Case study

Magdeburg University benefits from simplified backups

HP StoreOnce 6200 backs up data at the SAP University Competence Center in record time

Industry
Education

Objective
To replace existing backup solution in the face of increased demand

Approach
The SAP University Competence Center in Magdeburg was looking for a more powerful backup system. This was required to back up the SAP solutions and data of over 400 higher education establishments served by the competence centre

IT matters
- High-speed data backup and restore
- Simplified handling of backup processes

Business matters
- Improved data security
- Future-proof investment
- Administration reduced thanks to greater backup process flexibility with HP Converged Storage

OTTO VON GUERICKE UNIVERSITÄT MAGDEBURG

"With our new HP backup solution, we have consolidated all of our data onto a one disk system. This is much more cost-effective and manageable for us. We have also been able to significantly accelerate our data backups, allowing us to reduce our backup time. Thanks to virtualisation, we now have the flexibility to break down the backups into smaller chunks."

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

HP enables Magdeburg University to increase storage security and flexibility for its global SAP training and research data

The Magdeburg-based SAP University Competence Center, part of the Faculty of Computer Science at Otto-von-Guericke University, serves more than 400 universities and higher education establishments throughout the EMEA region. With the new virtualised disk backup system from HP, SAP solutions used by over 80,000 students can be backed up in a more straightforward and cost-effective manner.

Challenge

Providing essential training in SAP
SAP business management software systems are in widespread use at corporations and institutions around the world. It has long been recognised, by higher education establishments and universities that having SAP knowledge can be advantageous for a number of careers, including management, programming and banking. “To be able to develop a real understanding of SAP business management systems, students need to get their hands on a real system; learning the theory is simply not enough,” explains Ronny Zimmermann, research associate at Otto-von-Guericke University in Magdeburg, Germany.

The graduate computer scientist is part of a 16-strong team that works at the SAP University Competence Center attached to the university. “We operate SAP systems for over 400 universities and higher education establishments within the EMEA region,” Zimmermann explains. “This means that our SAP systems are in use for research and training purposes from Vladivostok to Cape Town. In other words, it is not only the university administration departments that rely on these SAP systems; they are also being used for teaching and research.”

Over 80,000 students and more than 3,000 lecturers access the Competence Center at the university. “At the end of the day, SAP systems are highly complex,” continues Zimmermann; “The team therefore set up the University Competence Centers to ensure that the various universities receive the qualified support they need.” There are now five such centres situated around the world, with Magdebug, Germany, being the largest.

Backup for 165 SAP systems
Zimmermann and his colleagues are responsible for 165 SAP systems in total, with some of the systems being shared between more than one university. “The individual SAP systems of our customers range from 20 and 30 gigabytes to 2TB. The total capacity comes to around 150TB,” explains Zimmermann, who is himself a computer science alumnus of Magdeburg University. “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 envision a time, not too far in the future, when these would no longer be sufficient. 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 hosted by the Magdeburg site are "only" training or research systems, there is no need for long-term archiving. In this scenario, tapes would certainly be a lower-cost alternative. "Since we generally only need to store our data for a maximum of two to three months, we are now saving ourselves the administrative effort associated with tape backup," Zimmermann explains. Added value is provided by the fast HP StoreOnce 6200 Backup solution, which relies on sophisticated deduplication technology. As part of the further development of this technology, HP developed a proprietary algorithm that is used across all of its HP hardware and software platforms. Deduplication 2.0 is even more flexible and powerful than its predecessor.

Magdeburg University is also seeing the benefits of this. "Thanks to deduplication, we now require much less storage space," Zimmermann adds. "Before, we had a total backup storage capacity of just under 500 terabytes. The net capacity of our new HP system is 120 terabytes, around a quarter of what we had previously; and yet we are now able to store much higher volumes of data – which is all due to deduplication."

The level of deduplication does of course differ depending on the type of data involved. The SAP University Competence Center at Magdeburg University has a variety of databases in use although, "on average, we have seen a tenfold reduction in data volume," notes Zimmermann. "And the results have been even better for our uncompressed Oracle databases. We are therefore able to use our 120 terabyte storage capacity to back up 1.2 petabytes of data in total, more than doubling our previous capacity, which is pretty impressive."

Benefits

More flexible backup process
HP StoreOnce 6200 features virtual tape drives and is available to Magdeburg University as a large backup storage pool. This makes life considerably easier for the SAP team, who have 400 customers to serve. "We now have much more flexibility, which, alongside the space savings, represents the biggest advantage for us," continues Zimmermann. "Thanks to virtualisation, I am able to create as many virtual drives and virtual tapes on the HP StoreOnce 6200 Backup system as I wish. This means we now have much more flexibility to back up and restore data than we had before."

Customer solution at a glance

Hardware
- HP StoreOnce 6200 Backup system

Software
- HP Data Protector

The SAP team is responsible for managing several thousand SAP backup projects. With the flexible backup solution, it is much easier to back up the data in parallel and also in smaller chunks. “Previously, the backup window was governed by the specific number of drives. The new solution has enabled us to completely abandon this inflexible backup window.” explains Zimmermann.

Perfect overview

An added bonus is the HP Data Protector backup software, which maps all of the backup processes of the Magdeburg-based SAP team onto a central management console. “This software really is great,” comments Zimmermann; “We have been using Data Protector since the start because it gives us a perfect overview of all the backups we are running. It can also be used to start new backups or, if necessary, run a restore, and if we find a process that does not run correctly, the software lets us know immediately.”

All the lecturers and students who work on their SAP training or research projects via the Magdeburg University data centre can therefore rest assured that their data will never be lost. And 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 HP StoreOnce 6200 Backup system in Magdeburg, which has a performance of up to 40 terabytes per hour.

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