

The company Christoph & Markus Krah GmbH in Garmisch-Partenkirchen offers both training courses and equipment for all operations with rope support, for mountaineering, ice climbing and canyoning, as well as for the rescue of persons from heights and depths.

The company which set out with a staff of only three developed into a successful sales company, operating throughout Germany, for the well-known brands PETZL, BEAL and ActSafe. Today the company has 18 employees which provide information, advice and training, always in close contact to the customers.

As the company is growing, the requirements concerning the IT used, which needs to be flexible and safe at the same time, are increasing, too. In case of a system breakdown the whole business would come to a standstill. Therefore the servers were virtualized to three VMware ESX systems, with approximately 30 virtual machines, including Linux and Windows servers. For increased safety the hardware is distributed among two fire protection areas.

EUROstor was entrusted with the task to provide and install the necessary storage systems, which, of course, also had to be distributed to the two computer compartments in a redundant manner.



## Solution:

In order to keep the data completely redundant an ES-8700 iSCSI storage cluster is distributed to the two locations. On both sides 8 highly revolving 300 GB SAS hard disks each for I/O-critical applications, as well as ten 1 TB Enterprise SATA disks will be provided as storage pools in a RAID 6 network as a cost-saving data storage system. According to demand volumes can be created in these pools, which, in turn, are replicated between the storage systems.

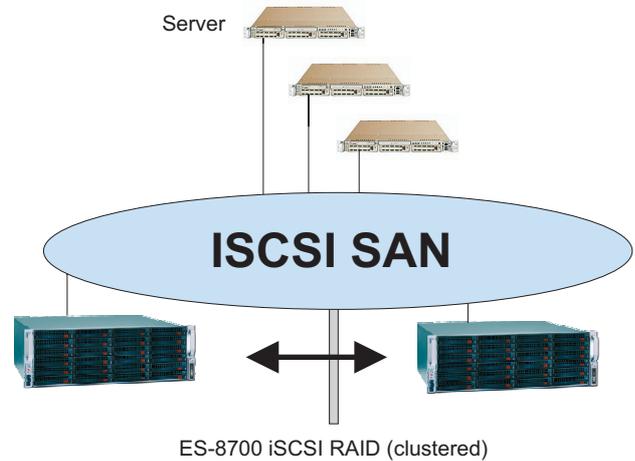
By using the Open-E DSS software an iSCSI cluster is superimposed. Thus the data are available at both locations at the same time, ensuring maximum failure safety. Due to a common virtual IP address the system remains completely transparent, with the result that the VMware servers, due to their redundant connection, have constant data access - without timeout, even in case of the complete failure of one side.

Furthermore, according to demand, it is possible to create time-controlled snapshots of the individual volumes in order to protect the data from unintended changes.

### ES-8700 iSCSI RAID Cluster:



- Storage systems with up to 24 hard disks each on 4 HE, externally expandable via a SAS port (up to 122 SAS and SATA hard disks)
- Hardware RAID controller with hardware-supported RAID 6 function, RAIDset expansion on the fly.
- 4 iSCSI 1 Gbit ports each, which can be freely combined for replication and hosting services, virtual IP address for iSCSI clusters
- synchronous replication and automatic fail-over of iSCSI volumes while retaining the common IP-address in case of failure.
- Time-controlled snapshots, volume expansion according to demand
- Support of NAS volumes (CIFS and NFS, ADS), including snapshots



ES-8700 iSCSI Cluster:  
Availability of data without downtime beyond location limits.

## Customer's Voice



„Our aim was to create a solution for the case of disaster providing a mirroring of the central servers and storage units to another building“, says Peter Reindl, responsible for IT management at Krah.

„The condition was that this had to be achieved with complete transparency. A mixture of SAS and SATA hard disk technology in the storage systems offers the opportunity to provide the required storage space, optimized in terms of costs. Together with our VMware servers it is thus possible to significantly increase the availability of the entire system and to provide new servers in a virtual manner and, above all, with a very small ecological impact. Here the storage solution of EUROstor was an important contribution.

The installation, which was carried out by a EUROstor technician, was done swiftly and to our entire satisfaction.“