Virtualization and High Availability in drinking water management with Open-E DSS V7

Hochsauerlandwasser consolidates storage environment with iSCSI Failover Cluster

Hochsauerlandwasser GmbH is a joint communal drinking water supplier for the German cities Meschede, Olsberg and Bestwig. The company handles both drinking water supply and sewerage for about 59,400 citizens in a service area of approx. 400 km². Hochsauerlandwasser GmbH covers energy supply, street lighting, sewage disposal as well as building, purchasing and operating respective facilities. This includes commercial and technical management and consulting for communal waterworks and waste waterworks or other suppliers.

Challenges

As the existing storage network of Hochsauerlandwasser GmbH was already six years old and not secured against downtimes, the company assigned the project to its long-time partner IT-Schulte who proposed a scalable high-availability cluster environment.

Solution

To guarantee high availability, scalability and flexibility of the new solution, IT-Schulte decided for a virtualized infrastructure based on VMware vSphere 5 and Open-E DSS V7. The project was implemented on storage systems based by TAROX.
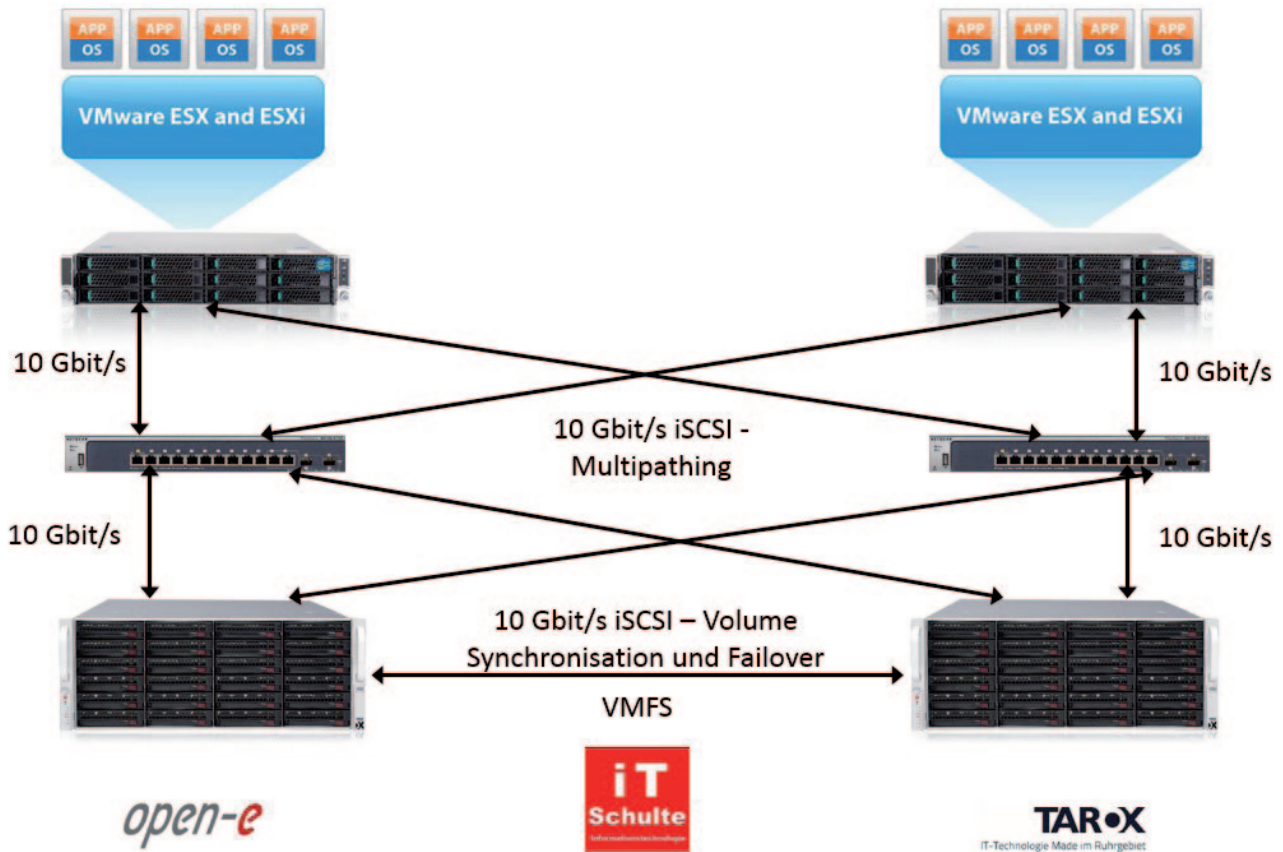
Both virtualized servers consist of powerful dual socket systems (Intel® Xeon® E5 series) with Intel server technology and high RAM capacity as well as 10GbE interface cards for the connection to the existing network and the SAN infrastructure. Redundancy was a selection criteria for most of the components. In case of hardware failures, downtimes were reduced to a minimum by using VMware High Availability (HA). Also, the vMotion feature eliminated downtimes during maintenance.

In the back-end, an Open-E Failover Cluster (mirrored storage systems) based on TAROX hardware was implemented as a high availability iSCSI SAN. Thanks to a virtual IP it enabled a failover which is completely transparent for the connected servers. The storage systems also include 10GbE cards to easily connect the systems with each other, as well as with the virtualized servers.

Hardware Setup

The base of the system is built on VMware ESX Servers and Open-E DSS V7. Hochsauerlandwasser GmbH uses two servers with Open-E DSS V7 as iSCSI failover clusters in active-active mode, as well as two VMware ESX hosts on TAROX hardware. As a supplier of both drinking water and sewage disposal, their requirements for accessibility and availability are extremely high. This was solved by integrating extensive USV and air conditioning. The connection of all systems is based on 1Gb / 10Gb network cards and (redundant) copper-based switches.

Active-Active Cluster Setup with Open-E DSS V7

Benefits

Sebastian Ruf, system administrator at Hochsauerlandwasser GmbH:

> "Apart from its flexibility, I was convinced by high stability of the Open-E servers. In case of hardware failures the storage continues to run without interruption, and even after power outages the system can be easily rebooted by using standard servers. We don't even have problems in regards to spare parts as we're not forced to use any specific SAN disk drives."

About IT-Schulte

IT-Schulte focuses on IT networks and successful cooperation with customers. Customer satisfaction is our first priority – we're thinking solutions, not problems. Our main expertise relies on server and storage systems, virtualized solutions, desktop systems and laptops, services and Tobit software products. Our services include on-site services, managed IT services, project consulting and site networking. More information on **www.it-schulte.de**

About Open-E

Open-E is a well-established developer of IP-based storage management software. Open-E JovianDSS and Open-E DSS V7 are robust, award-winning enterprise storage applications which offer excellent compatibility with industry standards, and are the easiest to use and manage. Additionally, they are some of the most stable solutions on the market and undisputed price performance leaders. Open-E accounts for over 27,000 installations world-wide and has received numerous industry awards and recognition. Thanks to its reputation, experience and business reliability, Open-E has become the technology partner of choice for industry-leading IT companies. For further information about Open-E, its products and partners, visit **www.open-e.com**