



Comet SATA-II 8 or 12 eU



Features

Designed using Caen's next-generation custom ASIC 266 as a dedicated XOR engine, the Comet SATA-II eU provides ample margins for flexible load-balancing and multi-pathing algorithms. Boasting a 2GB internal system bandwidth, the dedicated ASIC architecture frees the PowerPC CPU of XOR computing load and features abundant throughput sufficient for the subsystem's various data protection procedures with minimum disturbance to host access.

Caen's RAID functionality is unmatched in the industry in terms of its wide variety of array configuration, maintenance, and monitoring capabilities. The SCSI-to-SATA series provides IT professionals with versatile options to meet their needs. The subsystem provides two SCSI-320 host channels with 12 or 8 drive bays for SATA-II disk drives in a smartly managed enclosure.

The subsystem combines massive storage capacity with SATA-II benefits, such as high performance and dedicated bandwidth, in a safe environment where the highest level of data availability is assured. High throughput is available by segregating I/O traffic across the separate PCI-X buses, while IOPS performance is delivered through the internal buffer on the XOR engine and CPU with the help of intelligent firmware algorithms.

High Performance

Featuring two (2) 64-bit 133MHz data buses, the subsystem's high data throughput is more than sufficient for small-to-medium-sized servers or workstations. Robust functionality and adaptive algorithms facilitate chip-level operation that is already fast and flexible. For example, a timeout can be configured for individual drive response time. If a specific disk drive fails to respond in time, the firmware accumulates data from the adjacent stripes of the array to maintain a fast return of data.

The adaptive designs assure throughput for a wide range of applications running on Windows 2000/2003/XP-, Linux-, or Unix-based servers. Ideal applications include disk-to-disk backup, database, file, business network, storage consolidation and others.

Highlights

- Two (2) SCSI-320 host channels; transfer rate up to 320MB/s per channel
- Single RAID controller providing complete RAID functionality
- Designed to use 3Gbps SATA-II disk drives; backward compatible with SATA-I disk drives
- Modular, passive backplane, high redundancy enclosure design
- High density 2U chassis providing up to 4.8TB of storage capacity
- Optional hot-swappable battery backup units (BBU)
- Dual-speed cooling fans to reduce system noise
- Ease of management through an LCD keypad panel, RS-232C terminal, or an Ethernet link (TCP/IP) to a RPC running Java-based RAIDWatch manager
- Real-time event notification by a variety of methods
- Hardware provider interface ready for third-party management software that supports Windows Server 2003 Virtual Disk Service (VDS)
- High-density 2U chassis providing up to 5TB of storage capacity with 500GB SATA drives
- RAID5 configuration end-to-end I/O performance

Sequential Read: 328 MB/sec

Sequential Write: 229 MB/sec

Enclosure Management

In addition to RAID protection for the disk drives, the PSUs and cooling modules are both redundant and hot-swappable modules. Even the battery backup module can be replaced online. The rotation speed of the enclosure's dual-speed fans is controlled by the firmware. In critical conditions (for example, PSU or fan failure) the fan rotation speed is automatically raised to a higher level. Control over caching behaviors is a user-configurable option. In the event of component failures, such as UPS failure or low battery charge, the firmware stops caching write requests in cache memory.

Manageability

The Comet SATA-II eU includes a number of interface features to keep users constantly aware and automatically notified of array status. The subsystem comes standard with an Ethernet port for local or remote management using simple telnet protocol or the feature-rich RAIDWatch Java GUI. The RAIDWatch manager provides graphical presentations of array components, monitoring windows, and all configuration options. Additionally, the built-in LCD keypad panel displays event messages and provides onsite access to all firmware features.

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Major Markets and Uses

Caen products are used in disk-to-disk backup, server-attached and network data storage and in major industries such as medical imaging, security/CCTV, and digital media including video-on-demand, stream editing and more.

Intelligent Drive Handling (IDH)

If two bad blocks occur simultaneously on two member drives of an array, the integrity of the stored data will be endangered. Media Scan is function that retrieves data from degraded or damaged hard drives and handles low quality drives in both the degraded mode and during the rebuild process. To further ensure data security, other intelligent drive management features include the transparent resetting of non-responsive hard drives, power-failure management, and bad-drive handling during LD expansion.

Task Scheduler

Media Scan is now armed with a unique function that helps repair media errors on drives. By combining Task Scheduler with Media Scan, the scanning operation can be scheduled to begin at a specified start time and repeated at configured intervals. This hands-free operation allows each such schedule to be defined to operate on individual hard drives, all drives of a certain class, all member drives of a specified logical drive, or all member drives in the subsystem.

Specifications

Subsystem Characteristics

400MHz RISC processor with 256KB embedded L2 cache
Custom ASIC266 with XOR engine
Battery-protected DDR RAM 256MB standard; supports up to 1GB
2 SCSI-320 host channels
LCD keypad panel
1 Serial COM port
1 10/100BaseT Ethernet port
Diagnostic LEDs on all field-replaceable units

Drive Interface

Number of disk trays 12 or 8
Serial ATA 1.5Gbps and 3Gbps drive support

Host Interface

2 Dual-stacked VHDCI SCSI connectors
Transfer rate: 320MB/s
Tag command queuing
Multiple target Ids

RAID Configurations

Supports RAID levels 0, 1(0+1), 3, 5, 10, 30, 50, JBOD
16 Maximum logical drives
128 Maximum LUNs
Multiple array configurations
Automatic background rebuild
Intelligent drive handling (IDH)

High Availability

Redundant hot-swappable, field-replaceable units
Enclosure and RAID controller self-diagnostics
Dual-stacked connectors for cascading
Li-ION battery backup modules (Optional)
Dedicated and Global hot-spares

Management

RAIDWatch GUI software over local/remote access
Terminal (RS-232C) for local access
Telnet over Ethernet
LCD keypad panel
Widest range of event notification methods: email, fax, LAN broadcast, SNMP traps, cell phone message, SMS, instant messengers (MSN, ICQ)

OS Support

Microsoft Windows NT
Microsoft Windows 2000 Server
Microsoft Windows 2003 Server
Sun Solaris ver. 8/9
Red Hat Linux ver. 8/9, enterprise ver. 3
SuSE Linux ver. 8/9

Requirements

Input Voltage: 100VAC at 6A; 240VAC at 3A with PFC (auto-switching)
DC Output: 12V-25A; 5V-25A; 3.3V-20A
Relative Humidity: 5% to 95% non-condensing
Operating Temperature: 0 C to 40 C

Dimensions

2U, 19-inch rackmount chassis
Chassis without handles: 446(W) x 88(H) x 490(D) mm (17.6 x 3.5 x 19.3 inches)
Chassis with handles: 482(W) x 88(H) x 505(D) mm (19 x 3.5 x 19.9 inches)

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