Ludwig Maximilian Universität
Case Study

Faculty of Physics at LMU meet Storage Challenges by Switching to NexentaStor

Munich, Germany
www.en.uni-muenchen.de
Research and Education

Summary

Challenge: Create a standardized, high-performance storage solution that could work across the university

Solution: NexentaStor High Availability Cluster

Platform: SuperMicro

Use Case: High-performance SAN

Benefits:
- Massively scaleable storage environments
- Virtually unlimited number of snapshots
- Prevention of data corruption
- No vendor lock-in, can use standard hardware

Business Overview

Ludwig Maximilian University (LMU) is a public research university located in Munich, Germany. One of Germany's oldest universities, it is considered one of the country's (and Europe's) most prestigious universities with 34 Nobel laureates associated with it. It is the second-largest university in Germany in terms of student population with a total of more than 50,000 matriculated students. The Faculty of Physics, with six Nobel laureates and many other notable physicists, is a global powerhouse for physics research and education.

Challenges

The university IT group lacked a coordinated approach to storage acquisition, so in 2010 EIS Director Patrick Hopewell and his team initiated an RFP process to seek a standard SAN solution for all enterprise services within the CIO portfolio – a solution that could also be leveraged by any department on the university's three campuses.

> "The first thing we noticed when we tested the system was that it was built on ZFS which is incredibly powerful and has features built in that are hard to find anywhere else. NexentaStor is also very flexible and we can use it for a powerful high availability (HA) Cluster as well as a high-powered solution for ultimate speed that underpins the systems at the high performance computing department.
>
> **Klaus Steinberger**
> Head of IT, LMU

Visit us online at nexenta.com

The university received responses from many of the major storage industry vendors, and ultimately chose Nexenta's Software-Defined Storage (SDS) solution featuring NexentaStor.

"There was some initial resistance to our selection of Nexenta, but this was largely based on the reputation of legacy storage companies," says Hopewell. "It used to be said that no one ever got fired for going with IBM. With respect to storage, today that same expression could be applied to EMC or NetApp. Their name recognition makes them feel like a safe bet, but there were so many benefits with Nexenta, particularly around cost, that we ultimately overcame our hesitation."

Solution and Benefits

Solution

The first deployment of a storage solution based on NexentaStor in 2012 was a huge success. This led to more and more NexentaStor solutions being added. By mid 2014, seven systems had been installed by BASIS, three of them high availability (HA) clusters to support critical applications at bigger sites on the network.

As most of the servers in the environment were already virtualized, transparent failover was one of the main requirements for the clusters that support most of the IT systems. But high availability was not the only reason for the IT team to start using SDS. Steinberger comments: "The first thing we noticed when we tested the initial system was the advantages of ZFS, which is incredibly powerful and has features built in that are hard to find anywhere else, like the self-healing functionality that prevents data corruption. NexentaStor is also very flexible and we can use it for a powerful HA cluster, a simple single-head primary storage, or a high-powered solution for ultimate speed that underpins the systems at the high-performance computing (HPC) department."

The clusters and HPC systems benefit from advanced caching technology built into ZFS such as hybrid storage pooling, which enables the systems to fully utilize high performance SSDs and DRAM provided by high performance and durability specialist HGST.

Nexenta's partner in Munich, BASIS GmbH (www.basis.biz), delivered and integrated the solutions, providing software and hardware services. "NexentaStor is simply the best solution," comments Stefan Fischer, CEO at BASIS. "The flexibility of Nexenta's SDS solution means LMU can use one system for different purposes and they don't have to work with different management platforms."

Benefits

By choosing NexentaStor to replace existing systems, the Faculty of Physics avoided extending vendor lock-in with expensive and inflexible upgrade paths for proprietary systems. NexentaStor runs on standard hardware, providing a very favorable price performance ratio for purchase and maintenance over the entire system lifecycle. But the lower price from using standard hardware was not the deciding factor for the university: The full package of features built into ZFS and NexentaStor and the enormous performance of the resulting systems were convincing enough.

NexentaStor provides 100% uptime for all applications at the main sites that support the university's virtualized environment and provides more than enough performance for an unmatched user experience for students and researchers. Word about the advantages of SDS and NexentaStor has spread and the Faculty for Mathematics, Information Technology and Statistics has already installed its first NexentaStor system, with the likelihood of more to come.

nexenta®
Global Leader in Software-Defined Storage.