



DXi-Series & vmPRO

DXi and vmPRO Accelerate VM Backup 10x for Global Manufacturer

When data growth and virtualization overwhelmed Alfing Kessler's legacy backup system, the company tested competing solutions to see which could best solve its problems. The clear winner was Quantum's DXi appliances and vmPRO software. The new system boosts backup speeds by a factor of 10, restores VMs in seconds, and cuts admin overhead in half.

Alfing Kessler Sondermaschinen GmbH (AKS) has more than 75 years of experience in the development and manufacture of specialized machine tools and machining centers. The company is a major international supplier for the automotive industry and other large-scale manufacturers, and it counts the world's major car companies among its customers. Protecting the company's data is an enterprise-critical responsibility that is made more complex because the IT team is also responsible for backup and disaster recovery for the independent sister company Alfing Montagetechnik GmbH (AMT), a leader in screw driving technology, assembly machines, and automation.

RUNNING OUT OF SPACE AND TIME

The companies have separate domains, each with its own Exchange server, and a redundant set of central servers which cross-mirror the critical data from both companies on an iSCSI-based SAN. The legacy, first-generation backup system used Backup Exec to write the data directly to the company's LTO tape libraries. The system worked well when it was first installed but was not able to keep up with changes in the IT infrastructure as the companies virtualized their servers, increased use of 3D CAD modeling software, and created archives for email and key documents. Ultimately the system ran out of space and couldn't complete backups within the allowed window. Recovery, especially for the VMs, was also slow and unreliable.

"The tape libraries could no longer contain the full backup as it grew to more than 100TB, and we were unable to complete it during the allotted window," Head of IT Dietmar Wieber explains. "At its worst, we took more than 72 hours for a full backup."

VM backup was a special problem that became critical as the volume of data on virtual machines grew to 50% of the total. Not only did the backups take too long, but recovery for any kind of data was slow—much too slow to keep company productivity high.

"In our field, we have to do regular recovery of data," says Wieber. "Recovering from tape was slow, and for VMs, we had to send the data back through the application to be able to use the VMs, which compounded the problem. We needed a system that could give us better backup performance and significantly shorter recovery times."

With all the problems, the Alfing Kessler IT staff was spending too much time on backup and restore tasks.

RESEARCH AND A COMPETITION FINDS A CLEAR WINNER—QUANTUM

Working with experienced integrator PMCS, the AKS team looked at all the alternative solutions and narrowed the field to two contenders. It then set up both systems in test configurations and compared them for performance (both backup and restore), total cost, and ease of use. The Quantum solution consisted of a DXi inline deduplication appliance with 24TB of capacity and Quantum's vmPRO software for protecting virtual machines. The plan was to use the DXi disk target as the primary backup and to continue to use the existing tape library to create tapes for long-term retention and DR protection.

After a short trial, the decision was made to fully implement the Quantum solution because it was the clear winner on price, performance, and ease of use. The DXi, in addition to higher performance, also offered scalability, giving the IT staff the option of growing up to 80TB in capacity without having to add another appliance.

ALFING

ALFING KESSLER SONDERMASCHINEN

AMT

ALFING MONTAGETECHNIK

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Dietmar Wieber
Head of Information Technology

SOLUTION OVERVIEW

- Quantum DXi® deduplication appliance
- Quantum vmPRO™ Software for protecting VMs
- LTO tape library
- Symantec Backup Exec 2012

KEY BENEFITS

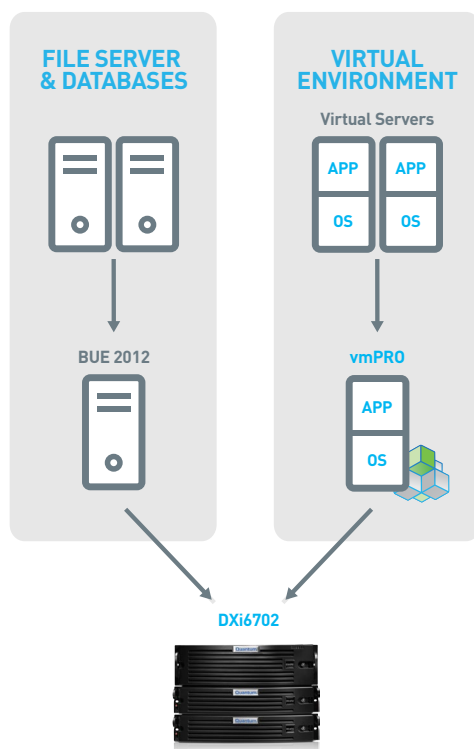
- Boosting backup speeds by a factor of 10 means all data is protected during the backup window
- Reducing admin time by 50 percent frees IT staff for other priorities
- Restoring files faster—in seconds instead of hours for VMs—means higher productivity for the entire company
- DXi's inline deduplication reduces disk space needed for backup by a factor of 27, reducing costs
- Scalability—up to 80TB in a single appliance—makes it easy and affordable to plan for future growth

CASE STUDY

"The backup solution can grow according to the requirements and does not have to be exchanged for another to cope with the backup volumes," says Wieber. "This investment security was important for us. And the vmPRO software provided fast backup, much faster restore, and was easier to use than the alternative."

The installation was fast and trouble-free. "Everything went very smoothly and was fully within the estimated budget," reports Wieber. "Within a week, the system was up and fully operational."

Switching from a first-generation direct-to-tape backup model to a disk-to-disk-to-tape model was easy for the administrative team, which was trained by PMCS. In the new system there is a dual backup process. Full and incremental backup of the central file servers and databases, the physical servers in the system, are backed up by Backup Exec to the DXi appliance. Protection for all the VMs is handled by Quantum's vmPRO software, which creates backup copies of VMs and their data on a different partition in the same DXi. At the end of each month, the full backup is also written to tape to provide a redundant copy for long-term retention and offsite storage.



TEN TIMES FASTER BACKUP; VMs RESTORE IN SECONDS

The first major advantage of the new Quantum system was the huge leap in performance.

"With the Quantum solution, a full backup of our work is now completed in eight to ten hours," Wieber notes. "The time needed has been reduced by a factor of ten."

The DXi's inline deduplication provides ultra-efficient storage that dramatically reduces the amount of space required. In all, 370TB of backup data now only takes up 14TB on the DXi appliance, a deduplication ratio of 27:1. In addition, the vmPRO software reduces the size of the VM image before sending it to disk, which not only reduces costs but also lessens the need for virtual server and network resources.

The new system has dramatically improved the time needed to restore files as well. Individual files are restored within a few minutes because they are being recovered from fast-access disk in the DXi appliance and not from tape. Even more impressive has been the gain in VM restore. Because the Quantum vmPRO Software protects and stores the images of virtual machines in VMware native format, the VMs can be restored instantaneously without going through the backup application. As a result, a job that used to take hours now happens in seconds.

REDUCES BACKUP ADMIN TIME BY 50%— TROUBLE-FREE OPERATION

Overall, the admin work involved in backing up, recovering, and monitoring of servers has been reduced by 50 percent.

When asked about Quantum's support, Wieber summarizes the situation succinctly:

"The two administrators are excited because they have no work to do to keep the system operating. We still have not had to contact Quantum's support team."

The new backup and recovery solution has been running flawlessly since commissioning despite continuous operation. Would they make the same decision again? Wieber answers without hesitation: "Definitely! My administrators would take it again any day."

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Dietmar Wieber
Head of Information Technology

ABOUT ALFING KESSLER SONDERMASCHINEN GMBH (AKS)

Founded in 1938, Alfing Kessler Sondermaschinen GmbH has more than 75 years of experience in the development and manufacture of specialized machinery and machining centers. Over the company's long history, it has developed customer-specific solutions for each machining process—from individual machines to complete production lines. The Company's customer base includes most of the major automotive manufacturers, as well as many within their supplier base. Alfing is one of the world's leading machine tool builders, particularly in the specialized area of conrod manufacturing. Numerous patents support the Company's emphasis on developing innovative and cost-effective solutions for its customers.

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