nexenta™ Case Study

EnergieSüdwest

Use Case
Update IT infrastructure to meet growing database demands.

Requirement
Overhauling IT system by not maintaining but replacing systems.

Solution
NexentaStor™

Configuration Box

- High availability using two computing centers several hundred meters apart (HA-cluster)
- At each site an HP HPC 7000 blade enclosure with 5 high performance Blade Servers
- At each site two HP DL380 G8 Servers with JBOD's and NexentaStor
- At each site five high-performance HP servers, each with two Octacore processors, 256 GB RAM, SSD hard disks; four of the servers at each site run under Windows and one under Oracle Linux
- Oracle database, Microsoft Exchange, Citrix Xen Desktop, MS SQL Server
- Storage linked to the servers by Fiber Channel
- Fully virtualized infrastructure with Hyper-V, Citrix Xen Desktop and XenApp
- Over 100 virtual PCs

BUSINESS OVERVIEW

EnergieSüdwest provides electricity, gas, water and district heating to more than 10,000 households in and around Landau in Germany's Pfalz region. The municipal utility has 237 electricity transformer stations, 217 kilometers of natural gas piping and 303 kilometers of water piping. It distributes on average more than 180,000 megawatts of electricity per hour. The company has 150 years of innovation behind it, operating gaslights and steam engines back in the 19th century. Today it has around 100 employees and the systems used include a modern high-tech heating system that provides households with environmentally friendly district heating. However, the company is not resting on its laurels, as Dr. Thomas Wassmuth, the company's chairman, explains: "We are aware that our products are not unique and that we therefore need to stand out from the crowd in what we think and do." Alongside its traditional core business EnergieSüdwest is developing new activities including services for other utility companies in areas such as billing and databases.

As a result, the company's powerful and highly available IT environment has become vital to business rather than just a factor of productivity. EnergieSüdwest decided to modernize their existing IT infrastructure at the end of 2012 in order to meet the growing database demands. Christoph Werner, head of IT at EnergieSüdwest, says: "The existing IT infrastructure was already four or five years old and was no longer up to date. The processor capacity and working memory of the servers no longer met current requirements. It quickly became apparent that the most pressing problem was the lack of storage space and performance."

CHALLENGES

The capacity of the existing storage systems was simply no longer sufficient and expanding them was not an option. Four individual systems from EMC and IBM were in use. "We had reached the upper limit of scalability," says Werner. That was not the only limit that the systems were coming up against. Each system had only 3,000-4,000 IOPS available. This was slowing down the applications that accessed this storage, such as Exchange and Citrix Xen Desktop. In addition, maintenance of the four machines had to be carried out separately. It was clear that replacing the systems was one of the key strategic aspects of overhauling the IT.

EnergieSüdwest
Strom | Erdgas | Wasser | Wärme

"… the Nexenta concept of open storage attracted our attention immediately, especially from a technical point of view. The possibility of using an open source system and standard hardware and of having unlimited scalability without downtime appealed to us straight away."

Case Study

"We were unfamiliar with the current storage market and set out on the search with an open mind and no fixed ideas. Our aims were consolidation, high availability, central management and scalability," says Christoph Werner. During the planning process the IT team considered numerous manufacturers. "We spent weeks thinking hard about how we should develop our IT." On the advice of Nexenta's partner Siever Systemhaus and its CEO René Schmidt, with whom EnergieSüdwest has worked closely for many years, one of the solutions that EnergieSüdwest looked at was the Software Defined Storage approach from Nexenta.

BUSINESS BENEFITS

Since the introduction of NexentaStor it has enabled EnergieSüdwest to go ahead and redesign their IT infrastructure. The project was completed at the end of 2013. The new storage systems and management console have already been in use for some time. Infrastructure services went live first; the mail server was then migrated to the new hardware in parallel with the changeover from Exchange 2003 to Exchange 2010. It is already clear that the coherent system design on HP hardware and the unified storage pool under Nexenta make for much simpler storage management.

EnergieSüdwest's new IT infrastructure is not large, but it is extremely powerful and robust. The architecture, which is designed for high availability, consists of two redundant small computing centers several hundred metres apart and in different fire zones – what is known as a HA-cluster. This IT infrastructure can not only withstand the failure of any component but also is without any downtime; if one of the two computing centers suffers a major failure the system responds with a fully automatic and transparent failover to the other center.

EnergieSüdwest now has more than 30TB of productive storage, backed up by RAID Z2, which combines the advantages of RAID 5 and with those of NexentaStor. The company's performance requirement was 20,000 IOPS and it now has 24,000 IOPS. In addition to NexentaStor, the core product, EnergieSüdwest also uses Nexenta's HA cluster license feature and a fibre channel licence.

"We now have a completely different IT setup than we did a year ago and we can function as a driver of EnergieSüdwest's business expansion. Partner companies that buy database or billing services from us can have confidence in an absolutely stable IT system. That is a good feeling," Christoph Werner concluded.

The infrastructure is still in its infancy, but the newly introduced systems and NexentaStor have already eased the burden of IT administration because the new storage systems can now be managed as a single storage pool and they can also be integrated into the higher-level HP network management system.