

The association German Arthrosis Aid (Deutsche Arthrose Hilfe) evolved from the work and experience of arthrosis research. The main goal of all activities of German Arthrosis Aid is to help and assist all its members and all persons affected by arthrosis in Germany on a large scale. In accordance with the association's statutes the purpose of the association is put into practise particularly by the following:

- provide help, support, assistance and counselling of individual people suffering from arthrosis in matters concerning their illness;
- provide information and education concerning causes, nature, therapy and prophylaxis of arthrosis;
- promotion of scientific and clinical research of arthrosis, ist prophylaxis, detection and treatment.

Data are the association's capital. Therefore the most important task of IT is to compile these data and to make them available. In order to put this into practice VMware Servers via NFS were to access a central storage system, which in turn replicates all data into a second server zone. Moreover, the data of another location were to be replicated as well to the head office via WAN.

File services, e-mail servers and data bases are installed on the VMware servers, and, in addition, remote desktop applications for fifteen users at the main location and for another ten users at the secondary location. The association explicitly wished to have a solution based upon the ZFS file system, since this solution provides an especially high standard of safety with regard to file system failures due to disk defects.



Solution:

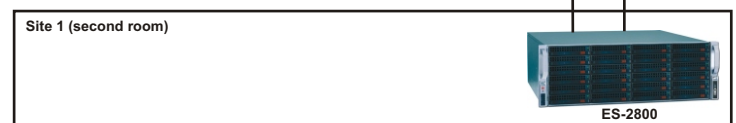
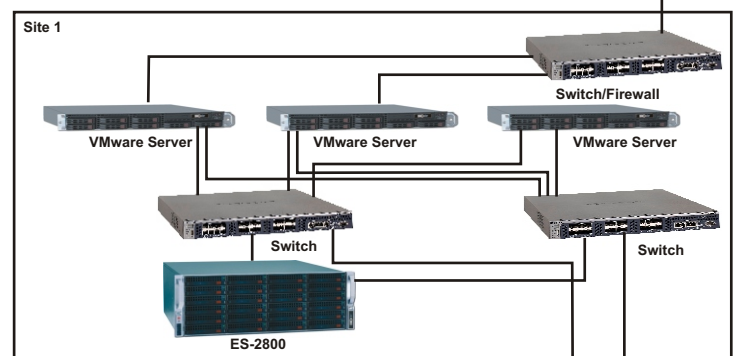
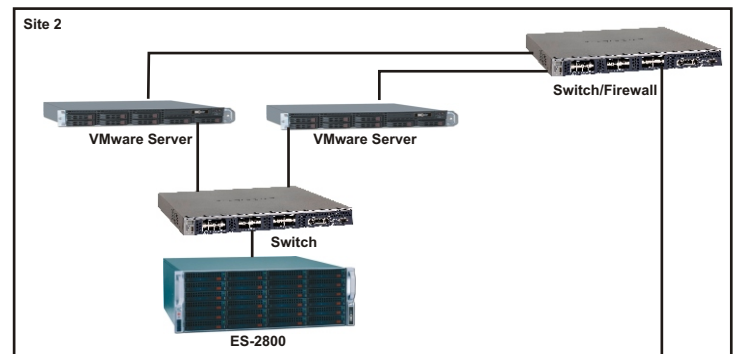
With three ES-2800 unified storage servers on the basis of NexentaStor software EUROstor offers an asynchronous replication solution which allows reliable backup of all data even at a great distance and with low bandwidth. With the included Web-GUI it is not only possible to permanently monitor performance and utilization of the system but also to control replication in an easy way.

A special VMware plug-in allows for the simple connection of the virtual machines. The ZFS file system provides RAID-safety with simultaneous monitoring of all data on every single hard disk. The system also may be expanded later on without any problems by free disk slots and the possibility to connect JBODs via expansion ports, as soon as this should become necessary.



ES-2800 Nexenta Server:

- unified storage with SAS and Nearline hard disks
- 16 or 24 (opt. 36) hard disks, 3.5", including 2 mirrored boot disks
- NAS (NFS, CIFS, FTP, WebDAV, RSync) and iSCSI (or optionally FC)
- on the basis of the ZFS file system
- compression on the fly and deduplication reduce need for storage capacity
- thin provisioning for flexible storage provision
- support of SSD Cache as L2ARC as well as ZIL transaction cache
- RAID levels: mirror, raidz, raidz2, raidz3 (1 to 3-fold parity)
- automatic error correction (scrubbing)
- unlimited snapshots, asynchronous replication (or optionally synchronous replication)
- manageable via WEB-front end, detailed monitoring



Customer's Voice:

"For us it was of great importance to ensure a fast and safe backup from storage to storage. Here the ZFS file system provides the perfect solution", says Rainer Woll, data processing manager with German Arthrosis Aid.
 "At relatively moderate cost the solution offered by EUROstor provides a very reliable NFS connection which could be integrated into the existing infrastructure without any problems. Backup via WAN, too, is very reliable and fast. For us that is an altogether smooth and efficient solution."

Deutsche Arthrose-Hilfe e.V.
 Eingetragener gemeinnütziger Verein