HA Storage Cluster

Tags: high availability

Nowadays, computers have become the primary working tool for many people. As we use computer systems for processing large amount of data and operating various types of critical services, continuity of access to these resources is a priority. A downtime caused by hardware failure may generate a huge loss for our businesses, or in a worst case scenario, even cost someone's health or life. To ensure business continuity, we build computer systems using high availability components. When it comes to high availability storage, HA clusters are one of the implementations.

High Availability storage cluster consists of at least two independent storage nodes, running under the control of relevant software. When one of the nodes fails, the other immediately takes over all of its duties. To make this solution work effectively and efficiently it is necessary to use high-end hardware and software.

Hardware

Hardware designed for **HA storage cluster** solutions should meet the highest standards and represent high quality.

Here are the general requirements for hardware:

- A server platform with two quad-core CPUs for high performance
- H/W RAID controller with support for RAID5 or RAID6 for data safety and high performance
- Enterprise class SATA drives for high speed drive transfers and data reliability
- Multiple network interfaces for efficient network connecting
- Redundant power supply for system reliability

Software

Providing uninterrupted service is the basic requirement for storage software. Only superior solutions can guarantee reliability and smooth continuous operation. Below are general requirements for software

- Active-Active iSCSI failover for high availability
- Support for SAS/SATA RAID Controllers for data safety
- Built-in, SNMP-Based Monitoring System and E-mail notification for monitoring HA cluster nodes

We recommend Open-E DSS V7 with its new feature pack – iSCSI (SAN) Active-Active Failover as a comprehensive software for HA storage clusters. More information about requirements for various storage solutions (including HA clusters) can be found in the system requirements section.

Related content

Solutions
- Open-E DSS V7 Active-Active iSCSI Failover (How-To)
- Open-E DSS V7 Active-Passive iSCSI Failover (How-To)
- Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster (without bonding) (How-To)

Blog posts
- Ping-Node explained*
- What to do if Asynchronous volume replication is needed?*
- Is it possible to configure 10Gb switchless High Available Cluster?*
- Bonding versus MPIO explained
- Active-Active Automatic Failover for iSCSI and Open-E DSS V7
- Get the most out of your storage with an Active-Active setup

Case studies
- Protection against fall not only for mountain climbers*
- Handelshof: Centralized IT Services on ES-8700 Cluster*
- Eine Erfolgsgeschichte aus der Lebensmittelindustrie (German version)*
- Building powerful Micro Clouds on the Cheap*

Webinars
- HA Solution with VMware and Open-E DSS V7 as Virtual Storage Appliance | German version
- Open-E DSS V7 Active/Active iSCSI Failover QUICK START
- Open-E DSS V7 Active/Active Setup
- Active-Active HA Cluster Solution: Double Performance with Zero-Single-Point-of–Failure setup | German version
- Active-Passive and Active-Active HA Cluster Comparison with Performance Benchmark
- Active-Active HA Cluster Solution for Hyper-V 2008 R2 SP1
- Active-Active HA Cluster Solution for Windows 2012 Hyper-V Cluster
- Active-Active vs. Active-Passive Cluster performance advantage
- Active-Active HA Cluster ZSPOF Setup - Best Practices

* Content refers to Open-E DSS V6. Open-E DSS V7 includes the features mentioned in this referral.