

Case Study

DARZ – Darmstädter Rechenzentrum

»Combining FUJITSU's technology with PROFI's skills and expertise has given us the quality, security and flexibility we need to join the DBCE marketplace.«

Lars Göbel, Head of Sales and IT Operations, DARZ



The customer

Country: Germany
 Industry: IT
 Founded: 2007
 Website: www.da-rz.de



The challenge

Constructing an efficient, flexible, secure, multi-client capable infrastructure to enable the company to join the Deutsche Börse Cloud Exchange (DBCE) marketplace. Integrating the OpenStack framework.

The solution

Server and storage technology from FUJITSU, with the scalable, multi-client capable ETERNUS CD10000 storage solution with Intel® Xeon® processors playing a key role.

The customer

The Darmstädter Rechenzentrum (Darmstadt Data Center, DARZ) is based in the most secure place in the German state of Hesse – the former vaults of the state's central bank. Its foundations were used to build what is now a 2,400 square meter, high-security, eco-friendly data center. As well as having a very secure building, DARZ is committed to maintaining the highest levels of quality and security in terms of its data center infrastructure, and as it is situated in Germany, it is also subject to strict data protection regulations. The company's motto says it all: "Data is more valuable than gold". As a full service provider, DARZ offers a wide range of products within the fields of colocation, managed services and consulting to ensure that projects are tailored to meet customers' needs and desires.

The challenge

DARZ GmbH wanted to sell IaaS (Infrastructure as a Service) resources on the recently launched, provider-agnostic Deutsche Börse Cloud Exchange (DBCE) marketplace. The exchange gives companies the opportunity to provide their cloud capacities to a large number of potential customers through a single marketplace. To join the DBCE marketplace, cloud providers must fulfil a number of requirements concerning features such as data protection, multi-client capabilities and location-specific criteria (governing region). This means that future customers of the cloud marketplace can define precisely where they would like their data to be stored, i.e. which governing region it will be under and therefore which data protection regulations will apply. The DBCE uses TÜV certifications to ensure that these conditions are adhered to.

In order to participate in the DBCE marketplace, DARZ needed an infrastructure concept that would both meet these requirements and also be very efficient. "We value quality and security very highly," says Lars Göbel, Head of Sales and IT Operations at DARZ. "It was also important for us to have a scalable solution that would be able to adapt as our business develops."

The solution

When it came to implementing the developments required to become an innovative cloud service provider, DARZ turned to the infrastructure service provider and system integrator PROFI Engineering Systems AG. "The specialists at PROFI are also very focused on quality and security," explains Göbel.

The benefit

- Modular scalability into the petabyte (PB) capacity range
- Pay-as-you-grow, no need for unnecessary advance investment
- No planned or unplanned downtime
- Technology can be updated without requiring downtime or migration
- Standardized infrastructure, automation and orchestration
- Self-optimization
- Efficient management of exponential data growth
- Low overall costs for the solution
- No additional costs for higher availability
- Standardized data access (block, file, object, future access formats)
- German language support

The service provider essentially had a blank slate when it began the project with DARZ. It was able to create a completely new infrastructure from the ground up, tailored precisely to meet the requirements of the DBCE marketplace. The main focus of the project was on creating a standardized support concept, ensuring complete compatibility with the OpenStack framework and developing a fully multi-client capable infrastructure concept for cloud applications. PROFI relied on FUJITSU system components for both computing power and data storage.

The storage solution was particularly important. PROFI chose the ETERNUS CD10000 hyperscale storage system with Intel® Xeon® processors. FUJITSU provided this as a complete package including both hardware and software, which can be managed centrally using the open source software Ceph. PROFI's main reasons for choosing this particular system were its extreme scalability and the fact that it could be seamlessly integrated into the OpenStack architecture. The design of the ETERNUS CD10000 allows storage nodes to be added, replaced and upgraded organically and without interrupting processes. The sophisticated technologies involved mean that each node added scales the performance and capacity linearly. Up to 224 storage nodes can be combined together. This provides a maximum capacity of 56 petabytes. To compare: 1 PB of data corresponds with approximately 100,000 hours of full HD, 1080p format video.

The technology in place at DARZ now forms a distributed redundant storage architecture implementation for the OpenStack framework, based on the FUJITSU Storage ETERNUS CD10000. "The environment gives DARZ a convergent virtualization platform which it can use to provide virtual machines and storage – and with a better price/performance ratio than traditional SAN approaches," explains Armin Achebach, Head of Sales at PROFI.

Products and services

- FUJITSU Storage ETERNUS CD10000

The benefit

"We could have implemented the infrastructure without the CD10000," says André Lorscheid, a consultant at PROFI, "but it would have been much more expensive in terms of both time and money." The FUJITSU storage system proved to be an elegant, fast solution to the challenges DARZ was facing. Lorscheid was particularly impressed with the flexibility of the ETERNUS CD10000. "Storage nodes can be added while the system is running," says André Lorscheid. And it does not even need to be stopped if the nodes require maintenance.

Lorscheid also highlights the benefits of the appliance concept: "This reduces expenditure as much of the work is already done," says the consultant. The end-to-end support concept also played a decisive role. "All of the core components in the cloud environment come from a single provider," explains Lorscheid, "so there is a single contact person." Support is provided in German and the company has direct access to the manufacturer.

And Lorscheid raises another important point: "FUJITSU manufactures its products in this country and even operates data centers in Germany," says the consultant. "Having a German business partner is the icing on the cake."

DARZ's Lars Göbel, too, is very pleased with the solution. "Combining FUJITSU's technology with PROFI's skills and expertise has given us the quality, security and flexibility we need to join the DBCE marketplace." For Göbel, the multi-client capability of the ETERNUS CD10000 is particularly important. "This is required by the DBCE as it ensures that customers are always kept separate from one another," he says. And the FUJITSU ETERNUS CD10000 is currently the only device that offers this function.

Conclusion

"The secure and powerful infrastructure we now have with the ETERNUS CD10000 means that we can join the DBCE marketplace and open up an innovative sales channel for our cloud services. This increases our brand recognition, expands our access to the market and also adds value to our services."

Lars Göbel, Head of Sales and IT Operations, DARZ

In collaboration with



www.profi-ag.de

Contact

FUJITSU
 Tel.: +44 (0) 870 242 7998
 E-Mail: cic@ts.fujitsu.com
 Website: www.fujitsu.com/de
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