



# University of Magdeburg backs up data in record time

## SAP UCC reduces costs and simplifies management with HPE Data Protector

### Objective

Replacing the existing backup system due to increased demand

### Approach

The SAP University Competence Center was looking for a more powerful system to back up SAP solutions and data belonging to the 470 higher education establishments it serves

### IT Matters

- Reduced backup window due to accelerated data backups
- All data consolidated onto a single disk-based backup system
- Ten fold reduction in data capacity due to deduplication
- Simplified handling of backup processes and more flexible backup procedures via centralised software

### Business Matters

- 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



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 HPE 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 recognised 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.

“Our new Hewlett Packard Enterprise backup solution has enabled us to consolidate all of our data onto a single disk-based backup system. This is much more cost-effective and manageable for us. We have also been able to significantly accelerate our data backups, which has allowed us to reduce the backup window.”

— Ronny Zimmermann, research associate, Faculty of Computer Science, Otto-von-Guericke University Magdeburg

“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 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 centres 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 HPE Data Protector. HPE Data Protector enables a comprehensive, centrally managed and standardised data protection as well as access to customisable 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.

## **Benefit**

### **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 Hewlett Packard Enterprise 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**

HPE 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.

“HPE Data Protector software really is great,” comments Zimmermann. “We have been using HPE Data Protector since the start because it gives us a centralised 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.

## Customer at a glance

### Hardware

- HPE StoreOnce System

### Software

- HPE StoreOnce Catalyst
- HPE Data Protector

### About the SAP UCC

The SAP University Competence Center (SAP UCC) was founded by SAP SE, Hewlett Packard Enterprise (HPE), T-Systems CDS GmbH and Otto-von-Guericke University Magdeburg in 2001. Since then, over 470 educational establishments in Germany and around the world such as universities, higher education institutions and vocational colleges have used the UCC to access SAP software for research and teaching purposes. Since the Center opened, more than 3,500 lecturers and teaching staff have used these systems to meet increasing demands for more innovative teaching materials. In April 2014, the SAP UCC Magdeburg became SAP UA's first Big Data Innovation Center (BDIC). Its SAP HANA infrastructure landscape is therefore being expanded constantly. In order to ensure the systems run reliably and efficiently, the SAP UCC is working with SAP SE and Hewlett Packard Enterprise to carry out research into landscape virtualisation management. The results are integrated into the SAP UCC as they develop, and are already influencing product development for the project partners.

“HPE StoreOnce Systems and HPE 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

### 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 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 centre. 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.”

Learn more at  
[hpe.com/software/dataprotector](http://hpe.com/software/dataprotector)



Sign up for updates

★ Rate this document