SGI® InfiniteStorage TP9300S Storage Array

Features

- Mid-range Serial ATA disk storage solution
- 2Gb Fibre Channel controllers
- Supports up to 112 drives with maximum capacity over 28TB
- Multi-OS support
- Comprehensive storage management

Robust, Highly-Available Secondary Storage

SGI InfiniteStorage TP9300S storage system combines a high-performance 2Gb Fibre Channel architecture with affordable Serial ATA (SATA) drives to deliver unprecedented value for secondary storage applications used in mid-range data management solutions. Customers looking for easy and affordable data management solutions desire the direct-access model of disk-based storage but are forced to consider lower cost-per-terabyte tape solutions. TP9300S with SATA provides the direct-access and performance you want for data management, but with a price point closer to that of a tape library. Now with the TP9300S you can design mid-range storage solutions for many secondary storage applications and benefit from disk-based functionality at a more affordable price.

An Attractive Solution for Secondary Storage Applications

The TP9300S is a mid-range system designed for use as secondary storage. While high-transaction workflows are better suited for primary storage using Fibre Channel disk, the TP9300S with SATA technology is a mid-range system designed for workflows involving regular movement of large blocks of information. The TP9300S is ideal as a disk-to-disk backup target, near-line capacity in a data lifecycle management or hierarchical storage management configuration, or for a business continuance copy of online data in a disaster recovery solution. With the functionality and advanced availability features associated with an enterprise-class storage solution, the TP9300S provides intelligent and affordable capacity and capability expansion across direct-attached or consolidated (NAS or SAN-attached) storage environments.

SATA - Key to a Data Protection Strategy

Point-in-time copy and remote replication features are available with the optional snapshot and mirroring features provided by SGI® InfiniteStorage Volume Manager, XVM. The capabilities these features provide complement the TP9300S when used in a data protection solution. Frequent snapshots of operational data are performed on the online system and copied to a snapshot volume. By backing up the online snapshot volumes to the TP9300S, active volumes on the primary storage are not interrupted, therefore backups are easier to implement, done in less time, and applications are left unencumbered by the backup process. Expand your data protection for disaster recovery by replicating online data to a remote TP9300S using XVM mirrors for a disaster recovery solution which provides rapid resumption in the case of a disaster.

Data Lifecycle Management - Compelling Alternative to Legacy Tape Solutions

TP9300S with SATA introduces a new alternative to applications looking for a unique blend of disk performance with the affordability of mass storage tape. While business critical data is stored on Fibre Channel disk, the TP9300S with SATA stores operational data where performance is not critical, and a tape system stores rarely accessed information. To improve information flow in the data center, SGI® InfiniteStorage Data Lifecycle Management Server (DLM Server) allows cost-conscious customers to completely automate data lifecycle management policies in a multi-tiered storage architecture including Fibre Channel disk, SATA disk, and tape systems to maximize storage utilization and reduce overall storage and administration costs.

Multi-OS Support for Heterogeneous Environments

In addition to the IRIX® operating environment, TP9300S also supports the Solaris™, Windows® 2000, and Linux® platforms as direct-attached or consolidated shared storage. Expand the heterogeneity of your TP9300S even further and achieve instant data sharing with SGI® InfiniteStorage Shared Filesystem, CXFS™. In a CXFS SAN all systems instantly share data without data copies or network mounts across IRIX, Solaris, AIX®, Windows®, Mac® and Linux systems.

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TP9300 Base Enclosure

- Dual active 2Gb Fibre Channel controllers
- RAID Levels 0, 1, 1+0, 3, 5
- 256MB cache per controller, 512MB total per TP9300S
- Up to 7-day minimum cache backup
- Up to 256 LUNs per partition
- Up to 1,024 LUNs per TP9300S (requires optional partitioning SW)
- Up to 30 drives (29+1) for RAID 5 group
- RAID stripe depth configurable to 16, 32, 64, 128, or 256 per disk
- Up to 15 global hot spare disk drives
- Two ethernet ports for remote management
- Two RS-232 ports
- 3-Yr 5X9 parts and labor warranty, on-site, NBD response; upgradeable to multi-year, 7X24, 2-hour response

Host Interface

- Four 2Gb Fibre Channel host channels, FC-AL or FC-SW attachment, each capable of 200MB/s peak bandwidth
- Four optical LC connectors, one per host channel
- Command tag queuing with up to 256 tags
- Aggregate peak bandwidth of 800MB/s from cache

Media Interface

- Two redundant 2Gb Fibre Channel drive channels, each capable of 200MB/s peak bandwidth
- Two optical LC connectors, one per controller
- Aggregate peak bandwidth of 400MB/s to media

Software Management

- SGI® TPSSM included at no charge
- Same SW management as SGI® InfiniteStorage TP9300, TP9500, TP9500S
- Dynamic RAID level migration
- Dynamic segment size migration
- Dynamic defragmentation
- Immediate LUN availability
- Performance monitoring
- Nondisruptive firmware upgrades
- Enterprise management window provides comprehensive view of all TP9300, TP9500 and TP9500S storage systems in the management domain

Optional Array Software

- TPSSM Partitioning
  - Up to 64 partitions per TP9300S

Optional Host Software

- XVM
  - Volume Manager for SGI systems, is a virtualization technology to organize logical data structures for high performance and ease of management
- XVM Plex
  - Provides disk striping, mirroring, concatenation and advanced recovery features
- XVM Snapshot
  - Creates point-in-time snapshots of data at the filesystem level; can create single snapshot of entire filesystem for customers with vast amounts of data
- XFS®
  - High-performance, 64-bit journaled filesystem for SGI IRIX and Linux system platforms
- CXFS
  - Heterogeneous shared filesystem for storage area networks; eliminates the need for replication data across a SAN by allowing multiple heterogeneous systems to share one scalable filesystem
- DMF
  - Data lifecycle management policy automation software. DMF automatically migrates data among storage devices to achieve maximum reduction of total cost of ownership while appropriately managing data based on its value over time

Dimensions (Approximate)

Controller Enclosure

Height	5.2", 13.1cm, 3 EIA units
Width	22.8" 57.9cm
Depth	19.0", 48.0cm
Weight	97 lb. (44 kg)

Drive Enclosure

Height	5.2", 13.1cm, 3 EIA units
Width	22.8" 57.9cm
Depth	19.0", 48.0cm
Weight	65 lb. (30 kg)

Rack

Height	72.0", 182.9cm, 3 EIA units
Width	36.0", 91.4cm
Depth	22.0", 56cm
Weight	1,020 lb. (464 kg) full; 440 lb. (215 kg) empty

Supported Hosts

- IRIX, Solaris, Windows 2000, and Linux
- With CXFS: IRIX, Solaris, Windows NT®, Windows 2000, AIX, 32-bit Linux, 64-bit Linux and Mac OS® X

Storage Capacity

Disk drive	250GB, 7,200 RPM drives
Min. drive capacity	4 per drive enclosure
Max. drive capacity	Up to 112 drives per TP9300S
Drive expansion	SATA drive enclosure
Max. expansion	8 SATA drive enclosures per TP9300S, or 112 drives
Drives per enclosure	4-14
Max. drives per rack	154
Max. systems per rack	3 TP9300S systems

Power

(redundant power to each enclosure)

- Power distribution
  - Dual internal rack power distribution to enclosures, single phase, 250VAC (180 min. to 257 max.), 50/60 Hz, 16A (25A circuit breaker)
- Power connections rack
  - US: NEMA L6-30P locking plug, 250 VAC, 30A (qty 2)
  - International: IEC 309 locking plug, 230 VAC 32A (qty 2)

Environmental

- Operating temperature
  - Minimum 50 degrees F (10 degrees C)
  - Maximum 104 degrees F (40 degrees C)
- Operating relative humidity
  - 20% to 80% (noncondensing)
- Altitude
  - 30.5 m to 3,000 m (100 ft to 9,846 ft)
- Safety compliance
  - UL 1950
  - CSA 22.2 No. 950
  - IEC 950
  - EN 60950

Electromagnetic Compliance

- FCC Class A
- VCCI Class 1
- EN 55022 Class A
- EN 50082-1,
- IEC 801-2, IEC 801-3, IEC 801-4

Quality Standard

- Manufactured under an ISO 9000-registered quality system

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