

Johannes R. Weichelt reduces costs through efficient data center operation

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Disaster-tolerant data center provides high security against unplanned system downtimes

The name Schenker stands since more than 130 years for the efficient organization and processing of commodity flows. Prerequisite for smooth-running business processes is the continuous availability of the IT systems used and the corporate data stored there. Thanks to the new data center of Johannes R. Weichelt GmbH Informationssysteme und Service, Schenker is now well equipped to handle any problem that might crop up in this sector. The central components in the new backup infrastructure are BS2000/OSD mainframes along with the CentricStor Virtual Tape Appliance from Fujitsu Siemens Computers.

The Coburg, Germany-based Johannes R. Weichelt GmbH Informationssysteme und Service is a subsidiary of Schenker AG and employs 45 people to take care of the central data processing of the logistics group in Germany. The heart of the data processing system is the MISTRAL shipping software. With the help of this application, approximately 3000 users take care of all of the tasks involved in piece goods traffic – from creating shipping orders and calculating freight and cartage costs and any other incidental charges to preparing consignment notes and accompanying documents and right on up to invoicing and processing any claims that might be involved.

Since the introduction of the system 25 years ago – for the company of the same name (Weichelt) at that time – the employees responsible have focused primarily on system stability and opted for BS2000 as server platform from the very beginning. Even today, the Fujitsu Siemens Computers mainframes still play an important role in the data center. In addition to the central application, the service provider now operates a wide range of MISTRAL-related applications on the BS2000 platform.

In 2004, Weichelt decided to overhaul its outdated data center infrastructure, consisting of two

B2000/OSD computers of the H130 series along with the 3421 disk storage system and the 3590 magnetic tape cartridges, in compliance with the latest backup and security strategies. One of the reasons for implementing the new system was the automated operation and the costs it would save. "If there were any problems with the tape in the middle of the night, we always had to get one of our operators out of bed to take care of it," remembered Peter Schirmer, managing director at Johannes R. Weichelt GmbH Informationssysteme und Service. "Problems like that are easily solved by the new hardware and software."

High availability without compromise

The new Weichelt data center is distributed among mobile containers at two locations in Creidlitz and Coburg about five kilometers apart. These locations are connected with each other via secure high-speed fiberglass lines. If one of the data centers should go down for any reason, the other one can assume all the necessary operations. The system environment at the Creidlitz location consists of an S145 BS2000/OSD business server, on which the different host

applications run completely separate from one another with the help of the VM2000 Virtual Machine system. In addition, a substitute processing processor, which is dynamically activated in the event of

Johannes R. Weichelt GmbH Informationssysteme und Service



With a staff of 45 employees, this Schenker AG subsidiary organizes and manages the logistics group's central data processing in Germany. The central application for some 3,000 users is Mistral, a freight forwarding software. It is utilized for all tasks involved in small freight service – from entering shipping orders and calculating freight charges, drayage and incidental costs, to generating bills of lading and accompanying papers, right through to invoicing.



a failure, guarantees constant performance and availability. The mainframe is connected to the SAN (Storage Area Network) via the EMC Symmetrix 8530 disk storage system. The Fujitsu Siemens Computers CentricStor Virtual Tape Appliance along with the tape library Scalar i2000, which is equipped with LTO-2 tape drives and 200 cartridge slots, provides for efficient backup and full automated tape processing. The data center in Coburg contains chiefly the same system components as its congenial installation in Creidlitz, but with some little differences: an S140 mainframe and CentricStor with a Scalar 100 work here.

Virtual tape technology allows direct data access

CentricStor is the core component of the new storage concept. This storage solution separates the host systems from the physical tape technology and provides in their place a large number of constant available virtual tape drives, which all individual backup applications can access simultaneously. The virtual tape drives store all backup data directly on integrated disk systems. Once a logical volume has been completely transmitted, CentricStor additionally stores it automatically on a physical tape cartridge in the tape libraries. The powerful internal RAID (Redundant Array of Independent Disks) storage serves on the one hand as cache for the logical volumes of all current backup processes and on the other hand to adjust the speed between host systems and physical tape periphery. This tape virtualization provides all servers with a uniform logical view of the virtual drives and logical volumes. The optimum read/write process on physical tape

storage is automated by CentricStor independently. The separation of the logical from the physical view delivers considerable savings potential for Weichelt, enabling the company to exploit the existing cartridge capacities as fully as possible. In addition, the company is also able to profit from a much higher processing speed for data backup. "CentricStor acts like a turbo charger for our backup processes," confirmed Schirmer. "The virtual tape system offers significant improvements in performance and our host systems can now access our stored data directly. With the old system, the operator first had to retrieve the corresponding tape cartridge from the archive and insert it into the system. If the required cartridge was located in the safe at a different location, the process took even longer. Now it's as if the tapes are stored 'on a hard disk' in the archive."

Dynamic online mirroring guarantees business continuity

To enable operators to restore business operations as quickly as possible even after a disaster, the host data is mirrored synchronously online in the corresponding backup computing center, a process for which Weichelt uses Fujitsu Siemens Computers DRV (Dual Recording by Volume). This software complements the BS2000 I/O system and works completely transparently for the applications. The recording process always performs write tasks on two disks. Read tasks, on the other hand, are served from the disk with the fastest access. "This makes it possible to accelerate read access by up to 100 percent," commented Schirmer. As another advantage this software

enjoys over comparable products, the managing director mentioned its considerably greater flexibility in using the disks. "With DRV, we are now able to determine which data volumes will be mirrored and which will not."

Higher performance at lower costs

The implementation of the new infrastructure took one year in total and was completed right on time for the 25th anniversary of MISTRAL and BS2000 in the spring of 2005. To avoid any interruptions in business operations, Weichelt replaced the hardware step-by-step. "Even if the installation was not always easy because of the complicated integration of the individual components, all efforts we made have paid off in a big way," summarized Schirmer. "Thanks to the automated operations, we have been able to reduce our personnel costs by 90 percent on an annual basis. Our costs for electricity, air-conditioning and rent have also been cut by half, thanks to the compact design of the new systems." In addition, Weichelt profits from a significant increase in throughput and performance for the applications, quicker data backup and accelerated restore, which now takes place directly from the job. For the managing director, however, this is no reason to sit back and relax. At the end of the year, Weichelt will convert its host application to BS2000/OSD V6.0, the current version of the operating system, which promises to increase system efficiency and the scalability of the processor performance yet again.