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Sebastian Schölzel
IT Manager
Fraunhofer IVI



Fraunhofer IVI prepares for big data projects. High performance FUJITSU ETERNUS storage system provides the perfect foundation.

At a glance

Country: Germany
Industry: Research
Founded: 1999
Employees approx: 100
Website: www.ivi.fraunhofer.de

Challenge

The Fraunhofer IVI wants to focus more heavily on big data applications going forward. To lay the foundations for this, it required a performant, scalable storage infrastructure for VMware applications such as virtual machines and database and web applications.

Solution

The FUJITSU Storage ETERNUS DX500 particularly impressed the Fraunhofer IVI with its Extreme Cache feature, which delivers high performance without tiering. The Institute also installed FUJITSU ETERNUS Snapshot Manager (ESM) and ETERNUS SF Storage Cruiser for visualizations.

Benefit

- High performance, even without tiering
- Faster access to applications
- Scalability

Customer

The Fraunhofer Institute for Transportation and Infrastructure Systems (Fraunhofer IVI) in Dresden focuses on the key areas of transport planning and ecology, traffic information, vehicle, drive, sensor technology and telematics, information and communication to the areas disposition and logistics. Its electronic ticketing application, mobile public transport navigation solution, and cross-border disaster protection system have received particular recognition. It operates a number of high-performance laboratories with innovative test platforms and vehicles as well as modern IT structures.

Products and services

- FUJITSU Storage ETERNUS DX500 with 2.8 TB Extreme Cache
- 16 GB FibreChannel Dualcontroller Quadport with 8x expansion unit, total capacity 230 TB with 1.2 TB SAS drives
- FUJITSU FC-Switch 6505 12/24P
- FUJITSU ETERNUS SF Storage Cruiser
- FUJITSU ETERNUS Snapshot Manager

Challenge

The Fraunhofer IVI is dedicated to researching topics associated with transportation and infrastructure. The existing IT infrastructures for its VMware environment were beginning to meet the limits of their capacities. Users sometimes had to wait a number of seconds for their documents to open.

For this reason, Head of IT Sebastian Schölzel decided to invest in a new, faster storage solution that would be able to cope with the challenges of the future. Even as early as the offer creation stage, Fujitsu and its partner microstaxx impressed Schölzel. "We felt that Fujitsu and microstaxx really understood our needs and provided excellent advice," he explains. Of course, price played a role, but it was also important for Schölzel that the consultants were able to take the Institute's unique situation and requirements into account: "microstaxx didn't bombard us with technical tricks. Instead, they advised us on how we could meet our users' needs for fast response times." Schölzel chose not to focus too heavily on benchmarks as these tests are very dependent on the actual application and the data used.

Solution

Schölzel decided on a storage infrastructure based on an ETERNUS DX500, with FUJITSU ETERNUS Snapshot Manager to cover web-based snapshot management and FUJITSU ETERNUS SF Storage Cruiser to visualize the storage. Many applications are already storing their data on the ETERNUS DX500, including the VMware infrastructure with its virtual machines and database and web applications. The Institute plans for big data applications to also store its data on the system with ETERNUS Snapshot Manager in future. Directly after the installation, microstaxx seamlessly transferred the data from the previous system to the new solution, while the Institute's general operations carried on as normal.

An initial test run with a prototype for analyzing disaster-related data streams from social media sources such as Facebook and Twitter had already taken place during the Elbe river floods. Plans are now in place to develop this further. The Institute also has databases full of traffic data which require a performant storage system. "We want to make ourselves future-proof, and to be able to use big data applications," says Schölzel. One of the technical benefits of the Fujitsu solution that really impressed Schölzel was the Extreme Cache. The Extreme Cache module plugs directly into the PCI bus on the controller, is very close to the storage and therefore more performant than SSD solutions. The Fraunhofer IVI works with 2.8 terabytes of Extreme Cache and downstream SAS drives on eight shelves. All of the drives in the system have the same capacity.

"Extreme Cache benefits us in that it works in the background and makes the system intelligent. It enables us to keep performance high without having the worry about tiering." When it came to choosing the new solution, Schölzel found that a tiering option was often too much of a focus for other providers: "Hard drive tiering is something we haven't yet made a decision on. We felt that only microstaxx really understood that."

Benefit

Another important factor for Schölzel was to get exactly what he needed for his requirements: "We now have a slimline system without thousands of features we don't need. With other providers, that wouldn't have been the case." The decisive factor however, was that the solution would improve the performance of his VMware environment. "After the database applications for a SharePoint server were installed on the ETERNUS, response times significantly improved. When you opened a SharePoint document previously, you had to wait a second or two, but now they appear immediately," he says, explaining the concrete benefit.

ETERNUS Snapshot Manager has also had its benefits: "We create application-consistent snapshots while the system is running, and can then access data in the backup faster than if we had to search through tapes first," says Schölzel. "You sleep easier when you have this option," he continues. ETERNUS Storage Cruiser has helped Schölzel sleep better as it enables the entire SAN infrastructure to be monitored at all times – a real plus over the selective solutions offered by other providers. As a research institute, the Fraunhofer IVI is constantly acquiring new projects with additional demands, so scalability was a critical factor for the Head of IT: "Future-proofing was very important to us. Other manufacturers offered us products that would have reached the upper end of their limitations very quickly." The response times for the applications have significantly improved since the introduction of the DX500 and Extreme Cache, even without tiering. The new infrastructure has also made big data applications possible.

As storage requirements grow, the Institute can either scale the system, or switch seamlessly to the next ETERNUS DX in the family. "Our many years of experience in research environments with large amounts of data and high performance demands led us to recommend that the Fraunhofer IVI go in the direction of the ETERNUS, and replace the existing cost-intensive, aging competitor's system with a future-proof storage solution," adds microstaxx Solution Sales Managers Henning Dorsch and Harry Wengner.

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