus on recovery

Environment

- 45 Windows and Linux systems
- NetApp Filer
- MS Exchange, MS SQL, and Oracle Applications
- HP MSL 6060 with 2 LTO-3 drives
- NDMP backup
- Backup Express Reporter

"With Syncsort's Backup Express and the NetApp SAN, we can back up and restore data faster and better than was possible in the past."

Klaus Brinkmann, IT Systems Coordinator, Bertelsmann Stiftung

The Bertelsmann Stiftung foundation aims to promote the general welfare in the areas of education, social sector economics, health, and international communication through peaceful cooperation between cultures. Through its social engagement, Bertelsmann Stiftung seeks to encourage all citizens to join in promoting the general welfare. This politically neutral non-profit organization, founded in 1977 by Reinhard Mohn, holds the majority of Bertelsmann AG's capital shares and operates independently of the corporation.

Organizations, like the Bertelsmann Stiftung foundation, interested in identifying major societal challenges and developing possible solutions, have an abundance of information available to them. Currently, about 300 employees work at Bertelsmann Stiftung, 185 of which are actively managing over 60 projects. Like companies in the private sector, the foundation's employees need constant access to community information and work results. Data protection and recovery play a vital role in Bertelsmann Stiftung's operations which is why they tested and implemented Syncsort Backup Express as their data protection solution.

Managing Growing Data Volumes More Efficiently

Until early 2007, Bertelsmann Stiftung's data protection had been handled with an IBM Tivoli system using file-based backup. However, this conventional data protection system could not keep up with the skyrocketing increase in E-Mail storage. "All of our employees have a Microsoft Outlook mailbox with a size of at least 300 megabytes," reports Klaus Brinkmann, IT Systems Coordinator of the Bertelsmann Stiftung. "However, we urge our users to archive their data, so the actual volume of data is much larger. In practice, the combined amount of data from all regularly saved Outlook files has grown to more than 400 gigabytes."

Protection with Tivoli was only available for classical file protection of standard file structures causing two major problems. First, due to the huge influx of data, backups became extremely time-consuming and could only be executed once per work day at night. Moreover, if a recovery was necessary, it would have taken Bertelsmann Stiftung an excessive amount of time to completely recover their data. The second problem was the system's high maintenance costs, because Bertelsmann Stiftung was billed according to data volume. Finally, a third issue was caused by Outlook. "Simply by opening an archive through read access, the entire archive file must be backed up again even if none of the data had actually been changed," explains Mr. Brinkmann. Thus, the management at Bertelsmann Stiftung thought that a switch to block-level incremental backup, in which only modified data blocks are backed up, would be the right way to go.

Long-Term Solution Found

The Bertelsmann Stiftung IT team began searching for an alternative data protection solution, and they quickly found one in Backup Express. Syncsort Backup Express operates at the block-level, minimizing the time and disk space needed for data protection as well as accelerating the recovery process. Bertelsmann Stiftung envisioned incorporating Backup Express in a total solution consisting of a SAN unit provided by the American vendor Network Appliance, Inc. (NetApp) and an HP MSL 6060 tape library with two LTO-3 drives. "This combination met our requirements exactly," recalls Klaus Brinkmann. "We interviewed other companies who were already using the Syncsort solution and received outstanding references. After final discussions at CeBIT 2007, we made the decision to go ahead. The installation was performed at the end of April, and a test run was completed by the end of June. The system has been in daily use ever since."

The installation only took a week and was implemented by specialists from Syncsort, NetApp, and Trading.Point GmbH, which was responsible for setting up Bertelsmann Stiftung's backup environment. From the very beginning it was understood that the Bertelsmann Stiftung foundation would only adopt the new technology after it underwent an intensive testing period. The SAN unit was first installed and tested in a separate computing center. After the tests proved successful, installation of the backup servers began. First came the Master Server on which Backup Express stores the backup catalog, then came 22 servers containing variable data to be protected.

Success Story: Bertelsmann Stiftung

Advantages

- Syncsort's OSSV currently offers the most efficient and fastest disaster recovery solution
- Syncsort's OSSV bypasses the file system and saves the data on block levels with a low load on the CPU and the network
- Provides a base for higher Service Level Agreements (SLAs)
- Long-term protection even for increasing data volumes
- Flexible security concept
- Low administration expense
- Expanded reporting options through Backup Express Reporter



Trust is Good, Testing is Better

"Many companies understand the critical importance of IT, but there is a lack of time and money to accomplish all tasks with the necessary diligence," recognizes Klaus Brinkmann. "Hope very often rules in the field of data protection. As long as the backups continue to function flawlessly, one assumes that the recovery process is also working. However, we wanted to know for sure." Intensive testing was performed for two long months. The result was conclusive: Backup Express was the right way to go. When all backup jobs went as planned, tests began to focus on recovery and failsafe operations. For Bertelsmann Stiftung, it was particularly critical to minimize user downtime during a server failure. What became immediately apparent was that Syncsort's "Near Continuous Data Protection" significantly reduced recovery time, which reduces downtime cost.

"Many companies offer a backup solution. Syncsort has a backup and recovery solution," said Christoph Riedel, managing director of Trading.Point GmbH. "Anyone can provide backup, however ultimately the problem is about recovering the data. The combination of Backup Express and the NetApp storage unit has enabled the Bertelsmann Stiftung foundation to recover lost data in a timely manner."

Employees Are Able to Keep Working

Open Systems SnapVault (OSSV) technology, supported by Syncsort and NetApp, played a critical role in fast, efficient data protection and recovery. Using this technology, multiple data backups can be performed daily as snapshots. OSSV reduces the time necessary for data backup and recovery by up to 95 percent. To do so, a complete data backup of the original system is first made on the NetApp system. Then, ongoing backups are performed incrementally, which means an enormous reduction of data volume to be backed up. Through Syncsort's ExpressDR™ technology, Backup Express can restore a protected server very quickly through a bootable medium even if the operating system is destroyed. In case a server completely fails, users can regain access to their data in the shortest possible time.

In addition, Syncsort's Instant Availability technology allows users to continue working while the server is being restored. To do this, an iSCSI mount is performed onto the corresponding section of the NetApp backup. This means that the failed server is run virtually on the SAN unit at its last recovery point. iSCSI is used to enable access to the memory network through a virtual point-to-point connection without having to set up dedicated memory devices. For users, this means that they can get back to work immediately, albeit at a slightly reduced performance level, while the IT department works to repair the failed server. In the mean time, the NetApp system saves all changed data and can later synchronize it with the corresponding server.

High Degree of Fail-Safety Guaranteed

Bertelsmann Stiftung uses a NetApp storage unit designed to store 12 terabytes, with 9 terabytes currently being used. Of this, the employee Outlook data now occupies a mere 600 gigabytes, accounting for only 7 percent of the total storage volume. All backup jobs are automated and the backup data is stored on hard disks via NetApp. An additional tape backup is done once per week. Although no servers have failed yet, Klaus Brinkmann has tested the worst case scenario in which the foundation's largest server would be down for 7 hours. During this time, users were able to work without interruption via Instant Availability. Then ExpressDR helped the Bertelsmann Stiftung IT team restore a 650 gigabyte server to its original condition prior to the failure, complete with operating system, system settings, and all data. Due to the Bertelsmann Stiftung IT team's coordination of Syncsort's Instant Availability and ExpressDR technology, the massive recovery occurred without any users even noticing the restoration.

"With Tivoli, we were able to do one total backup per night, but could only back up the data disks and not the operating system," reports Klaus Brinkmann. "Today, we back up all modified data two to three times per day in blocks, both in the operating system and the data disks. This means that in the worst case we would lose no more than two to three hours of work." Klaus Brinkmann also lists other advantages of the switch to Syncsort and the SAN unit. "The backups themselves, which now refer to the data blocks actually changed, can be done much faster. Our backup volume is significantly reduced and we can back up the data in much shorter intervals. Compared to the previous solution, we have saved a lot of money. However, the main reason for our satisfaction is that we can get data back to our employees much faster now after a server failure, and thus get them back to work."