

DATA SHEET

PRIMERGY Modular RAID Controller "RAID 0/1 SAS based on LSI MegaRAID"2

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Pages 2

The PRIMERGY Modular RAID concept is designed to provide a flexible and common RAID solution for the internal disks in all PRIMERGY servers and consists of three different RAID solutions:

- embedded RAID for SATA disks
- entry RAID controller for SAS and SATA disks
- full featured RAID controller for SAS and SATA disks

The RAID controller "RAID 0/1 SAS based on LSI MegaRAID" is released to drive the server internal disk drive. The RAID stack is based on LSI MegaRAID ® and offers powerful data throughput, extensive fault-tolerant capabilities and easy-to-use management.

Key features:

- Industry proven MegaRAID® data protection
- 4 or 8 SAS/SATA ports (one or two SFF8087 connectors)
- Flexibility for both SAS and SATA II mixed SAS/SATA RAID is also supported
- internal SAS tapes will be also supported
- RAID level 0, 1 & 1E
- Advanced management and configuration suits

Remarkable Performance with Advanced SAS/SATA Technology

The Controller "RAID 0/1 SAS based on LSI MegaRAID" doubles the performance of today's dual channel Ultra320 SCSI HBAs by connecting an 4-lane 2.5Gb/s PCI Express bus with up to eight 3Gb/s SAS/SATA ports. It also offers leading SAS and SATA RAID and non-RAID data off-load for medium to high-capacity internal server storage applications. The controller is ideal for today's data centers and leverages existing SCSI infrastructure for investment protection and ease of migration. The serial interface allows for point-to-point connections offering higher performance, increased aggregate bandwidth, higher availability with dual-ported drives, and enhanced reliability when compared to parallel SCSI. The SAS HBA will support 1.5 and 3Gb/s SAS and SATA hard disk drives.

The SAS interface provides universal interconnect with Serial ATA, while still offering logical SCSI compatibility along with the reliability, performance and manageability available with SAS drives. Common electrical and physical connections

allow for the application to dictate the technology of choice for disk drives.

Flexibility From an Internal Storage Array

Flexibility is a key advantage of SAS when considering compatibility with either SAS or SATA drives. LSI maximizes flexibility by offering eight internal SAS/SATA drive connects, allowing integrators to build large capacity tiered storage arrays without leaving the server. The flexibility of eight SAS ports controlling an internal SAS/SATA drive configuration lowers costs while providing the necessary performance for mission critical operations.

Attention: When mixing SAS and SATA drives also the configuration guideline of the system has to be taken into account.



Controller specifications	
SAS Chip	LSI SAS1064E LSI SAS1068E
PCI	PCI Express, x4 lane width
Cache	-
Battery Backup Unit	-
Drives per controller	8 direct attached 12 with SAS expander
Technical specifications	
Dimension	card: low profile, half length (16,0cm x 6,5cm) bracket: full height and low profile bracket available
PCI	PCI Express, x8 lane connector, 4 lanes routed PCI Express Rev 1.0a
Power Requirements	+3.3 V (max. 8 W)
SAS specification	
<ul style="list-style-type: none"> ■ one/two SAS SFF8087 internal SAS connector (mini SAS) each x4 SAS wide port ■ 3Gb/s throughput per port (1.200MB/s on x4 wide port) ■ max. capacity per array: greater than 2 TB max. capacity per LUN: 2 TB 	
RAID Fault Tolerant- and Flexibility-Features	
<ul style="list-style-type: none"> ■ RAID levels 0, 1 and 1E ■ Online Capacity Expansion (OCE) (only supported with one logical drive per RAID array) ■ Online RAID level migration (RLM) ■ Variable Stripe Size for all logical drives ■ Fast initialization for quick array setup ■ Advanced error recognition of drives (Patrol Read) ■ Background initialization for RAID 1and 1E ■ Hot spare dives configurable ■ up to 8 physical disk drives with the 8 port controller, up to 4 with the 4 port controller ■ up to 2 logical RAID drives per controller 	

Fault Tolerant
<ul style="list-style-type: none"> ■ COD – Configuration on disk and NVRAM ■ Auto detection of failed drives ■ Automatic rebuild of hot-plug drives ■ Support for SAT-TE enclosure management ■ S.M.A.R.T monitoring

Supported Operating Systems
<ul style="list-style-type: none"> ■ Microsoft Windows 2003 Server Microsoft Windows 2008 Server (geplant) ■ Novell Linux SLES9 / 10 Red Hat Enterprise Linux 4 / 5 ■ VMware ESX 3.x

Compliance with Norm and Standards	
Product safety	
Global	IEC 60950
Europa	EN 60950
USA / Kanada	CSA 60950
Europa	CAN 60950
Electro magnetic compatibility	
Europa	EN55022, EN55024
Taiwan	BSMI Klasse A
Japan	VCCI
Australien	C-tick
USA / Kanada	FCC Teil 15 Klasse A, ICES-003
Conformity process	
Europa (CE)	EN Klasse A
Nordamerika	FCC Klasse A
There is general compliance with the safety requirements of all European countries and North America. National approvals required in order to satisfy statutory regulations or for other reasons (e.g. for Canada and USA, East European countries, Norway), can be applied for on request.	