University of Magdeburg

University of Magdeburg backs up data in record time, reduces costs, and simplifies management with Micro Focus® Data Protector.

Overview

The SAP University Competence Center, part of the Faculty of Computer Science at the University of Magdeburg, serves over 470 universities and higher education establishments across Europe. With HPE StoreOnce Systems and Micro Focus Data Protector, SAP solutions used by over 90,000 students, lecturers and researchers are now backed up more easily and cost-effectively.

Challenge

Providing Essential Training in SAP

SAP's 'Made in Germany' ERP systems are in widespread use at corporations around the world. Knowledge of SAP can be advantageous for a number of careers, whether in management, programming or even banking. This fact

was long ago recognized by universities and higher education establishments.

"To be able to develop a real understanding of SAP business management systems, learning the theory is simply not enough," explains Ronny Zimmermann, research associate at Otto-von-Guericke University Magdeburg.

The computer scientist is part of a 26-strong team which works at the SAP University Competence Center (SAP UCC) attached to the University. SAP UCC functions as an Application Service Provider delivering a suite of services around SAP solutions from 24/7 hosting with technical and application support to educational, research, career and co-innovation services.

"We operate SAP solutions for more than 470 universities and higher education establishments across Europe," Zimmermann explains. "These solutions are being used for research, educational and training purposes from Vladivostok to Cape Town. This means that it is not the universities' administration departments that are using them, as you might expect, it is their teaching staff and students."

Over 90,000 students and more than 3,500 lecturers can access the University Competence Center. "At the end of the day, SAP solutions are

"HPE StoreOnce Systems and Micro Focus Data Protector will further decrease the amount of time we have to spend on backup management."

RONNY ZIMMERMANN
Research Associate, Faculty of Computer Science
Otto-von-Guericke University Magdeburg

OTTO VON GUERICKE UNIVERSITÄT MAGDEBURG

At a Glance

■ **Industry**
Education

■ **Location**
Germany

■ **Challenge**
Replacing the existing backup system due to increased demand.

■ **Products and Services**
Data Protector

■ **Results**
+ Reduced costs and simplified management
+ Improved data security and compliance
+ Future-proof investment enabling the University to focus on research and training rather than IT requirements

highly complex," continues Zimmermann. "SAP, therefore, set up the University Competence Centers to ensure that the various universities receive the qualified support they need." There are now six such centers situated around the world of which, Magdeburg is the largest.

Backup for 180 SAP Systems

Zimmermann and his colleagues are responsible for 180 SAP systems in total, as some are shared between multiple universities. "Our customers' individual SAP systems range in data size from 20 GB up to 2 TB. The total capacity we manage comes to around 150 TB," explains Zimmermann.

"We previously took a two-track approach to backups, operating a conventional tape library and a disk library in parallel. However, both the storage capacities and the backup windows were approaching their limits. We could envisage a time, not too far in the future, when these would no longer be sufficient. Also because we only had between four and eight drives available, the backups were relatively inflexible."

Solution

Ten Times the Storage Capacity

Since the SAP systems that run at the Magdeburg UCC site are only used for training or research purposes, there is no need for the data to be stored long term. Tape is generally used as the lower cost alternative for long-term archiving solutions but the University was looking for a lower cost short-term storage solution for which tape backup isn't always ideal.

"Our data normally only has to be stored for a maximum of two to three months, we do not want to deal with the added administration expenditure associated with tape storage," explains Zimmermann.

Instead, the Center deployed a high capacity HPE StoreOnce System with Data Protector.

Data Protector enables a comprehensive, centrally managed and standardized data protection as well as access to customizable dashboards and reports, root-cause analysis, scenario-based modelling, predictive analytics and identification and resolution of potential conflicts and contentions. The HPE StoreOnce appliance delivers unique federated deduplication technology which allows the University to reduce the space needed, reducing the cost of data protection and management overhead and decreasing network bandwidth expense.

Results

Deduplication

The University of Magdeburg is reaping the benefits. "Thanks to deduplication, we now require much less storage space," comments Zimmermann. "Before, we had a total backup storage capacity of just under 500 TB. The net capacity of our new backup solution is 120 TB, around a quarter of what we had previously; and yet because of enhanced deduplication we are able to backup much higher volumes of data."

The degree of deduplication, of course, depends on the type of data. The SAP University Competence Center uses a variety of different types of databases, but: "on average, we have seen a tenfold reduction in data volumes," notes Zimmermann.

"And the results have been even better for our uncompressed Oracle databases. We are, therefore, able to use our 120 TB storage capacity to back up 1.2 PB of data in total, more than doubling our previous capacities, which is pretty impressive."

Adaptive Backup and Recovery

Data Protector is central to the University's backup solution. It maps and manages all of the backup processes the Magdeburg-based SAP team own onto a central platform delivering a single view to the end-user.

"Data Protector software really is great," comments Zimmermann. "We have been using Data Protector since the start because it gives us a centralized overview and reporting on all the backups we are running. We use it to easily manage, schedule and integrate new and existing backups or, if necessary, run a restore. What's more, if a process does not run correctly, the software lets us know immediately."

All the lecturers and students who work on SAP training or research projects can therefore rest assured that their data will never be lost. Likewise, if one of the systems for South Africa, Finland or Siberia should ever lose any SAP data, it can be restored in no time thanks to the HPE StoreOnce Backup solution, which achieves restore rates of up to 40 TB per hour.

More Flexible Backup Procedure

The high-capacity HPE StoreOnce System contains a number of separate hard drives, which the University uses as a single large storage pool. This makes life considerably easier for the SAP team.

"We now have much more flexibility, which, alongside the space savings, represents the biggest advantage for us," continues Zimmermann. "Using the StoreOnce Catalyst functionality, I am able to create as many virtual drives on my HPE StoreOnce System as I wish. This gives us much more flexibility to backup and restore data than we had before."

Zimmerman and his colleagues have to manage many thousands of backups. But with this new, flexible solution, it is much easier to back up the data in parallel and also in smaller chunks. Zimmermann explains: "Previously, the backup window was governed by the specific

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number of drives. But now the new solution has enabled us to completely rid ourselves of this inflexible backup window."

Reducing Administration with HPE StoreOnce Catalyst

The SAP UCC will soon be introducing further improvements with HPE StoreOnce Catalyst over Fibre Channel, allowing the deduplication process to run either at the application server, on the media server, or at the target backup appliance.

"Our tests have shown that HPE StoreOnce Catalyst over Fibre Channel will further decrease the amount of time we spend on managing our backups as we will no longer have to worry about the administrative side of things. Once configured, the software does everything automatically," says Zimmermann, happily. "This saves us another two working days per year as we no longer have to think about how things work every time, like we do with so many other tasks that aren't part of our daily routine."

The SAP UCC at University Magdeburg could soon improve their backup speeds still further by connecting their HPE StoreOnce System to the recently installed HPE 3PAR StoreServ storage array in its data center. The backups would then no longer have to be transferred from the storage system to the backup system via the storage area network (SAN), but would instead take the direct route.

"This would dramatically increase the speed of our backups," says Zimmermann, confidently. "It would be particularly interesting when it comes to backing up VMware data via HPE 3PAR StoreServ snapshots as the virtual machines could be copied within a minute, simply by way of a snapshot."

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