High Availability Enterprise Storage

Solution Overview

AceHA is the leading Storage platform based upon ZFS technology. AceHA storage uses Supermicro's advanced storage technologies as a solution to provide scalability, flexibility, lower total cost of ownership, and ease of deployment, management and maintenance.

Enterprise-Class Clustering, Commodity-Based Cost

Optimized for mission critical, enterprise-level storage-centric applications, the HA Cluster features a fully redundant, fault-tolerant storage server system. The HA Cluster delivers inline deduplication with unlimited snapshots at a fraction of the cost.

As a high availability storage system, this solution operates as a seamless unified storage appliance that offers CIFS, NFS, iSCSI and Fibre Channel support. The HA Cluster plugin enables two controller instances to be configured as an active / active clustered configuration. When installed and configured, each instance is able to perform all regular functions and provide high availability for shared storage, accessible from both appliances.

Business Benefits

- High Availability support minimizes and eliminates downtime.
- Latest server architecture and technology increases storage function speeds
- Long□ term, flexible solution provides limitless scalability.
- Multiple systems are consolidated for increased speed and reduced costs.
- Savings in maintenance costs during the first year can cover the cost of the entire system.
- Traditional vendors, with a mainframe approach, will need to change their model or lose business. We are staying ahead of the field by employing a highly scalable and cost□ effective storage solution.

Specifications

Model	AceHA Storage
Components	Redundant controller nodes in single 3U enclosure Redundant SAS2 controllers in enclosure. 10GB internal controller connection
Capacity	36TB capacity in Single Enclosure Expandable to 300TB
Processor (per node)	Dual Intel Xeon processor X5600 series Westmere Microarchitecture
Memory (per mode)	96 GB DDR3 ECC memory
Cache	2 x 16GB SSD mirrored write cache 1 x 320GB SSD read cache
Protocol Support	NFS/CIFS/RSYNC/FTP/FC/iSCSI/AoE
RAID Levels supported	Stripe, Mirror, RAID-Z1 (Single parity), RAID-Z2 (Double parity)
Maximum RAID volume capacity	ZFS supports unlimited single volume capacity (limited only by amount of storage present)
Redundancy	Redundant Controller nodes Redundant Power Supplies Redundant Cooling system Dual Ported, Dual Expanders, fully HA Ready
Storage IO	Dual Port 10 Gigabit Ethernet Controller (SFP+) Support both DAC Twin Axial and LC Fiber-Optic SR Cables 10GB internal controller connection 6GBps SAS2 port for cascading
Operating System	Enterprise-Class NexentaStor 3 ZFS Platform (OpenSolaris kernel)
Warranty	3 years limited warranty (Extendable)

Features

High availability with no single point of failure
Dual Controller nodes, dual expander JBODs, redundant power supplies and fans. Enterprise level iSCSI target built-in; fibre channel target ready
128-bit File System:
Cloud and virtualization ready
ZFS file system based, delivering fast, secure storage with unlimited scalability
Self healing and silent Data corruption healing capabilities
Unlimited snapshots and clones
Block-level Mirroring:
Thin Provisioning
Integrated Search function
Both block based and file based
replication Synchronous & asynchronous
replication Standards based compression
Storage pooling & virtualization
Virtual Tape Library (VTL) support
Management through Web GUI and CLI
Dedicated write log and Read SSD Cache to speed up NFS
Onboard BMC for IPMI 2.0 support in each controller for direct hardware management and monitoring access
All hard drives are in individual hot swap bays with in-rack access
No vendor lock-in

Optional Add-ons

WORM

Once this plug-in is installed, any data folder can be made Write Once, Read Many. This applies to the entire content, including files, directories, and existing sub-folders.

Target FC

Target FC is a set of capabilities, including an intuitive user interface, that assist in the use of HA server as a Fibre Channel block-level target. Target FC includes adaptive multi-pathing so that performance scales up as needed with additional threads. Target FC manages these threads over time including closing them if they are not needed.

Target FC also provides the ability to easily create logical groups of initiators and targets to enable such common block level management tasks as Lun mapping so that a particular application, for example, has unique access to a particular ZVOL, or virtual block device, and thereby inherits the storage management policies unique to that ZVOL such as replication and protection schemes.

VM data center (VMDC)

The VM DataCenter application dramatically simplifies the experience of storage and system administrators in setting storage polices for their virtual environments and in performing common tasks such as stopping and starting VMs and performing template based clones as well. VMDC can be used for cloning via the 'template' functionality of VMDC to dramatically accelerate provisioning of identical VMs. It is easily installed using standard system utilities. It provides a user interface that discovers all ESX or Xen servers and all Virtual Machines (VMs) on the servers. Users can establish replication policies for each VM and can perform common VM management tasks such as stopping and starting VMs.