

# Case Study

## GKD Paderborn

» With the new ETERNUS CS High End data protection appliance, our performance has improved by 50 %. This figure has been reached even though we have not yet fully explored the option of using multiple virtual drives in parallel «

Ulrich Voß, Technical Director, GKD Paderborn



### The customer

GKD Paderborn was founded in 1979 and specializes in communications technology and information and data processing. It is an IT service provider for 20 companies in the districts of Paderborn, Höxter and Teltow-Fläming. In total, GKD Paderborn's data center and IT services benefit some 400,000 residents in the states of North Rhine-Westphalia and Brandenburg. GKD securely stores local registry data and tax assessments, as well as providing the districts' 4,000 employees with various eGovernment solutions. The majority of the local authorities can work without their own server resources as they have direct dark fiber connections to the GKD data center.

### The challenge

One of GKD Paderborn's main services is efficient data storage and protection. GKD uses some 450 servers - kept strictly separate - to host the individual administrations. This totals more than 100 terabytes of data. This was a great challenge for the current backup system which consisted of a virtual tape library and two classic magnetic tape systems: *"If we started the backup process at 6am on Saturday,"* explains Herbert Schröer, the person in charge of backups at GKD, *"it would take until Monday or Tuesday to complete. We could no longer work with such large backup windows."* To reduce the time taken for a complete backup while ensuring a high level of data availability, GKD decided to renew its backup infrastructure.

### The solution

GKD decided to use Fujitsu's mirrored ETERNUS CS High End protection system, connecting it to two physical magnetic tape libraries at two different locations. The high performance data protection appliance manages these libraries centrally. For online storage, GKD chose two ETERNUS DX440 systems that are stored in two separate fireproof areas.

### The benefit

With two lots of 150 terabyte SAN storage capacity on high performance, easily scalable ETERNUS DX systems, GKD is well prepared for further data growth. The digital mountains of data produced by the district offices that need to be stored by GKD are set to increase by around 20%.

The data on the mirrored ETERNUS DX440 storage system is backed up regularly onto the ETERNUS CS High End data protection appliance. One advantage of this new system is the easy expandability of the components. The ETERNUS CS High End combines the positive features of both hard drives and tape storage: While the drives provide a fast, parallel access method (volume cache), the tapes are excellent for energy efficient long-term storage.

#### THE CUSTOMER

Country: Germany  
 Industry sector: IT  
 Founded: 1979  
 Website: [www.gkdpb.de](http://www.gkdpb.de)



#### CHALLENGE

Modernizing the data protection environment, ensuring that the backup window was reduced, management was simplified and that data was available at two different locations.

#### APPROACH

Fujitsu ETERNUS CS High End data protection appliance and ETERNUS DX440 disk storage system

#### THE BENEFIT

- High data availability due to fast backup and recovery times
- Provides maximum, yet simple, scalability
- Simple recovery of virtual machines, applications and data
- Central availability of all backup data and high degree of security due to automatic data management at two separate locations
- Different service levels according to the data type

GKD's system has an uncompressed volume cache of around 16 terabytes. "The cache is dimensioned in such a way that we can save the data here for one to two weeks," explains Herbert Schröer. "This means that now 95% of all our restoration requests can be carried out using the volume cache."

The ETERNUS CS High End system has given GKD a massive boost in backup speed. "Our backup speed has doubled," says Ulrich Voß, Technical Director for GKD Paderborn, who is clearly delighted with the device. "Backup periods are now back to a much more manageable level. We can now carry out a full backup within a weekend." This halving of the backup times will be surpassed again in the future, as GKD plans to use virtual drives. GKD's ETERNUS CS High End has 64 virtual drives, meaning that multiple backup processes can run concurrently, again leading to a dramatic decrease in the time taken to run a full backup. The flexibility of the ETERNUS CS High End appliance means that the system can be built out further to gain a maximum performance level of 90 terabytes per hour.

For data that the authorities need to store on a long term basis - in some cases up to ten years - the magnetic tapes again come into their own. This is managed via a back-end process of the ETERNUS CS High End. Data is written automatically to both the local magnetic tape system and the remote library, which are located in the city of Paderborn. GKD then stores the tapes in a secure place. There is also an environmental benefit: "The data stored on a tape on a shelf doesn't require any energy," says Ulrich Voß.

#### Conclusion

"The ETERNUS CS High End has brought us further than we expected," explains Ulrich Voß. Performance, data availability and security have all been increased in one fell swoop. "As our new backup system has a much larger volume cache and data can be accessed online, restoration periods have decreased to a minimum," says GKD's Technical Director. Another reason for choosing the ETERNUS CS High End was the fast process of transferring data, including data in archives and the remote data.

#### PRODUCTS AND SERVICES

- Storage systems: 1 x ETERNUS CS2000 High End, 2 x ETERNUS DX440
- Service: Fujitsu Storage Integration Services, and pre-sales support

"We wanted to move all our stored backups to one system. The ETERNUS CS High End system was the only way we could do this in such a short time frame. The ETERNUS CS High End also provides the option to manage data automatically on magnetic tape storage systems in different locations." Ulrich Voß was also very pleased with the way the project was handled:

**"The migration from the old virtual tape library to the new ETERNUS CS High End was fast and smooth. The long-term archive was transferred to the new system within two days, thanks to the help of the Fujitsu experts. The process was completely frictionless; we had no system downtime. The combination of the fast ETERNUS DX440 storage system and the ETERNUS CS High End data protection appliance has brought our performance and data availability to a whole new level. Fujitsu's planning and sizing was exactly right. The project was a complete success."**

#### About Fujitsu

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