EonStor® S12E-R1132
EonStor® S12E-G1133

Infortrend®

vmware technology alliance PARTNER

EonStor® S12E 2U iSCSI RAID Series

High-performance or cost-effective choice for flexible IP SAN configuration

iSCSI HIGHLIGHTS

- LUN access control, enable the storage resource to be shared over the network
- Compliant with IETF iSCSI standards
- CHAP authentication (mutual and one-way) and Access Control List for better security
- Jumbo Frame support for overall throughput enhancement
- Level 0 error recovery
- Device discovery: SLP (Service Location Protocol) and IETF RFC-4171 iSNS(Internet Storage Name Service)
- Header Digest mode, further ensures data integrity
- Multiple connections per TCP session (ports into a logical channel), achieve leading-edge performance
- EonPath driver for path redundancy and load balancing

RAID-RELATED HIGHLIGHTS

- Dual-active controller S12E-R1132 or single controller S12E-G1133
- Fault-tolerant hardware modules, including controllers, PSUs, fans, and BBUs, ensure high availability
- Maximum expansion of 4 JBODs over multi-lane SAS links (SFF-8088)*, up to 60 HDDs in total (1 RAID + 4 JBODs)
- Support SAS or 3Gbps SATA-II disk drives, enabling flexible mixture for tiered storage
- 5th generation ASIC400 architecture, boosting performance and enhancing availability:
  - Hardware RAID5 + RAID6 engine
  - Dedicated, 18Gbps sync. cache channels
- SANWatch storage management suite, enables simple administration and advanced data protection features, including snapshot and multi-pathing (EonPath)

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

The S12E series provides high-performance and cost-effective choices for users who would like to introduce IP SAN into their IT infrastructure. The single-controller S12E-G1133 not only enables necessary performance but can be scaled for abundant capacity, which makes it an ideal choice for capacity-demanding applications, such as near-line backup and surveillance. If the iSCSI RAID is meant for tier-1 applications, such as databases or online transactions, users can choose the dual-controller S12E-R1132, which delivers best-in-class performance and enterprise availability.

IP SAN benefits

With iSCSI RAID, users can leverage their current investment on IP network to consolidate a cost-effecive SAN structure. At great fraction of the cost of FC SAN, users can enjoy the same data consolidation, improved resource utilization, deployment flexibility and centralized management but are free from the worries about additional maintenance training for their IT personnel. In an end-to-end RAID5 configuration, the S12E redundant model can achieve 720MBps reads and 300MBps writes through the eight host channels. The remarkable performance makes S12E an advantaged choice if users want to extend IP SAN benefits upward in their storage tiers.

Flexibility with low cost of ownership

The S12E 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 S12E with a mix of SAS and SATA drives in order to construct the proper level of service for various applications: SAS drives for often-accessed, business-critical data and SATA drives for backup or archives.

Easy installation, management and data protection

The S12E 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	2U JBOD	Configuration
S12E-R1132	S12S-J1002-R	Dual-controller; fault-tolerant paths
S12E-G1133	S12S-J1000-G	Single-controller; single path

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AVAILABLE MODELS

Models	Controller	Host Ports	Expansion Ports	Drive Bays	Scalability
S12E-R1132	Redundant	8 (GbE)	2/SAS multi-lane (SFF-8088)	12	1 RAID + 3 JBOD (48 SAS or SATA HDD)
S12E-G1133	Single	2 (GbE)	1/SAS multi-lane (SFF-8088)	12	1 RAID + 4 JBOD (60 SAS or SATA HDD)

S12E-R1132

S12E-G1133

SPECIFICATIONS

Subsystem Characteristics
- ASIC400 RAID engine
- Up to 2GB cache (per controller)
- iSCSI host ports (per controller)
  - S12E-R1132 4
  - S12E-G1133 2
- LCD keypad panel 1
- BBU (per controller) 1
  Optional for S12E-G1133
- Default DDR cache memory (per controller) 512MB
- 10/100BaseT management port (per controller) 1
- COM ports (per controller)
- PSUs 2
- Cooling modules 2
- Diagnostic LEDs on all FRUs 2
- SAS multi-lane expansion port (per controller)
  *SFF-8088 1

Drive Interface
- No. of disk trays SAS or 3Gbps SATA-II 12
  Enclosure service via I^2C or in-band over SAS expansion links

Host Connection Ports
- Gigabit Ethernet (per controller)
  - S12E-R1132 4
  - S12E-G1133 2
- Tag command queuing

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 fault management technologies

High Availability
- Redundant, hot-swappable FRUs
- Subsystem self-diagnostics
- Li-Ion battery backup (standard for R1132)
- UPS status detection
- Windows clustering support
- EonPath (Multi-pathing)

Management
- Java-based SANWatch software
- Web-based embedded RAIDWatch
- Terminal via RS-232C
- Telnet/ SSH
- LCD keypad panel
- Event notification methods: Email, Fax,
- LAN broadcast, SNMP traps, SMS, MSN

OS Support
- Microsoft Windows Server 2003/2008
- 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
- Vmware
  * Microsoft WHQL-Windows Server 2003

Requirements
- AC Input:
  - S12E-R1132: 100-240VAC 530W with PFC
  - S12E-G1133: 100-240VAC 350W with PFC
- DC Output:
  - S12E-R1132: 5V-25A; 12V-43A
  - S12E-G1133: 12V-25A; 5V-25A; 3.3V-20A
- Relative Humidity: 5% to 95% non-condensing
- Operating Temperature:
  - 0°C to 40°C (without BBU)
  - 0°C to 35°C (with BBU)

Dimensions
- **S12E-R1132**
  - With chassis ears/protrusions: 482mm (W) x 88mm (H) x 516mm (D)
  - Without chassis ears/protrusions: 446mm (W) x 88mm (H) x 505mm (D)
- **S12E-G1133**
  - With chassis ears/protrusions: 482mm (W) x 88mm (H) x 498mm (D)
  - Without chassis ears/protrusions: 446mm (W) x 88mm (H) x 490mm (D)

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

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: 2003)
- BSMI
  CNS 14336: 2005
  IEC 60950-1, First Edition
- CB IEC 60950-1: 2001
- GOST-R: GOST 60950

RoHS Compliance

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