EonStor® S16E-R1130
EonStor® S16E-G1130

Infortrend®

EonStor® S16E 3U iSCSI RAID Series

High performance density and SAS scalability for IP SAN

iSCSI HIGHLIGHTS

- LUN Masking access control
- Compliant with IETF iSCSI standards
- CHAP authentication (mutual and one-way)
- Access control list
- Jumbo Frame support
- Level 0 error recovery
- Device discovery: SLP (Service Location Protocol) and IETF RFC-4171 iSNS(Internet Storage Name Service)
- Header Digest mode
- Multiple connections per TCP session (ports into a logical channel)
- EonPath driver for path redundancy and load balancing

RAID-RELATED HIGHLIGHTS

- High availability dual-active controller S16E-R1130 or single RAID controller S16E-G1130
- Fault-tolerant hardware
- Drive interface: SAS or 3Gbps SATA-II disk drives
- Scalability: over multi-lane SAS links (SFF-8088)*
- 5th generation, ASIC400 architecture:
  - Hardware RAID5 + RAID6 engine
  - Dedicated, 18Gbps sync. cache channels
- SANWatch management suite w/ snapshot protection
- 64-bit LBA support

* SFF-8088 to SFF-8470 cables are necessary for attaching JBOD.

The S16E series are the world's first iSCSI to SAS/SATA RAID arrays with four Gigabit Ethernet (GbE) ports on each controller. They can achieve best-in-class performance while benefiting from the affordability and straightforward management of IP SANs.

Best-in-class performance

Combining multiple host channels into a portal group increases the applicable bandwidth of each iSCSI session. In an end-to-end RAID5 configuration with two host channels combined into a portal group, the S16E can achieve 215MBps reads and 201MBps writes; when four host channels are combined, the performance can be further improved to 380MBps reads and 250MBps writes.

Flexibility with low cost of ownership

The S16E is a perfect choice for budget-conscious companies, as it leverages any existing investment in an Ethernet network. Moreover, users have the flexibility to populate the S16E with a mix of SAS and SATA drives in order to build a tiered storage environment: SAS drives for often-accessed, business-critical data and SATA drives for backup or archives.

Easy installation and management

The S16E series are intelligent storage arrays that enable rapid installation, simple management and seamless expansion. They can be configured and monitored by the latest SANWatch, Infortrend's proprietary storage management platform, through an easy-to-manage, java-based graphic user interface. This platform also provides data service features, such as snapshot and multi-pathing (EonPath), for optimal level of fault tolerance.

RAID and JBOD matching table:

RAID Model	3U JBOD	Configuration
S16E-R1130	S16S-J1000-R	Dual-controller; fault-tolerant paths
S16E-G1130	S16S-J1000-S	Single-controller; single path

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AVAILABLE MODELS

Models	Controller	Host Ports	Expansion Ports	Drive Bays	Scalability
S16E-R1130	Redundant	8 (GbE)	2, SAS multi-lane	16	1 RAID + 3 JBOD (64 SAS or SATA HDD)
S16E-G1130	Single	4 (GbE)	1, SAS multi-lane	16	1 RAID + 4 JBOD (80 SAS or SATA HDD)

S16E-R1130

S16E-G1130

SPECIFICATIONS

Subsystem Characteristics

- ASIC400 RAID engine
- Up to 2GB cache (per controller)
- iSCSI host ports (per controller) 4
- LCD keypad panel 1
- BBU (per controller) 1
- Default DDR cache memory (per controller) 512MB
- 10/100BaseT management port (per controller) 1
- COM ports (per controller) 2
- PSUs 2
- Cooling modules 2
- Diagnostic LEDs on all FRUs
- SAS multi-lane expansion port (per controller) 1

Drive Interface

- No. of disk trays SAS or 3Gbps SATA-II 16
- Enclosure service via I C or in-band over SAS expansion links

Host Connection Ports

- Gigabit Ethernet (Per controller) 4
- Tag command queuing 256

RAID Configurations

- RAID levels 0, 1(0+1), 3, 5, 6, 10, 30, 50, 60
- Up to 32 logical drives & 64 partitions per logical drive (varied by memory size)
- Up to 1024 LUNs (varied by memory size)
- Multiple array configurations
- Background rebuild/scan/initialization
- Infortrend Smart faultanagement technologies

High Availability

- Redundant, hot-swappable FRUs
- Subsystem self-diagnostics
- Li-Ion battery backup (standard for R1130)
- UPS status detection
- Cluster ready

Management

- Java-based SANWatch 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 2003 Server
- Sun Solaris ver.10
- Red Hat Linux Enterprise ver. 4, 32/64 bit
- SuSE Linux Enterprise ver.10, 32/64 bit; ver. 9.1, 64bit
- Fedora 64bit
- MAC OS X Version 10.4

Requirements

- 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

- With chassis ears/protrusions: 482.6mm W x 131mm H x 504.3mm D (19 x 5.2 x 19.8 inches)
- Without chassis ears/protrusions: 445mm W x 130mm H x 486.7mm D (17.5 x 5.1 x 19.2 inches)

Certificates

- IEC 60068-2,
- MIL-STD-810E/883E,
- ISTA,
- ASTM-D3332,
- IPC-TM-650
- IEC 1000-4
- IEC 1000-3-2, IEC 1000-3-3
- ISO 7779/3744
- RoHS
- Microsfot WHQL-Windows Server 2003

- **EMC**
- CE
- EN 55022: 2006
- EN 61000-3-2: 2006
- EN 61000-3-3: A1: 2001/A2: 2005
- EN 55024: 1998/A1: 2001/A2: 2003
- FCC (FCC Part 15, subpart B)
- BSMI (CNS 13438)

Safety

- UL (60950-1: 2006)
- BSMI
- CNS 14336: 1993
- IEC 60950-1, First Edition
- CB IEC 60950-1: 2001
- GOST-R: GOST 60950

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