

VSC7251

VITESSE

PCI-Express to Serial Attached SCSI Single Chip RAID Controller



FEATURES:

- ▶ Four Lane PCI-Express Link
- ▶ Four Independent SAS / SATA PHYs
- ▶ Embedded 64-bit MIPS64® 5Kc® Processor Core
- ▶ Integrated RAID 5 and RAID 6 Hardware Acceleration
- ▶ DDR2 External Memory Interface
- ▶ FLASH / NVSRAM Interface
- ▶ Two-Wire Serial and SGPIO Interfaces
- ▶ Activity and Error LED Outputs for each SAS / SATA PHY
- ▶ JTAG Interface

APPLICATIONS:

- ▶ Direct Attached Storage Controller for Workstations and Servers
- ▶ Storage Controller Connected to Expanded SAS or SATA Drive Arrays
- ▶ Upgradable RAID Processor for Workstations and Servers
- ▶ RAID Controller for Storage Array

NeX SAS
A Vitesse Storage Products Family

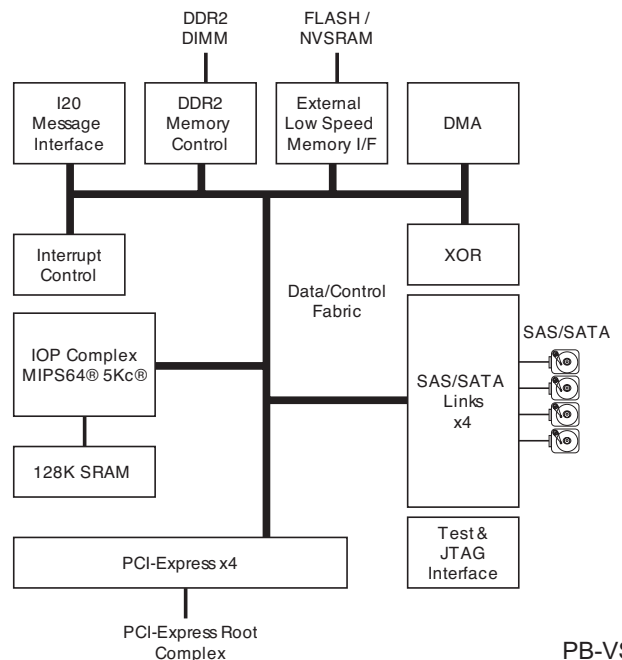
BENEFITS:

- ▶ High Performance Host Processor Connection via x1, x2, or x4 Lane PCI-Express Link
- ▶ Connection to SAS or SATA Hard Disk Drives, SAS Expanders, or any SAS 1.1 Compliant Initiator or Target Device
- ▶ Embedded RAID Processor Relieves Host CPU from RAID Calculations, Volume Rebuilds, and Numerous Interrupt Requests Related to I/O Processing
- ▶ RAID XOR Calculations Required for Data Re-generation are Optimized for Maximum Throughput
- ▶ High Performance Memory Interface Supports Optimized I/O and RAID Processing
- ▶ Local Firmware Image and Configuration Information Storage
- ▶ Interface to SES / SEP and SGPIO
- ▶ Enables JTAG Compliant Manufacturing Test

SPECIFICATIONS:

- ▶ Four Lane PCI-Express Link, Base Specification Revision 1.0a Compliant
- ▶ Four SAS PHYs, SAS 1.1 Specification Compliant
- ▶ DDR2 SDRAM Interface
- ▶ I/O only, RAID 0/1/10/1E, RAID 5/5E/6 Upgrade Paths

BLOCK DIAGRAM:



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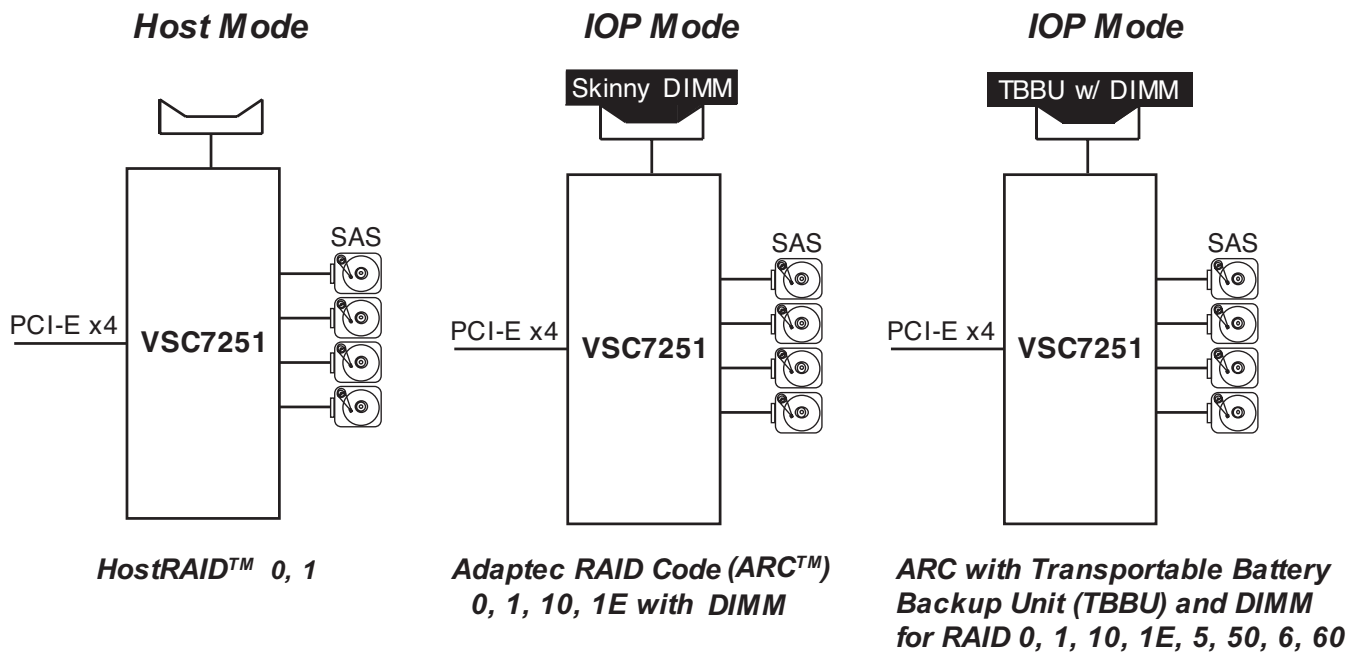
GENERAL DESCRIPTION:



The VSC7251 Single Chip RAID Controller provides an industry leading selection of storage features, performance, and connectivity utilizing a PCI-Express host connection and four independent SAS PHY connections. Industry leading performance made possible by an embedded microprocessor core for RAID calculations, a DDR-II memory controller, a Flash/ NVSRAM/ SRAM Interface, XOR and DMA

controllers. Each SAS PHY supports 1.5/3.0 Gbps SAS and SATA connections. SAS PHYs can be combined to create wide ports in any width up to four. The VSC7251 is compliant with PCI Express Base Specification, Revision 1.0a, and the SAS 1.1 standard. The integrated MIPS64® 5Kc® processor core and dedicated RAID hardware acceleration engines combine to provide the highest performing SAS RAID on Chip controller available today.

Upgradeable I/O Options



For more information on Vitesse Products visit the Vitesse web site at www.vitesse.com or contact Vitesse Sales at (800) VITESSE or sales@vitesse.com

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