

Business Continuity Solution: Syncsort's BEX Advanced Recovery Provides VMware Redundancy without Expensive Mirroring at MB-Holding

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Background

MB-Holding, headquartered in Frankish Vestenbergsgreuth, is a leading international manufacturer of extracts for herbal, fruit and medicinal teas. They also produce extracts for the food, pharmaceutical and cosmetics industries and provide laboratory services for the analysis of herbal raw ingredients.

Subsidiaries Linked by Single Computer Center

MB-Holding functions as a classic parent company in a network of companies, each with its specific focus. To provide customers with the best service and lowest cost, each company runs independently under the umbrella of MB-Holding.

The parent company sets basic conditions and supports its subsidiaries in research & development, human resources, public relations, finance and, most importantly, IT. All company departments are linked to a central computer center. At the beginning of 2007, to ensure that data loss and server failures would not interrupt business functions, management decided to implement Syncsort's data protection solution, Backup Express, with its innovative Backup Express (BEX) Advanced Recovery technology.

Infrastructure Virtualization

Virtualization plays a leading role in the MB-Holding computer center. The main hardware component is a Dell Blade Center with ten blades on a storage area network (SAN) from EMC. The Blade Center is the

Environment

- VMware (50 servers)
- SAN
- MS Exchange, MS SQL Server, Oracle
- File server
- Dell PowerVault ML6000 with 2 LTO 4 tape drives and 30 slots
- 5 terabyte data volume

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storage foundation for a VMware implementation that provides virtualization of the complete infrastructure, comprised of approximately 50 virtual servers. The high number of servers is a reflection of the many companies that are covered by the network, each requiring its own special applications and servers.

"The strong growth in the number of servers was the tipping point in our decision to virtualize our infrastructure," remembers Andreas Erben, System Administrator at the MB-Holding subsidiary MB Management Service. "We came to a point where meeting our data center requirements with classic hardware servers was no longer cost effective."

Seeking a Solution to Ensure Infrastructure Reliability

Because data from the computer center is essential for daily operations of the MB-Holding subsidiaries, system reliability was a critical requirement for the company's new infrastructure.

Mirroring, Clustering Too Costly

In early 2007, management asked the IT group to initiate a second, redundant computer center that could maintain operations in case of a failure of the primary computer center.

"We took the request and began evaluating various options, such as classic mirroring and clustering. However, the costs involved with these options gave us some pause," Erben said.

"When we came across an exhibit for Syncsort's BEX Advanced Recovery technology by chance, it really got our attention. It seemed like a solution that we could use to cost-effectively implement our redundant computer center and, at the same time, replace ArcServe, our old backup solution."

BEX Advanced Recovery Protects VMware Environment

Syncsort contacted its partner Backup Solutions and within a short time a test environment with two servers was implemented at MB-Holding. "Frankly, we couldn't really imagine how it would function and whether or not BEX Advanced Recovery was even suited for our VMware environment," admitted Erben. However, the test was such an overwhelming success that MB-Holding immediately purchased the necessary hardware and began implementing the solution.

Currently, MB-Holding is using a 4-processor computer as a BEX Advanced Server running Windows 2003 (64 bit). Nearly any available disk pack can be connected to the Advanced Server.

Backup Express Benefits

- **Advanced virtualization support**
- **Computer center redundancy at low cost.**
- **Uses any type of disk storage**
- **Fast, low impact backups, no backup window**
- **Fast Recovery (RTO)**
- **Many recovery points (RPO)**
- **Quick disaster recovery**
- **Low disk storage requirements**
- **Single backup solution for file-level and block-level (D2D)**
- **Disk-to-disk-to-tape (D2D2T) for archiving**
- **Easy central administration**

Because of positive experiences from other projects, Backup Solutions recommended that an EonStor RAID-6 storage system from Infortrend be used with the Advanced Server, and MB-Holding followed the recommendation.

BEX Advanced Recovery Eliminates Need for Mirrored Servers

"The Backup Express Advanced Recovery technology backs up the data and the servers and enables us to switch between the original and the backup version basically at the press of a button," explained Peter Ungerer, CEO of Backup Solutions GmbH. "It offers the advantages of a redundant computer center at a fraction of the cost of other technologies."

"Backup Express Advanced Recovery has a number of advantages over mirrored servers," Ungerer noted. "With mirrored servers, viruses are also mirrored, the equipment must be identical in both computer centers and the hardware just sits around except in cases of emergency."

Classic File-Level Protection Combined with Advanced D2D

Approximately 20 to 25% of applications and data are critical for operations. This includes customer databases, sales data, central file servers and the e-mail system. In a worst-case scenario, these business-critical elements need to be completely restored within 30 minutes.

For MB-Holding, there are five critical servers, which contain live data: the Exchange e-mail server, one laboratory server, two database servers running Microsoft SQL, and the main file server. These servers are now protected using BEX Advanced Recovery technology, and MB-Holding has purchased a volume license for five terabytes to meet current needs.

Most of the other servers are pure application servers. Because the applications are not as time-critical as live data and change only occasionally, these servers are backed up via VMware scripts to a second computer center. Only the VMDK and configuration files, essential for the ESX server, are copied. In the case of a failure of one or more blades, the virtual machines in the second computer center can immediately take over.

In addition, the application servers are backed up to an archive using the traditional file-level capabilities of

Syncsort's Backup Express. "Basically, we only have to back up to cover situations in which a configuration file is lost, but this hasn't happened in practice," explained Erben.

One Console for Classic and Advanced Backups Simplifies Administration

"We have really liked the fact that the regular Backup Express version and BEX Advanced Recovery can both be controlled via one uniform console because that greatly simplifies administration," Erben said. "The combination of old and new technology is, in our view, the ideal backup landscape for any application."

For long-term data archiving, *disk-to-disk-to-tape* backups are made weekly. The weekly tapes are kept for two weeks, and monthly tapes for two years, while yearly backups are kept indefinitely. The tape library is a Dell PowerVault ML6000 with LTO-4 technology, two tape drives and 30 slots.

Backup Express Replaces ArcServe

The combination of the classic, file-level Backup Express and BEX Advanced Recovery technology enabled the company to completely replace the old ArcServe backup software.

ArcServe began increasingly to cause problems in the computer center because the number of servers and the amount of data had become too large for it to handle. Error messages and problems became daily occurrences. Also, the internal backup database went down several times, reducing confidence in the system. The time window for backups using ArcServe also became longer and longer, to the point where one night was not sufficient to complete a full backup.

Block-Level Technology Brings Major Benefits

With BEX Advanced Recovery, these problems are a thing of the past. BEX Advanced Recovery first creates a full backup of a machine, then it makes all other backups exclusively as incremental backups at the block level. This enormously reduces the data volume to be backed up because only changed data blocks from the file and operating system are recorded and saved. In principle, you can make as many backups as you want without affecting the ongoing operation. The CPU load, in

particular, is so low that it can basically be disregarded.

The difference from other incremental solutions is that the backup always appears as a complete backup, eliminating the need to deal with several tapes or backup files during recoveries.

BEX Advanced Recovery reduces the time required for data backups and data recovery by up to 95%. Another advantage of the technology is that it has a *memory*. MB-Holding does incremental backups with Backup Express Advanced Recovery every four hours and keeps them for 30 days. During that period all versions of files, no more than four hours apart, are available for fast recovery. After that period, the same recovery point object (RPO) is available from D2D2T archives.

More Than a Backup and Recovery Solution

"Basically, Backup Express Advanced Recovery is no longer just a backup & recovery solution, but rather a logical, linked disk storage system," said Ungerer. "You can simply swap out the defective disk with the backup disk— something that is the dream of all system administrators. I bet that this technology will be 'state-of-the-art' in two to three years."

MB-Holding is very satisfied with the Syncsort technology. "BEX Advanced Recovery is a cost-effective and powerful alternative for creating a redundant computer center," added Erben. "We are very impressed with the technology and the implementation went quickly and seamlessly thanks to the excellent support from Backup Express Services."

Backup Express is enterprise data protection software that provides fast server backup, reliable disaster recovery and business continuity. It reduces storage, bandwidth and CPU requirements for unmatched cost savings, while enabling server and site recovery in only minutes.

For a free consultation or demo, visit www.syncsort.com/coibex.