LSI

Storage. Networking. Accelerated.™

Solution Brief

Building an Affordable, Fully Redundant Storage Appliance

LSI® Syncro™ CS Solution Featuring MegaRAID® Technology Designed to Make Reliable Storage More Versatile and Economical

Executive Summary

In today's virtualized datacenter environment, virtual machines need shared storage with mission-critical reliability. Storage area networks (SANs) satisfy this need, but a SAN can also be very expensive to deploy and manage. Network-attached storage (NAS) can be very affordable, but adding reliability and data protection to NAS can more than double the cost.

What is needed is the best of both alternatives: a shared storage solution as reliable as a SAN at a cost comparable to direct-attached storage (DAS). LSI Syncro CS solutions are designed to fulfill this need when implemented as a fully redundant, high-availability storage appliance.

Shared storage is essential to achieving many of the benefits of server virtualization. It greatly simplifies the migration of virtual machines (VMs) among different physical servers, and when highly availabile, shared data stores help assure rapid failover of VMs in a cluster.

Key Benefits

- **SAN-like fully redundant shared storage with RAID data protection at DAS-like price points**
- **Support for either discrete server cluster or "cluster-in-a-box" storage arrays**
- **Enterprise-class capacity with support for up to 120 drives in the HA storage domain**
- **Optional caching to solid state storage designed to accelerate performance by minimizing I/O latency**

The Syncro CS solution, featuring two controllers, is designed to make it easier and less expensive to configure shared storage arrays with both high availability and full data protection. IT departments may prefer the Syncro CS solution with external disk drive connectors, which enable two ordinary rack-mounted servers to be turned into a shared storage "cluster-in-a-rack" configuration. Integrators and system vendors can take advantage of the Syncro CS solution with internal connectors to implement "cluster-in-a-box" shared storage appliances.

Whether in the rack or the box, both configurations eliminate all single points of failure and support robust RAID data protection to make shared storage with mission-critical high availability more affordable.

Syncro CS Solution

Built with LSI MegaRAID technology, the Syncro CS solution makes it easier to implement shared storage arrays with both high availability (HA) and high performance, but at a remarkably low cost.

The Syncro CS solution also affords broad flexibility to configure shared storage arrays with a mix of up to 120 physical hard disk drives and/or solid state drives (SSDs) in the HA storage domain, and up to 64 virtual drives with either shared or exclusive host access.

High performance can be assured with support for an eight-lane (x8) PCI Express® bus and 6Gb/s SAS disk drive connectors, along with optional SDRAM/SSD caching using MegaRAID CacheCade® and Fast Path software with write-back HA cache mirroring.

Other features include support for:

- Windows® Storage Server 2012, Windows Server® 2012 and Windows Server 2008 R2
- RAID levels 0, 1, 5 and 6 with RAID spans 10, 50 and 60
- SAS2208 dual-core RAID-on-Chip I/O processor and SAS controller
- Single controller multipathing (failover) and load balancing
- Auto resume after loss of system power during array rebuild
- Two mini-SAS SFF8088 (external) or SFF8087 (internal) connectors

Summary

With the LSI Syncro CS solution, highly available shared storage arrays are now also highly affordable. The Syncro CS solution makes it easier for IT departments to optimize the storage array's configuration and capacity to meet specific needs, as well as to integrate optional solid state caching to accelerate performance without compromising data protection. High availability. High performance. Low cost. It's a combination long overdue for shared storage.

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