AVAGO
TECHNOLOGIES

Syncro™ CS 9286-8e Solution Built on MegaRAID® Technology

Affordable High Availability Solution Brings Shared Storage and Controller Failover to Direct Attached Storage Environments

Key Benefits

- High availability at fraction of the cost and complexity of existing HA solutions
- Failover and shared storage capabilities of SAN at DAS price point
- Designed to deliver seamless application failover and increased performance under failure
- Makes high availability an affordable and viable option for SMB, SME and ROBOs

SAN Features of Syncro CS at Lower Total Cost

- Shared Storage
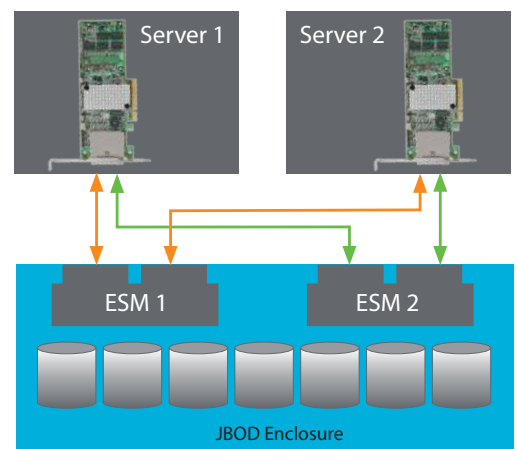- High Availability
- Lower Cost / Power
- Ease of Deployment

Syncro CS solutions are designed to provide continuous application uptime at a fraction of the cost and complexity of traditional high availability solutions. Built on MegaRAID technology, the Syncro CS 9286-8e solution allows a system administrator to build a cost-effective, easy to deploy and manage server failover cluster using volume servers and an off-the-shelf JBOD. Syncro CS solutions bring shared storage and storage controller failover into DAS environments, leveraging the low cost DAS infrastructure, simplicity, and performance benefits. Controller to controller connectivity is provided through the high performance SAS interface, providing the ability for resource load balancing, helping to ensure that applications are using the most responsive server to boost performance and help prevent any one server from being overburdened.

Cost-effective High Availability DAS Solutions for SMB, SME and ROBO

High availability is essential to all businesses today, regardless of size or industry. When systems running business-critical applications such as transaction processing, web server or electronic commerce are not accessible, the results can be lost revenue, lost productivity, and reduced customer satisfaction. Syncro CS solutions are designed to provide small and medium sized businesses (SMB) and remote and branch offices (ROBO) with fully redundant shared storage and application failover without requiring costly or complex storage area networks – putting high availability within the reach of organizations that once considered it impractical.

A New Paradigm for High Availability Storage

Avago Technologies has collaborated with OS and server industry leaders to enable cost-effective high availability server clustering solutions for SMBs and remote and branch offices (ROBO). These solutions bring shared storage and storage controller failover into DAS environments, leveraging the low cost DAS infrastructure, simplicity and performance benefits. For SMBs running local applications, Syncro CS solutions offer a cost-effective and easy to deploy and manage solution to reduce application downtime and the associated lost productivity and revenue. The solutions can also help to increase storage utilization and reduce power, cooling and space requirements for a lower total cost of ownership.

Syncro CS in a 2-system Deployment Model

Syncro CS 9286-8e

Solution Provided	Fully redundant shared storage and application failover for ROBO, SMB and SME customers without the cost and complexity of storage networking hardware.
In the Box	• Two (2) Syncro CS 9286-8e HA controllers with CacheVault (each includes CV power module, CV clip and remote cable) • Quick Install Guide • Two (2) LP Brackets • Resource CD
Controller Physical Dimensions	MD2 Low Profile (6.6" x 2.5")
Controller External Connectors	Two Mini-SAS SFF8088 external connectors
Device Support	Up to 96 ea 6G SAS and/or NearLine-SAS dual-ported HDDs and SSDs (w/SCSI-3 Persistent Reservation Command) Up to 31 6G SAS enclosure/expander devices Maximum of 120 dual-ported SAS devices in the HA storage domain. Please see on-line compatibility matrix on lsi.com
Host Bus Type	x8 lane PCI Express® 3.0 compliant
Data Transfer Rates	Up to 6Gb/s per port
I/O Processor/SAS Controller	LSISAS2208 Dual-Core RAID on Chip (ROC)
Cache Memory	1 GB 1333MHz DDRIII SDRAM
Cache Protection	MegaRAID CacheVault flash cache protection (included)
Key High Availability Features	• Dual Active HA w/shared storage across 2 server nodes • Up to 64 virtual drives with Shared host access • Server Storage Cluster HA topology support • Up to 64 virtual drives with Exclusive host access • Write Back HA cache mirroring • Planned/Unplanned failover modes

Key RAID Data Protection Features	• RAID levels 0, 1, 5, and 6
	• RAID spans 10, 50 and 60
	• Auto resume after loss of system power during array rebuild
	• Single controller Multipathing (failover)
	• Single controller Load Balancing
	• Configurable stripe size up to 1MB
	• Fast initialization for quick array setup
	• Check Consistency for background data integrity
	• Patrol read for media scanning and repairing
	
	• 64 virtual drive support per controller (64 total in HA domain)
	• Up to 64TB LUN support
	• DDF compliant Configuration on Disk (COD)
	• S.M.A.R.T support
	• Global and Dedicated Hot Spare Support
	  – Automatic rebuild
	  – Enclosure affinity
	• Enclosure management
	  – SES (inband)

SSD Optimization	• MegaRAID CacheCade® Software uses SSDs in front of HDD volumes to create high-capacity, high-performance controller read cache pools • MegaRAID Fast Path Software designed to provide high-performance I/O acceleration for SSD arrays connected to 6Gb/s MegaRAID SAS controllers • Up to 32 SSDs (6G SAS) in a CacheCade Read SSD pool • Up to 64 CacheCade virtual drives (The total # of HDD VD + CacheCade VDs in the HA domain must not exceed 64) • Up to 512GB CacheCade Read volume capacity in the HA domain
Controller Operating Temperature	Maximum ambient: Controller Card with included CacheVault module: 55°C
Controller Operating Voltage	+3.3V, +12V
Controller MTBF (Calculated)	1,251,284 hours
Hardware Warranty	3 years, free technical support, advanced replacement option
Regulatory Certifications	EN55022, EN55024, EN60950, EN 61000-3-2, EN 61000-3-3; FCC Class A, Class B; UL1950; UL; CSA C22.2; VCCI; RRL for MIC; BSMI;C-tick; RoHS; WEEE
Syncro CS Management	MegaRAID Management Suite™: MegaRAID Storage Manager™, StorCLI (command-line interface), WebBIOS, SMI-S
OS Support	Microsoft® Windows® Server 2008 R2 & Server 2012 Red Hat Enterprise Linux 6.3 and 6.4 SuSE Linux Enterprise Server 11 SP2 and SP3

Ordering Information

Syncro 9286-8e

MPN: L5-25421-14

OPN: LSI00356

Visit the Avago Server Storage website at: avagotech.com/server-storage