MegaRAID® SAS 9286CV-8eCC

Eight-Port 6Gb/s PCI Express® 3.0 SATA+SAS RAID Controller with CacheVault™ Flash Cache Protection and SSD-Optimized Software

Key Features

- Eight external 6Gb/s SATA+SAS ports
- Two Mini-SAS external connectors (SFF8088)
- LSISAS2208 Dual- core 6Gb/s ROC
  –x2 800MHz PowerPC Processors
- PCI Express 3.0 Host Interface
- 1GB DDRIII cache memory
- RAID Levels 0, 1, 5, 6, 10, 50 and 60
- MegaRAID CacheVault Flash Cache Protection included
- SSD-Optimized Software included; CacheCade Pro 2.0 and Fast Path Ready

Key Advantages

- Unmatched RAID performance
- External JBOD expansion for up to 240 3Gb/s and 6Gb/s SATA and SAS hard drives or SSDs
- Compatible with Avago 6Gb/s SAS Switch
- CacheVault technology included for greener, lower total cost cache protection

Unmatched RAID Performance for Next-Generation Servers and Storage

Today's data center, cloud and high-performance computing environments not only require increased storage capacity to handle massive volumes of data, but are also challenged to protect and deliver data as quickly as possible to meet the needs of applications and end users. To address these performance demands as capacity scales, the newest 6Gb/s SAS RAID controllers from Avago offer a powerful combination of intelligent performance, enterprise RAID data protection and proven interoperability with the latest server platforms based on the PCI Express 3.0 specification. The MegaRAID SAS 9286CV-8eCC, with eight external ports, delivers two 800MHz PowerPC® processor cores and a 72-bit DDRIII interface that drives 1GB cache memory. Powered by the LSI SAS 2208 dual-core ROC, the 9286CV-8eCC controller includes the latest PCI Express 3.0 and 6Gb/s SAS technology and is ideal for configuring external storage enclosures with high-performance SAS hard drives, high-capacity SATA hard drives or application-accelerating SSDs or for building more sophisticated configurations using Avago 6Gb/s SAS Switch products.

MegaRAID CacheVault Technology

MegaRAID CacheVault flash cache protection uses NAND flash memory powered by a super-capacitor to help protect data stored in the MegaRAID controller cache. This module eliminates the need for a lithium ion battery traditionally used to protect DRAM cache memory on PCI RAID controllers. The RAID controller automatically writes the data in cache memory to flash storage when a power failure occurs, while the super-capacitor keeps the current going during the process. When the power comes back, the DRAM is recovered from flash storage and the system goes on without loss of data. The benefits of this technology are elimination of hardware maintenance associated with LiON batteries, lower total cost of ownership over the life of the adapter, and more environmentally friendly cache protection.

MegaRAID® CacheCade™ Pro 2.0 and MegaRAID Fast Path Ready

The "CC" family of 6Gb/s MegaRAID controllers ship standards with CacheCade Pro 2.0 and Fast Path software enabled out of the box. These software offerings help to optimize application performance in direct-attached storage environments configured with solid-state drives (SSDs). CacheCade Pro 2.0 read/write software is designed to dramatically accelerate application I/O performance of hard disk drive (HDD)-based arrays by intelligently caching frequent accessed, or "hot spot", data to SSDs. Using SSDs as a dedicated pool or high-performance cache in front of HDDs cost-effectively improves both read and write performance, reduces I/O latencies, accelerates application response time and lowers RAID access and rebuild times. MegaRAID Fast Path software is a high-performance I/O accelerator, designed to dramatically boost transactional application throughput of SSD arrays connected to the MegaRAID controller card.

Intuitive RAID Management Utility

The MegaRAID Management Suite™ software provides essential tools to manage MegaRAID products, whether deployed in an enterprise or small business. Avago offers a collection of applications and tools including a pre-boot setup utility and a full spectrum of online RAID management utilities. This suite of applications allows administrators to adjust SAS or SATA topology views from the system host, controller and disk enclosure down to the logical and physical drive level. Extending to enterprise deployments, these tools scale to more easily configure, monitor and manage RAID and JBOD volumes locally or over the LAN network.

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Solution Provided	Eight-port external SAS solution for applications needing more performance from their existing HDD infrastructure or requiring better transactional performance from solid-state storage arrays.
Physical Dimensions	MD2 Low profile (6.6" X 2.536")
External Connectors	Two Mini-SAS SFF8088 external connectors
Device Support	Up to 240 SAS and/or SATA hard drives and SSDs
Host Bus Type	x8 lane PCI Express 3.0 compliant
Data Transfer Rates	Up to 6Gb/s per port
I/O Processor/SAS Controller	LSI SAS 2208 Dual-Core RAID on Chip (ROC)
Cache Memory	1 GB 1333MHz DDRIII SDRAM
Cache Protection	MegaRAID CacheVault flash cache protection (included)
Key RAID Data Protection Features	• RAID levels 0, 1, 5, and 6 • RAID spans 10, 50 and 60 • Online Capacity Expansion (OCE) • Online RAID Level Migration (RLM) • Auto resume after loss of system power during array rebuild or reconstruction (RLM) • Single controller Multipathing (failover) • Load Balancing • Configurable stripe size up to 1MB • Fast initialization for quick array setup • Check Consistency for background data integrity • SSD Support with SSD Guard™ technology • Patrol read for media scanning and repairing • 64 logical drive support • DDF compliant Configuration on Disk (COD) • S.M.A.R.T support • Global and dedicated Hot Spare with Revertible Hot Spare support – Automatic rebuild – Enclosure affinity – Emergency SATA hot spare for SAS arrays • Enclosure management – SES (inband) – SGPIO (sideband)
Operating Temperature	Maximum ambient: Controller Card with included CacheVault module: 55°C
Operating Voltage	+3.3V, +12V
MTBF (Calculated)	1,251,284 hours
Hardware Warranty	3 years, free advanced 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
RAID Management	MegaRAID Management Suite • MegaRAID Storage Manager • MegaCLI (command-line interface) • WebBIOS
SSD Optimization	• MegaRAID CacheCade Pro 2.0 Software leverages SSDs in front of HDD volumes to create high-capacity, high-performance controller cache pools (Enabled) • MegaRAID Fast Path Software provides high-performance I/O acceleration for SSD arrays connected to 6Gb/s MegaRAID SATA+SAS controllers (Enabled)
OS Support	Extensive support includes Microsoft® Windows® Vista/2008/Server 2003, Linux®, Solaris™ (x86), FreeBSD®, VMware® and more. * Visit the download center for the most complete list of supported operating systems: avagotech.com/support

Ordering Information

MegaRAID SAS 9286CV-8eCC	BBU-BRACKET-05
MPN: L5-25421-22	MPN: L5-25376-00
OPN: LSI00335	OPN: LSI00291

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