



Features

- 4 SFP expansion ports
- 16 drives across single dual loop
- Redundant cooling fans and PSUs
- Single or dual SES monitoring modules
- Bypass-embedded I/O modules

Overview

The Comet Fibre 16J meets the high standard of Caen's sophisticated RAID technologies. It boasts a high-performance RAID engine and comprehensive firmware functionality benefits derived from years of experience in storage design. Designed for applications in storage area networks, the Comet series comes with full redundancy of its active components. All back-end PCBs are passive. Critical components are duplicated and hot-swappable, including power, fan, and RAID controllers.

Architecture

This subsystem series offers a performance upgrade to the separate-bus, dual-ASIC design proven on Caen's previous RAID controllers. The series is specialized for flexible resource utilization to manage various-size IOs, random, or sequential access that requires high-speed throughput. The dual PCI bus design virtually eliminates all imminent bottlenecks on IO traffic, providing sufficient throughput for a wide range of applications on Disk-to-Disk Backup, cable CCTV storage, video on demand (VOD), SCSI-based PCs, single-user workstations, Windows NT/2000/XP, Linux, or Unix-based servers.

Firmware Capabilities

Numerous firmware options have been designed to achieve the highest level of data availability and performance. In addition to the full-featured RAID and Recovery functionality, firmware is able to manage possible causes of data loss, even errors not directly related to RAID.

Automatic disk scanning can be carried out on a preset schedule to prevent parity damage due to the occurrence of block errors across multiple drives. Even if this happens, firmware is able to salvage most data by skipping those unrepairable data blocks.

Array capacity can be expanded online by adding drives or replacing the original drives with drives of larger capacity. Availability features include:

- Dedicated and global spare drives
- Hot-swappable drives, duplex support

- Remote and real-time monitoring
- SMART related functions

Firmware operation is optimized with advanced algorithms capable of intelligent read-ahead, multithreaded, predictive read-ahead, optimized sorted and group writes.

Manageability

The Java-based RAIDWatch GUI manager provides easy-to-use interfaces, is rich in configuration options, and allows users to remotely manage their storage system over a network. Event Monitor and Notification Processing Center (NPC) submodules provide system managers the freedom of real-time monitoring with a variety of notification methods.

Enclosure

The subsystem is designed for operation with no single point of failure. Its modular and dual-redundant design minimizes the time for maintenance and service. Up to 7 JBODs can be cascaded with a RAID unit to scale the capacity up to several terabytes (TB).

The included Loop resiliency circuits provide dual drive loops consisting of 16 drives in either the RAID or JBOD units. The JBOD models come with single or dual SES modules. Once a JBOD's drive loops are connected with a RAID unit, its status will be automatically collected and shown via the web-based GUI.

SAN Features

Capacity is made available in a SAN through LUN Filtering, a centralized access management capability. Up to 1024 filtering entries are supported and multiple entries can be mapped to each logical partition of logical configurations. Various related functions, such as host port auto-identification, filter type selection, entry naming, and access mode configuration make shared storage an easier task.

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Specifications

Enclosure type

- Single or dual RAID subsystem, JBOD in 3U, 19" rack enclosure

Interfaces

- Two 2Gb/s host interfaces supporting point-to-point, FC-AL, and switched fabric
- 2Gb/s single Dual-loop of 16 drives per enclosure
- 10/100BaseT for web-based management
- RS-232C serial port

Configuration

- Single or dual-active RAID with 16 drives; or 16 drives with FC-AL attachment to shared storage

RAID Controller

- 64-bit processor w/ 256KB L2 cache
- Proprietary ASICs w/ hardware XOR engine
- Up to 1GB SDRAM (battery included with dual-active RAID models)
- Memory/RAM bus bandwidth:1066MB/s

Management

- Firmware-embedded Java-based GUI RAID manager over out-of-band connection featuring global manageability; real-time event notification and monitoring
- Firmware-embedded manager via RS-232C port
- Centralized management of multiple arrays over in-band or Ethernet
- Enclosure status report through Fibre loop connection
- Auto on-lining of cascaded enclosures
- Module status indicators, onboard alarm, events reported to RAID controllers

Fault Detection, Monitoring, and Recovery

- S.E.S. enclosure device monitoring
- RAID Controller self-diagnostics
- Bad Block Handling
- SMART support: clone failing drive with spare or replace it online, reaction schemes configurable
- Clustering support
- Parity background checks and corrections

Dimensions

Height: 131 mm; Width: 446.2 mm; Length: 500 mm

RAID

- RAID levels: 0, 1 (0+1), 5, 10, 30, 50, NRAID, and JBOD
- Up to 64 logical drives
- Array partitioning
- Variable stripe depth per logical drive
- Variable optimization mode per logical drive

- Dynamic array expansion
- LUN mapping/filtering setting per logical partition
- Automatic rebuild, manual predictive rebuild w/ dedicated or global hot spares
- Rebuild Priority, host command queue number tunable
- Immediate logical drive (array) availability

Components

- Power supply 2 redundant hot-swappable power supplies w/ PFC
- Input 90 to 260VAC, 47 to 63Hz
- DC output 2V/32A, 38A peak; 5V/25A, 3.3V/20A; 460W
- 4 redundant, hot-swappable cooling fans in separate modules; each capable of 61CFM at 3600rpm
- 3U JBOD enclosure
- Single or dual SES monitoring modules
- 16 drive trays
- Dual redundant power supplies
- 2 hot-swappable expansion port modules

Physical/ Electrical

Interfaces 2Gbit Fibre SFP ports, LAN port, serial port
Input Voltage +90V ~ +260V AC, Auto-switching
Power Consumption 140W w/o drives
Operating Temperature 0 to 40 C
Relative Humidity 10-95%, non-condensing
Altitude Sea level to 10,000 ft
Warranty 3 years for controller & power supply

Drive type

3.5" Low profile 1" pitch SCA

Host/Drive Interface

- 3.5", 1" high disk drives
- 16 hot-swappable drive trays
- Single dual loop across 16 drives within enclosure
- Auto-negotiate and full-duplex 2Gb FC-AL

Cooling fan

- 4 cooling fans in two 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:

Chassis dimensions: 131H x 446.2W x 500D mm
(w/ protrusions): 131H x 485W x 532D mm
Package dimensions: 476H x 592W x 695D mm

System weight (w/o drives):

Net weight: 20kg
Gross weight: 32kg

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