Storage. Networking. Accelerated.

Product Brief

LSISASx28

28-Port 3Gb/s SAS Expander

LSI's Serial Attached SCSI Expanders Provide Greater Scalability, Flexibility and Performance Benefits for Next Generation Enterprise Storage Products.

Features

- 28 fully-independent SAS and SATA ports
- SSP, SMP, STP and SATA protocol support
  - SSP Target and Initiator
  - SMP Target
  - STP Target and Initiator
- Supports 1.5 and 3Gb/s SAS and SATA data transfer rates
- Port independent auto-negotiation
- Ports are non-denominational
  - Initiator or target connect
- Provides a low latency connection router with crossbar module to efficiently create and maintain connections
- Direct, subtractive decode, and table routing methodologies supported
- Provides a scalable interface that supports up to 1024 SAS addresses
- Supports wide and narrow port configurations
  - Allows reuse of routing table resources across all of the PHYs composing a wide port
  - Allows any number of PHYs for wide port support
- Integrated ARM processor
  - SEP functionality
  - Drive management
  - Extended SAS SMP functions

Overview

The LSISASx28 is a 28-port 3Gb/s Serial Attached SCSI (SAS) expander with an Integrated ARM© processor for Enclosure Management and extended SAS SMP functions. This device offers enhanced Enclosure Services such as drive management and supports many options for implementing enclosure management, including a backward compatible interface to an external processor using existing code or implementing the internal processor using SSP target PHY-based zoning is also supported for network storage security applications.

The LSISASx28 expander is compliant with the ANSI Serial Attached SCSI specification and supports SATA as defined in the Serial ATA: High Speed Serialized AT Attachment and the Serial ATA II: Port Selector Specification. SAS benefits include improved performance, simplified cabling, smaller connectors, a lower pin count, and lower power requirements. In addition, SAS leverages an electrical and physical connection interface that is compatible with SATA technology. The interface compatibility allows for customer flexibility in drive connection including the 2.5" hard disk drive small form factor.

The LSI 28-port expander provides large storage environments the ability to connect multiple targets and initiators through a switched device for scalability and fault tolerant path-redundancy to improve system reliability. This is ideal for today's data center and storage subsystems, leveraging existing SCSI infrastructure for investment protection and ease of migration and implementation.

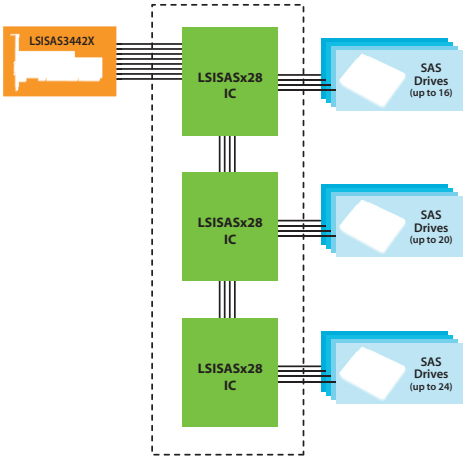

Figure 1: Scalability Diagram

Features (Continued)

- PHY-based zoning for system security
- SATA/SAS HDD spin-up sequencing, configurable on a per-PHY basis
- SGPIO (SFF8485) support
- 8 GPIO pins
- 3 LEDs per PHY
  - — Link status, drive activity, fault LED outputs
  - — Can be used as GPIOs
- Internal 8KB ROM can be used for boot-options
- External interface support
  - — Flash or SRAM memory
  - — EEPROM interface for nonvolatile storage of hardware configuration
    - External EEPROM not needed if internal ROM is used for boot options
  - — Three I²C interfaces
    - One I²C interface dedicated to communication with external SEP
    - Two I²C interfaces for connecting external sensors
  - — UART support for serial debugging
  - — Supports JTAG testing
- Individual PHY power management
- 672 FPBGA package, 27 x 27mm, 0.13µm Gflx process technology

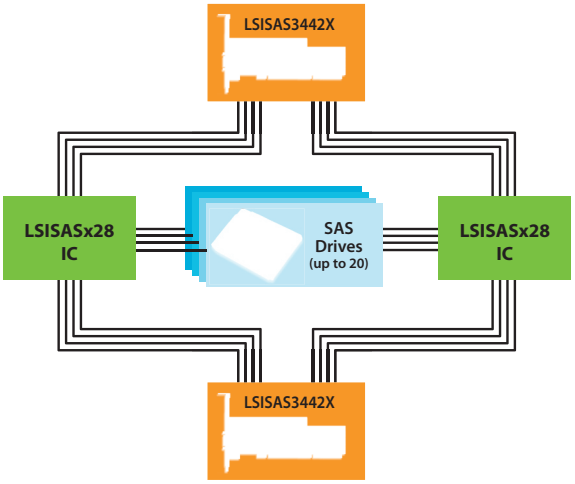

Figure 2: Path Redundancy Application

FUSION-MPT MESSAGE PASSING TECHNOLOGY

Serial Attached SCSI

LSI

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