Storage for Virtualization

Tags: virtualization vmware vmware esxi 5.0

Virtualization as the process of creating virtual instances of network, storage or operating system, is used to centralize administrative tasks while improving scalability and usage of existing hardware resources. Usually, many virtual machines are created on one set of physical hardware; each of these machines is used by a huge number of users. Virtualization system and storage it uses should ensure high availability, data safety and good performance.

Storage for Virtualization is a set of physical devices managed with software, where virtual machine images and user data are actually stored. As storage is a foundation of virtualization solutions, hardware and software used for such implementations must meet the high standards.

Hardware

Storage for virtualization requires hardware that provides good performance, guarantees data safety and offers large capacity. General requirements for hardware are:

- A server platform with two quad- or six-core CPUs for high performance
- H/W RAID controller with support for RAID5 or RAID6 for data safety
- SAS/SATA drives for high speed drive transfers and reliability
- One or more 10GbE NICs or multiple 1GbE interfaces for high speed network connection

Software

Software supporting hardware has to be scalable and reliable, but also easy to manage and administer. It should offer high performance and, at the very least, allow for efficient data management. General software requirements for virtualization storage implementations include:

- iSCSI Target share for easy management
- Active-Active iSCSI Failover for high availability
- Support for SAS/SATA RAID Controllers ensuring high performance, large capacity and data safety
- Support for 10 GbE NICs or bonding for efficient network connectivity

We recommend Open-E DSS V7 as a comprehensive storage software solution for the virtualization purposes. More information about requirements for various storage solutions (including virtualization) can be found in the system requirements section.

Related content

Solutions

- Open-E DSS V6 as a perfect solution for storage virtualization*
- VMWare, VMotion and Open-E DSS V6 - how-to in 21 steps*
- Open-E DSS V7 Active-Active iSCSI Failover (How-To)
- Open-E DSS V7 Active-Passive iSCSI Failover (How-To)

Blog posts

- Is it possible to configure 10Gb switchless High Available Cluster?*
- WHD2012 global highlights: 190 Virtual Machines running on 178 TB with HA Storage*
- Bonding versus MPIO explained
- Active-Active Automatic Failover for iSCSI and Open-E DSS V7
- Open-E DSS V7 as a virtual machine on VMware

Case studies

- Streamline IT Infrastructure and reduce Storage Costs with ibc and Open-E*
- Protection against fall not only for mountain climbers*
- Handelshof: Centralized IT Services on ES-8700 Cluster*

Webinars

- HA Solution with VMware and Open-E DSS V7 as Virtual Storage Appliance | German version
- How to install Open-E DSS V7 as virtual machine on VMware
- 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
- Reduce Cost with Many-to-one Volume Replication with Open-E DSS V7 and VMware vSphere Hypervisor 5 (free version)
- Storage Solutions with iSCSI Auto Failover to install your Virtual Machine
- Active-Active HA Cluster Solution for Hyper-V 2008 R2 SP1
- Active-Active HA Cluster Solution for Windows 2012 Hyper-V Cluster
- Open-E DSS V7 as a Virtual Machine - Best Practices | German version

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