



Features

- Two 2Gbps Fibre host channels; Transfer rate up to 200MB/sec for each OR two SCSI-U4 host channels
- Online array expansion by adding drives or replacing with larger drives
- Tunable array stripe size and optimization schemes
- Multiple Logical Drive configurations, each with a different RAID level
- LUN Filtering-centralized access management in SAN by WWN
- Auto system shutdown and cache flush on critical conditions
- Transparent resetting of hung HDDs

Overview

The Comet SATA 12 single RAID controller subsystem series comes in a cableless, backplanebased, high-density 2U enclosure.

The Comet subsystem combines either 2Gbps Fibre or Ultra4 SCSI host channels with 12 SATA drives in a storage subsystem. The system design provides users massive storage capacity with SATA benefits such as high performance and full bandwidth to each connected device, in a safe subsystem environment where a high level of data availability is assured.

The RAID controller embedded in the Comet RAID subsystem ensures unprecedented data security for ATA RAID.

Architecture

Running on architecture used by the most demanding applications, the subsystem is equipped with intelligent algorithms capable of bridging the point-to-point bandwidth of SATA drives with high speed host channels. Its separate-bus backbone is built around the dedicated XOR engines capable of fast parity calculation and I/O turnarounds. The distribution of data can be optimized with configurable array settings and the free association between individual arrays and different optimization modes.

High Performance

Featuring a 64-bit 133MHz memory bus, the unparalleled bandwidth makes the subsystem's high data throughput more than sufficient for small-to-medium sized servers or workstations. Data can be distributed at a burst rate of up to 1066MB/sec. The dual PCI bus design virtually eliminates all imminent bottlenecks on IO traffic, providing sufficient throughput for a wide range of applications on SCSI-based PCs, single-user workstations, NT, Linux, or Unix-based servers. These applications include disk-to-disk backup, Video on Demand, CCTV, and stream editing.

Intelligent Drive Handling

Media Scan is an innovative intelligent drive management function that can be used for data retrieval from the occurrence of bad sectors on hard drives. If two bad blocks occur on two member drives of an array, the integrity of the stored data will be endangered. Intelligent drive management capabilities can be used to retrieve data from the damaged sectors. Media Scan is able to handle low quality drives in both the degraded mode and during the rebuild process. Other intelligent drive handling features, which provide further data security, include the transparent resetting of hung hard drives, power-failure management and bad drive handling during LD expansion.

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Specifications

RAID Controller

- State-of-the-art 400MHz RISC processor with 256KB embedded L2 cache
- Proprietary ASIC133 hardware XOR engines with ECC support
- Standard 128MB-1GB cache memory in one SODIMM
- Optional battery backup
- Voltage and temperature self-monitoring
- One Ethernet port for out-of-band management
- 32KB NVRAM with RTC (Real Time Clock)
- Audible alarm

RAID Operation

- RAID level 0, 1, 1 (0+1), 3, 5, 10, 30, 50, and JBOD
- Multiple array configuration
- Hot-spare drive operation
- Hot-swappable drives
- Automatic background rebuild
- Online capacity expansion
- Intelligent drive management

Host Interfaces

- Two 2Gbps Fibre Channels OR Two U4 Channels
- SAN ready
- Auto-negotiate FC-AL, point-to-point, and switched fabric
- Concurrent I/O commands
- Tagged Command queuing up to 256
- Variable stripe size per logical drive
- Optimization setting for random or sequential I/Os

Drive Interface

- Serial ATA 1.5Gbps via backplane
- Twelve (12) 1-inch trays
- Dongle board for parallel ATA drives
- 3.5", 1" high 1.5Gbps SATA disk drives
- 12 hot-swappable drive trays
- Automatic bad sector reassignment
- Drive hot-swappable via SCA-II connectors
- Dedicated bandwidth to each connected drive

Enclosure

- Two 350W power supplies w/ PFC
- Three cooling fan modules
- Fan, power, and disk drives monitoring by LED indicators, audible alarm, and manager software

External Connections

- Two SFP ports for dual channel optical fiber connection OR two mini-SCSI ports for U4 connection
- One RS-232C (Audio Jack) serial port (38400, n, 8, 1)
- One RJ-45 Ethernet port

Management

- LCD keypad on a foldable forearm handle
- Firmware-embedded manager via RS-232C (Audio Jack,

platform independent)

- Browser-based Java GUI over in-band connection or the Ethernet port
- Firmware-embedded Java-based GUI RAID manager
- Centralized management of multiple arrays over in-band or Ethernet
- Real-time event notification over Email, LAN broadcast, or SNMP traps
- Host-side SES emulation with pass-through to back-end SES emulation
- SNMP 2.0 MIBs with get and set commands

SAN Management

- LUN Masking access control over terminal emulation or GUI manager, configurable filter entry variables
- Up to 1024 LUNs supported

Maintenance & Availability

- Optional Li-ion battery support
- Immediate array availability
- Drive roaming, array configuration on drives
- Controller voltage and temperature self-diagnostics

Auto switch cache policy and Auto shutdown

When a RAID controller detects conditions exceeding preset thresholds, the following actions will be exerted to protect the hardware:

1. Automatically flush cached data and switch the array's caching mode from write-back to write-through
2. Commence an auto shutdown

Environmental thresholds associated with the auto-shutdown feature are user-configurable. Caching mode changes back to write-back once normal condition is restored.

Requirements

Power: 100~240VAC+10% full range; 6A / 3A at 90V / 230V, 47Hz / 63Hz
Relative Humidity: 5~95% non-condensing
Operating Temperature: 0~40 C

Interfaces

- 2 SFP sockets using a short-wavelength adapter
- One audio jack for RS-232C serial port (38400, n, 8, 1)
- One RJ-45 Ethernet port

Power supply

2 redundant, hot-swappable power supplies with PFC
Input: 90~260VAC, 47~63Hz
Output: +5V, 25A max.; +12V, 24A max.; +3.3V, 20A max.; 350watts capacity

Cooling fan

- 3 cooling fans in three separate modules:
- Operating temperature: 5 to 40°C
- Non-operating temperature: -20 to 60°C
- Relative humidity: 10~95%, non-condensing
- Operating altitude: sea level to 10,000ft

Dimensions

2U 19-inch rackmount chassis
Chassis Physical: 17.56"W x 19.15"D x 3.5"H
SI/ODM controller board: 10"L x 5.6"W

PART Numbers

RS11244-001

RS112F-001

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