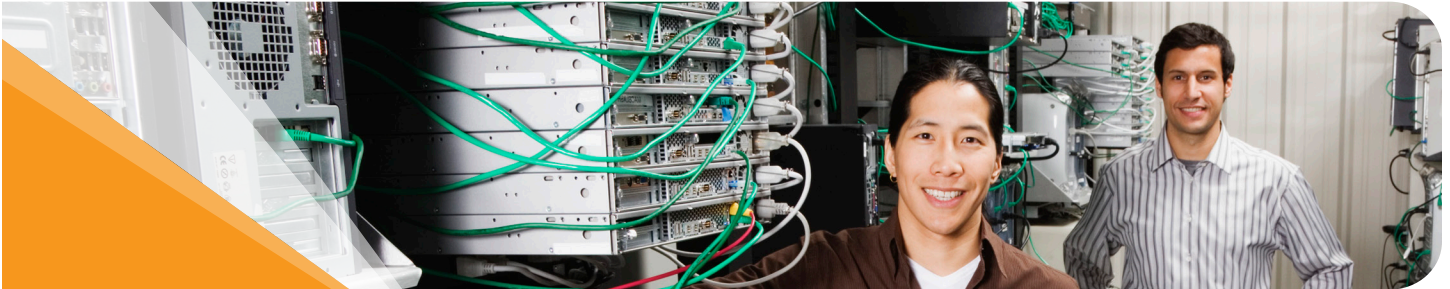


LSISAS2008

PCI Express to 8-Port 6Gb/s SAS/SATA Controller



Extending Its RAID And SAS Technology Leadership, LSI Introduces Its Second Generation Of SAS/SATA Controllers

LSI offers the broadest SAS product portfolio in the industry with true end-to-end solutions – controllers, expanders, active-active multiplexers, ROCs, host bus adapters, RAID solutions, and external storage. LSI's proven SAS core has completed extensive stress and interoperability testing resulting in the industry's most robust, interoperable solution.

APPLICATIONS

- Direct Attached SAS/SATA controller solutions for entry to mid-range servers
- Blade Servers
- External storage controllers requiring SAS/SATA interface for the host or drive side connect

FEATURES

- Integrated RAID
 - RAID Levels 0, 1, 1E, and 10
- High Performance IOP
 - PowerPC 440 @ 533MHz
- 6Gb/s SAS Interface
 - 8 port SAS/SATA controller
 - Supports 1.5Gb/s, 3Gb/s, and 6Gb/s SAS and SATA data transfer rates
 - Spread spectrum clocking
 - Supports SSP, SMP, STP and SATA protocols
 - SAS and SATA device support
 - Supports narrow and wide ports
 - T-10 data protection model

Overview

The LSISAS2008 is the second generation of SAS controllers based on the industry-leading Fusion-MPT™ (Message Passing Technology) architecture. The LSISAS2008 integrates the latest enhancements in SAS and PCI Express technology.

The LSISAS2008 supports 8 PCIe lanes and complies with the PCI Express 2.0 specification that extends the PCIe data rates up to 5.0 GT/s per lane, and is backwards compatible to the 2.5 GT/s data rate supported by PCIe 1.x. It also incorporates enhancements such as End-to-End CRC (ECRC) with Advanced Error Reporting (AER) and the latest advancements in lane and polarity reversal, power management, hot plug support, and MSI/MSI-X and legacy interrupt generation.

The eight-port controller device provides SAS and SATA data transfer rates of 1.5, 3, and 6Gb/s per lane and automatically negotiates between the speeds. Enhanced features are supported such as T-10 Data Protection Model for early detection of and recovery from data corruption, and Spread Spectrum Clocking (SSC) for EMI reduction.

The LSISAS2008 is ideal for the host or drive side connect for external storage controllers requiring a SAS/SATA interface. The LSISAS2008 can support a combination of 3000 devices and/or outstanding IO's without external RAM and can achieve 290,000 IOs per second.

The LSISAS2008 offered with LSI's Integrated RAID (IR) feature is a low cost, high performance RAID solution designed for blade, entry and mid-range servers that require redundancy and high availability but where a full featured RAID implementation is cost prohibitive or not desired. LSI's advanced Integrated RAID options include Integrated Mirroring (IM), which is RAID 1, Integrated Mirroring Enhanced (IME), known as RAID 1E, Integrated Striping (IS), which is RAID 0, and offered for the first time Integrated Mirroring and Striping (IMS) which is known as RAID 10. By simplifying the RAID configuration options, Integrated RAID is easy to install and configure and meets the needs of most internal RAID requirements.

LSI provides a complete suite of industry standard operating system drivers. LSI also supports Virtual Operating Systems with device emulation and para-virtualization.

Fusion-MPT Architecture

Fusion-MPT™ architecture marks the next generation of I/O architecture designed to deliver the highest performance available today while reducing time to market, integration, and certification time. Fusion-MPT devices

are high performance, cost-effective protocol controllers that represent the newest system-level integration technology in intelligent I/O processors from LSI.

Please contact your LSI Sales Rep for ordering information.

Figure 1: LSISAS2008 Block Diagram

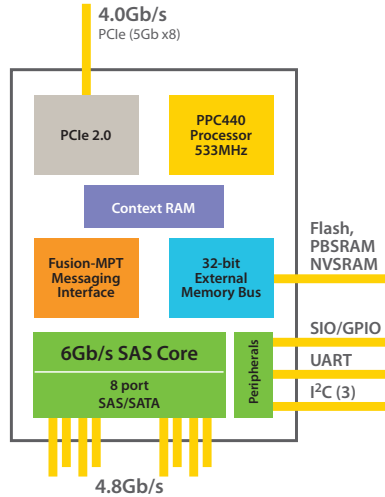
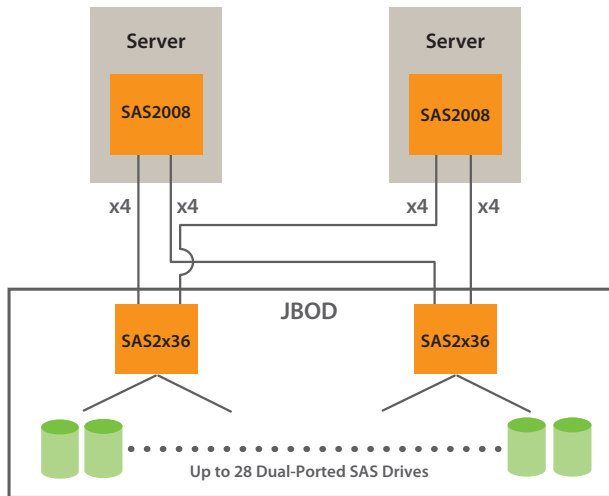


Figure 2: LSISAS2008 Topology Diagram



FEATURES (Continued)

- PCI Express 2.0 Interface
 - Supports x8, x4, x1 PCIe lanes at a transfer rate up to 5.0 GT/s per lane, full duplex
 - Lane and polarity reversal
 - Supports End-to-End CRC (ECRC) and Advanced Error Reporting (AER)
 - PCI Express hot plug support
- Power Management support
 - Slumber and Partial power mode support for SATA devices
 - Programmable SAS link power down
- External memory interface support
 - Flash ROM
 - PBSRAM
 - NVSRAM for Integrated Mirroring
- Communication Interfaces
 - I²C interface for enclosure management services or debug
 - UART interface for debug
- SFF-8485 Compliant, SGPIO
- JTAG support
- 490 FPBGA, 25 x 25mm



For more information and sales office locations, please visit the LSI websites at: lsi.com lsi.com/contacts

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