# Engenio 1333 Storage System

**Small to medium businesses (SMBs) face unique challenges. Newly purchased servers typically house several drives, and for a SMB with a restrictive budget, this is often viewed as a convenient and low-cost solution for their data storage. However, this distributed storage strategy leads to wasted data space, duplicated functions, inefficiencies in data protection and availability inconsistencies.**

A SMB can cost-effectively take an overburdened internal storage infrastructure to the next level of data storage with the LSI Engenio 1333 storage system. As a part of the Simplicity family of storage systems, the 1333 provides SMBs an affordable, reliable and robust storage solution that's designed to improve productivity through higher performance, availability, scalability and functionality.

The 1333 storage system combines next-generation serial-attached SCSI (SAS) technology with time-proven designs for external storage and intuitive management interface to create a fully-featured storage system ideally-suited for SMB requirements.

The 1333 storage system's modular design creates an affordable entry-point without sacrificing future scalability – enabling customers to start small and grow big when they're ready. Dual-active controllers and up to 12 drives combine to create a fully-featured and highly available storage system in a 2U enclosure. And when capacity and/or performance requirements change, the 1333 supports up to 36 additional drives.

With six host-side SAS interfaces, the 1333 storage system can provide three servers with redundant connections – enabling capacity-efficient storage consolidation without the need of a storage network. Clustering further supports storage consolidation by allowing servers, typically two, to share access to data on a single storage system.

The 1333 storage system also provides a level of data availability not possible with internal storage. Redundant components, redundant I/O paths, automated path failover and online administration enable the 1333 storage system to ensure data access is maintained at all times.

**Simplicity Storage Manager ensures a friendly user interface from set-up to general administration.**
Intuitive Simplicity software leverages generations of LSI software development to provide trusted and reliable data management. Its web-like and task-based management interface significantly reduces the complexity of installation, configuration, management and diagnostic tasks. Online capacity expansion, volume creation and host-to-volume mappings, gives the user control of their storage system and the ability to make quick changes when necessary. Email diagnostic alerts and Simplicity Recovery Guru provide valuable trouble shooting assistance by diagnosing the system, alerting the administrator if a problem occurs, and goes a step further by determining the appropriate recovery procedure to be taken.

**Premium key-enabled features provide additional functionality and replication to an SMB's storage system only when and if their storage demands call for it.**
As businesses continue to grow, administrators have the flexibility to add premium features to support data utilisation and protection requirements.

- Storage partitioning. consists of one or more volumes that can be accessed

## FEATURES:

- An entry-level external solution for transitioning unconsolidated and inefficient internal storage systems
- SAS interface technology provides high performance with each SAS port 3 Gb/s x4 wide
- Leverages generations of LSI storage development for "best-of-breed" technology
- Solution of choice for 2-node clustered topologies providing high-availability and redundancy
- Simple to implement and manage with intuitive easy-to-use interface
- Premium key-enabled features for additional functionality and flexibility

by a single or group of hosts. This enables a range of hosts with different capacity, performance, or data protection demands to effectively share a single system. Offered standard with 2 or 4 partitions, additional partitions can be enabled to support a total of 16 partitions.

- Volume Snapshot creates capacity-efficient, point-in-time volume images, providing a logical volume for such uses as file restoration and backup.
- Volume Copy creates a complete physical copy – or clone – of a volume within a storage system. These unique copies can be assigned to any host and used for application testing and development, information analysis or data mining.

## Technical specifications

| | |
|---|---|
| **Performance** | |
| Maximum burst I/O rate from cache | 91,000 I/Os per second |
| Maximum sustained I/O rate from media | 22,000 I/Os per second |
| Maximum sustained transfer rate from media | 900 MB per second |
| **Capacity** | |
| Maximum number of drives supported | 48 drives |
| Maximum capacity with 73 GB SAS drives | 3.5 TB |
| Maximum capacity with 146 GB SAS drives | 7.0 TB |
| Maximum capacity with 300 GB SAS drives | 14.4 TB |
| **Configuration and Physical Components** | |
| Host Channels | One (1331) or three (1333) 3Gb/s SAS ports per controller |
| Expansion port | One 3Gb/s SAS Drive expansion port per controller |
| Processor | Intel X-Scale 667 MHz |
| XOR technology | Built-in hardware XOR for high speed parity calculations |
| Cache memory | 512 MB with 1GB option |
| Supported Operating Systems | Windows® 2000<br>Window® Server 2003 (32 and 64 bit)<br>Linux® 32/64 bit<br>Red Hat Enterprise Linux (AS, ES, WS)<br>SUSE SLES |
| **Availability** | |
| | Supports dual-active controllers<br>Supports RAID levels 0, 1, 5 and 10<br>Redundant, hot-swappable storage controllers, disk drives, power supplies, cooling fans, cache batteries<br>Mirrored cache with battery backup (72 hours)<br>Automatic drive failure detection and rebuild using global hot spare drives |

**Physical Characteristics**

| Controller & Drive Module | Height | Width | Depth |
|---|---|---|---|
| Without faceplate (in/mm) | 3.38"/ 86.1mm | 17.66" / 448.6mm | 21.26" / 540mm |
| | | Module Weight | Shipping Weight |
| Drive ready weight: 12 drive blanks, 2 controllers, 2 PSU, Bezel | | 39.75 lbs | 68.75 lbs |
| Maximum Weight: 12 300G drives, 2 Controllers, 2 PSU, Bezel | | 59.55 lbs | 88.55 lbs |

*Shipping Weight includes rails, but excludes other items such as power cords, I/O cables and user documents

| | |
|---|---|
| **Operating temperature/ Power Consumption** | |
| Controller integrated into a cabinet: | 10°C to 40°C (50°F to 104°F) |
| Power Consumption: AC power (per enclosure) | 515 Watts (+ 5V @ 19A/+12 V @ 35A) |

| Regulatory / compliance | |
|---|---|
| | FCC Class A,<br>VCCI Class A<br>EN55022 Class A<br>EN 55024<br>UL<br>BSMI<br>C-Tick<br>RoHS and WEEE compliant |

**For more information and sales office locations, please visit the LSI Logic web sites at:**
lsi.com lsi.com/contacts

LSI Logic Europe Ltd., Greenwood House, London Road, Bracknell, Berkshire RG12 2UB UK.

Tel: +44 (0)1344 413200
Fax: +44 (0)1344 413254