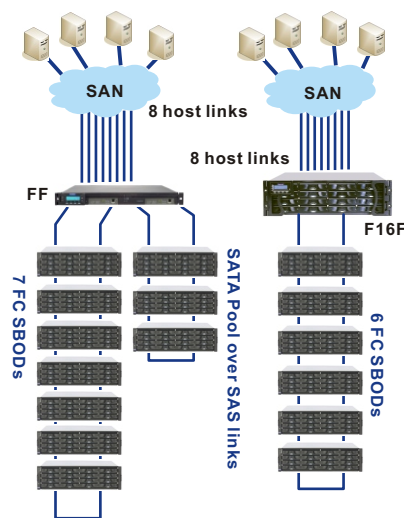


EonStor® Fibre-to-Fibre Series for the 4Gb SAN

Performance, Scalability,
Unrivalled Price/Performance Ratio

HIGHLIGHTS

- 4Gbps host & drive Fibre Channels
 - High availability dual-active RAID controllers and fault-tolerant hardware
 - Affordable & upgradable single-controller options
 - Max. scalability: FF: 14 SBODs + 3 JBODs
F16F: 13 SBODs
- Expansion enclosures:
FF: F16F-J4000-R & S16S-J1000-R/S
F16F: F16F-J4000-R
- Loop switched, high efficiency drive loops
 - 5th generation, ASIC400 backbone:
 - Hardware RAID5 + RAID6 engine
 - Dedicated, 18Gbps sync. cache channels
 - EonPath Multipathing software



OVERVIEW

The F16F Fibre-to-Fibre series features a maximum of 12 x 4Gbps channel bandwidth. With extraordinary scalability and high throughput, your demands for capacity and performance can be easily fulfilled.

The FF & F16F series come in a backplane-based enclosure with redundant, hot-swappable component pairs whose operation statuses are constantly available via comprehensive interfaces such as LCD screen, firmware utility, or across the network via telnet console and browser-/Java-based RAIDWatch software.

Drive expansion is easily made through the extension of the dual loop within or the connection to the F16F SBODs.

The FF controller provides two SAS channels that connect to SATA-II drive enclosures as a storage pool for backup or less-frequently accessed data.

APPLICATIONS

Infortrend products are widely applied in server-attached and network data storage and in major applications such as OLTP, ILM, CDP, VOD, MOD, stream editing, and others that require high-speed transactions.

High Availability

- * Active-active redundancy
- * Hot-swap mechanisms
- * Component redundancy
- * Dedicated sync. cache channels
- * Intelligent reactive & preventive mechanisms
 - Automated cache flush
 - Automated Media Scan
 - Auto rebuild on hot spares
 - Automated caching mode control

Advanced RAID Features

- * RAID levels 0, 1 (0+1), 3, 5, 6, 10, 30, 50, 60
- * EonPath multipathing software
- * RAID Parity regeneration
- * 64-bit LBA support
- * 3 spare disk types: dedicated, global, enclosure-specific
- * Instant array availability
- * Stripe size and caching mode configurable per logical drive
- * Online array expansion by adding drives or copying & replacing drives
- * Online disk cloning

Management

- * Browser-based RAIDWatch manager
- * Java-based RAIDWatch manager
- * LCD keypad panel
- * Terminal console via RS-232
- * Telnet

Default Configurations

- * F16F-R/S4031-6
4 host + 2 drive channels (112 HDD)
- * F16F-R/S4031-4
2 host + 2 drive channels (112 HDD)
- * FF-R4030-6
4 host + 4 drive channels (160 HDD)

Expansion

- * Loop switched w/ access fairness
- * SES monitoring via in-band connection
- * Maximum 112 disks per dual-loop
- * CH4 & CH5 configurable as drive-side dual-loop

Monitoring



- * SMART status pooling
- * Voltage, module presence, temp. Monitoring
- * Automated FRU status pooling

Operation Robustness

- * Intelligent read algorithms
- * Write cache threshold purge
- * Bad sector reassignment
- * Adaptive write policy
- * Configurable task priority
- * Multiple, co-existing RAID arrays w/ stripe sizes ranging from 16K to 1MB
- * RAID configuration on drives (drive roaming)
- * RAID and SBOD/JBOD controller transparent failover/failback



AVAILABLE MODELS

Models	Controller	FC Ports	Channels	Drive Bays	Scalability	Enclosure
FF-R4030-6	Dual	12	12	N/A	1RAID +17 SBODs	 FF-R4030
FF-S4030-6	Single	12	6	N/A	1RAID +17 SBODs	
F16F-R4031-6	Dual	12	6	16	1RAID +13 SBODs	 F16F-R4031
F16F-R4031-4	Dual	8	4	16	1RAID +6 SBODs	
F16F-S4031-6	Single	12	6	16	1RAID +13 SBODs	
F16F-S4031-4	Single	8	4	16	1RAID +6 SBODs	

**Dual-controller, high-availability F16F-R4031
FF-R4030**

**Single-controller, affordable F16F-S4031
FF-S4030**

Business continuity, fault-tolerant components, ease of capacity expansion, and failover capabilities.

Capacity- or performance-oriented storage, with affordable hardware and scalability.

SPECIFICATIONS

F16F-R/S4031 (RAID Subsystem) FF-R/S4030 (RAID Head)

Subsystem Characteristics

- RISC CPU
- ASIC400 RAID engine
- Up to 2GB cache per controller
- FC SFP ports 12 or 8
- LCD keypad panel 1
- BBU (per controller) 1
- Default DDR cache memory (per controller) 512MB
- 10/100 Ethernet port (per controller) 1
- COM ports (per controller) 2
- PSUs 2
- Cooling modules 2
- Diagnostic LEDs on all FRUs

Drive Interface

- No. of disk trays 16 (F16F)
- 4G FC or SAS multi-lane (FF)
- Drive-side SES service

Host Connection Ports

- Data single path bandwidth 4Gbps
- Tag command queuing 256
- SFP ports (optical Fibre) 12

RAID Configurations

- RAID levels 0, 1(0+1), 3, 5, 6, 10, 30, 50, 60
- Up to 32 logical drives (varied by memory size)
- Up to 1024 LUNs (varied by memory size)
- Multiple array configurations
- Background rebuild/scan/initialization
- Infortrend Smart fault management technologies

High Availability

- Redundant, hot-swappable FRUs
- Subsystem self-diagnostics
- Li-Ion battery backup unit
- UPS status detection
- Cluster ready

Management Software

- Browser- or Java-based RAIDWatch software
- Terminal via RS-232C
- Telnet over Ethernet
- LCD keypad panel
- Event notification methods: Email/Fax/LAN broadcast/SNMP traps/SMS/MSN

OS Support

- Microsoft Windows 2000 Server/2003 Server
- Sun Solaris ver. 9/10
- Red Hat Linux ver. 8/9, 64bit, Enterprise ver. 3
- SuSE: Linux ver. 8/9, 64bit
- Fedora 64bit
- MAC OSX Version 10.4

Approvals

- BSMI, CB, CE, FCC, UL, cUL, RoHS
- Windows WHQL-Windows Server 2003

Requirements

- FF:**
- AC Input: 100 ~ 240VAC 250W with PFC
 - DC Output: 12V-16A; 5V-25A; 3.3V-20A
- F16F:**
- AC Input: 100 ~ 240VAC 530W with PFC
 - DC Output: 12V-32A; 5V-32A; 3.3V-30A
 - Relative Humidity: 5% to 95% non-condensing
 - Operating Temperature: 0°C to 40°C (without BBU) 0°C to 35°C (with BBU)

Dimensions

- F16F:**
- 3U, 19-inch rackmount chassis
 - Without handles: 445(W) x 130(H) x 488.2(D) mm (17.5 x 1.7 x 20.1 inches)
 - With handles: 482.6(W) x 131(H) x 504.3(D) mm (18.8 x 1.7 x 20.1 inches)

F16F-J4000-R (SBOD) S16S-J1000-R/S (JBOD)

Characteristics

- Single/redundant controller 2 (F16F)
- SFP FC ports per controller 2 (S16S)
- SAS ports per controller 4Gbps (FC) 12Gbps (SAS)
- Transfer rate 4Gbps (FC) 12Gbps (SAS)
- PSUs 2
- Cooling module 2
- Diagnostic LEDs panel

Drive Interface

- 4G/2G FC (F16F)
- 3Gbps SATA-II (S16S)
- Number of disk trays 16

Maximum Connection

- To RAID per dual-loop 7 (FC SBOD)
- To RAID over dual SAS links 3 (SAS JBOD)

Requirements

- AC Input: 100 to 240VAC 530W with PFC
- DC Output: 12V - 32A 5V - 32A 3.3V - 30A
- Relative Humidity: 5% to 95% non-condensing
- Operating Temperature: 0°C to 40°C

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