Product Brief

LSISAS1068

PCI-X to 8-Port 3Gb/s SAS Controller

APPLICATIONS

- Entry-level servers
  - 1U/2U rack mount servers
- Mid-range, high-end servers
- Storage subsystems

FEATURES

- 64-bit, 133MHz PCI-X host interface
  - Backward compatible with 33/66MHz PCI
- Integrated controller solution
- 1.5 and 3Gb/s per port, full duplex
- 8-port controller
  - Supports 2, 3 or 4 PHY wide SAS port configurations
- Port independent auto-negotiation
- ARM® 9 processor
- GigaBlaze® integrated transceivers
- Point-to-point SAS/SATA drive connection
- Fusion-MPT™ architecture
- Supports SGPIO (SFF8485)
- G*flx*™ technology

Extends 20 Years of SCSI Technology to Next Generation Product Platforms for High Performance, Scalability, Flexibility and RAID Capability

Overview

The LSISAS1068 is an 8-port 3Gb/s Serial Attached SCSI (SAS) controller that is based on the Fusion-MPT (Message Passing Technology) architecture, the industry's leading high-performance interface technology. The LSISAS1068 eight-port controller provides 1.5 and 3Gb/s data transfer rates per port and enables Integrated RAID solutions in storage environments including servers, workstations and blade servers. The LSISAS1068 controller is ideal for today's data centers and leverages existing SCSI infrastructure for investment protection. The serial interface allows for point-to-point connection, increased device bandwidth, higher availability with dual ported drives, and enhanced reliability when compared to parallel SCSI.

LSI SAS controllers comply with the SAS standard which includes improved performance, simplified cabling, smaller connectors, a lower pin count, and lower power requirements. The eight-port controller provides an aggregate bandwidth of 2.4GB/s and also runs in full duplex. In addition, the LSI SAS controllers leverage an electrical and physical connection interface that is compatible with Serial ATA technology. This provides users with unprecedented choices for servers and storage sub-systems. SAS controllers support command queuing to maximize drive performance. Interrupt coalescing is another advanced feature of the controllers that improves system performance by reducing the number of interrupts per I/O to less than one.

Fusion-MPT Architecture

LSI's Fusion-MPT architecture provides unparalleled performance, binary compatibility of host software with LSI's Ultra320 SCSI, Serial Attached SCSI, and Fibre Channel products, and significantly reduces software development time. With advanced architecture, the LSI product family can be quickly adapted to respond to emerging I/O interfaces.

Figure 1. SAS Controller Block Diagram

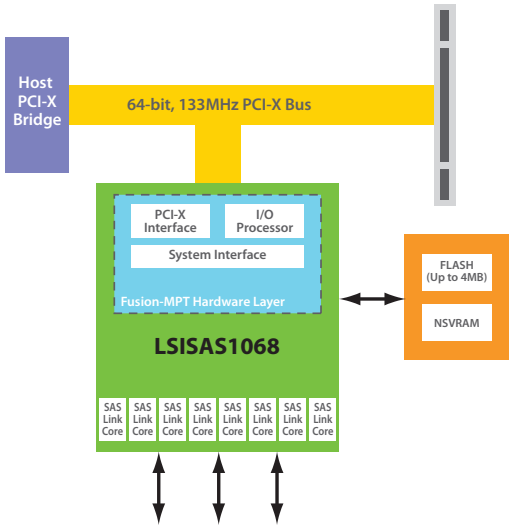
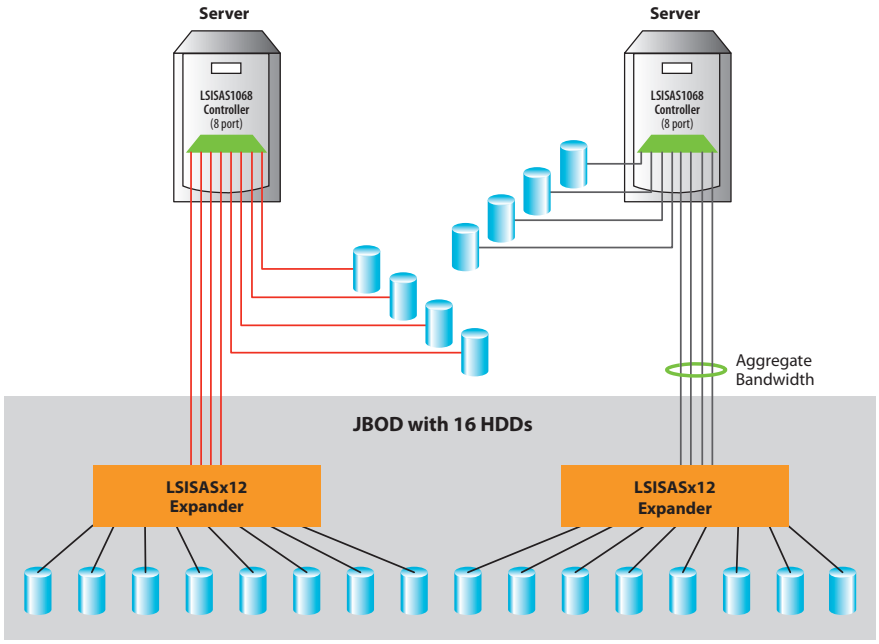


Figure 2. SAS Topology Offers Flexible Link Configuration and Redundancy



FEATURES *(Continued)*

- RAID Levels
  - Integrated Mirroring™ and Integrated Striping
- Zero channel RAID support
- Hot plug/hot swap support
- Supports SSP, SMP, STP, and SATA protocols
- PCI power management (D0, D3hot, D3cold)
- Supports 3.3V signaling levels
- Interrupt coalescing
- Independent power states per port
- Flash and local memory interface
- 636 EPBGA package

OS SUPPORT

- Windows® Server 2003
- Windows® 2000
- Windows® XP
- Linux® Red Hat®, SuSE® Enterprise Editions
- Solaris SPARC® 9.X
- NetWare®
- SCO® UnixWare® and Open Server

FUSION-MPT MESSAGE PASSING TECHNOLOGY

Serial Attached SCSI

PCI-X

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