

SGI® Total Performance 9100 Storage Array

Features

- Maximum performance in minimal space
- Superior data availability
- Outstanding storage management

Solving the World's Toughest Data Access Problems with 2Gb Fibre Channel Solutions

SGI Total Performance 9100 [TP9100] is a cost-effective, modular, high-performance 2Gb Fibre Channel RAID or JBOD storage array. SGI® TP9100 provides optimum price/performance for large-scale, data-intensive applications in media, imaging, sciences, manufacturing, and energy.

Maximum Performance in Minimal Space

The SGI TP9100 storage system features an innovative high-density design that can house 16 low-profile [1-inch] high-performance disk drives in only 3U [5.25 inches] of rack space. JBOD configurations support up to 96 drives per FC loop with easy field conversion to RAID supporting up to 64 drives per system. Whether you need a four-host-path JBOD configuration delivering 800MB-per-second peak bandwidth for video-on-demand [VOD], buffer pool storage for computationally intense applications, or a RAID configuration for HDTV or geospatial imaging in a SAN, TP9100 satisfies the most demanding bandwidth-intensive applications in a flexible, high-density design.

Superior Data Availability

Data availability is critical in today's nonstop operational environments. TP9100 provides standard dual-redundant disk paths and redundant, back-end loops for uninterrupted access to large information pools—ensuring consistent access to critical data. If one controller fails, automatic failover to a second controller delivers nonstop application performance and data availability. Cache coherency ensures that no matter what path is used to access data, the controller always delivers the most current information. The TP9100 system provides complete redundancy with hot-pluggable controllers, power supplies, fans, loop-resiliency circuits, and disk devices. Full hot-swap capability allows service to be performed without costly system downtime.

Comprehensive Storage Management

SGI TP9100 comes complete with Total Performance Manager software. The Total Performance Manager suite of tools allows for optimum organization of the array for random and/or data-streaming access, provides parity-based error checking and backup, and manages efficient data mapping within a SAN. Total Performance Manager allows remote administration of the TP9100 system from any Web browser and saves storage administrators valuable time through command automation and alert notification. The industry-leading TP9100 system is at the forefront of Fibre Channel technology, delivering the critical bandwidth needed to solve the world's toughest data access problems.





SGI TP9100 Storage Array Technical Specifications

Drives	36GB 15K rpm	73GB 15K rpm	146GB 10K rpm
Profile:	1"	1"	1"
Interface:	Dual FC II [2Gb]	Dual FC II [2Gb]	Dual FC I [2Gb]
Seek, avg. read/write [msec]:	3.6/3.9	3.6/3.9	4.7/5.2
Latency [msec]:	2.0	2.0	2.99
Transfer rate [MB/sec]:	49–75	49–75	38–68
Max. capacity per enclosure:	576GB	1168GB	2336GB
Max. capacity per RAID system:	2304GB	4672GB	9344GB
Max. capacity per JBOD string:	3456GB	7008GB	14016GB
Max. capacity per rack:	6912GB	14016GB	28032GB

Standard Availability Features

- Dual-ported drives
- Dual FC back-end loops
- Dual, independent power supplies
- Redundant, speed-adjusting cooling blowers
- Hot-plug drives, controllers, power, cooling
- Audible alarm
- JBOD: redundant host connection
- RAID: single controller
- Battery-protected cache, 72 hrs
- Immediate LUN availability
- IRIX® path failover

Incremental Availability Features

- RAID: redundant controllers
- Write cache mirroring
- SGI® CXFS™ filesystem failover
- Firmware Autoflash

Host, OS, and Utility/Apps

- IRIX® 6.5.17 and later
- SGI Linux™ Environment 7.2 with SGI ProPack™ 2.1 and later
- SGI® Origin® 3000 and SGI® Origin® 300 2Gb FC and 1Gb FC support
- SGI® Onyx® 3000 2Gb FC and 1Gb FC support
- SGI® Altix® 3000 2Gb FC only
- SGI® Origin® 2000 series 2Gb FC and 1Gb FC support
- SGI® Origin® 200 1Gb FC support only
- Silicon Graphics® Octane2™ 2Gb FC (XIO™ only) and 1Gb FC (PCI only)
- Silicon Graphics Fuel™ 2Gb FC support only
- Silicon Graphics® O2® 1Gb FC support only
- SGI CXFS: Yes
- IRIS FailSafe™: Yes
- IRIX® XVM: Yes
- Sun™ Solaris™, Windows®, and others supported via CXFS multithost

Environment

- Acoustics < 6.0 B LwA operating @ 20°C
- Operating temperature [nonoperating] 10°C–40°C [0°C–50°C]
- Operating max. wet bulb [nonoperating] 23°C [27°C]
- Operating relative humidity [nonoperating] 20%–80% noncondensing [8%–80%]
- Operating shock [nonoperating] 5 g 10 ms 1/2 sine [30 g 10 ms 1/2 sine]
- Operating vibration [nonoperating] 0.21 grms 5–500 Hz random [1.04 grms 2–200 Hz random]
- Rack dimensions: Height: 75.2", 1910 mm [38U]
Width: 23.8", 605 mm
Depth: 31.5", 800 mm

Agency Approvals

- Emissions Meets FCC Class A, CSA, UL, CE, CB
- Safety
- Supported racks—2Gb TP9100 and 1Gb TP9100, Origin 3000, Origin 300 tall and short, Altix 3000

TP9100 Configuration

- Host interface
 - 1, 2, or 4 optical interfaces
 - FC II [2Gb] or FC I [1Gb]
 - Direct connect and fabric
- Back end
 - 2 loops [std. RAID], 2 or 4 loops [JBOD]
 - FC II [2Gb] only
- RAID
 - Single controller std.; optional dual controllers
 - 4 enclosures max.; 64 drives max.
 - RAID 0, 1, 3, 5, 0+1
 - 32 RAID groups max.
 - Up to 16 drives [15+1] per RAID group
- JBOD
 - 2 optical FC II interfaces std.
 - Optionally converts to 4 [bandwidth mode]
 - 6 enclosures per string; max. 96 drives per string
- Drives
 - 4 min., 16 max. per enclosure

Enclosure Physical

- Drives
 - 16 drives max. front accessible
- Light pipes for ready/alarm status, front accessible
- RAID controllers
 - 0 [JBOD], 1, or 2, rear accessible
- Power/cooling
 - Integrated unit, 2 standard, rear accessible
- User panel
 - Standard, rear accessible

Environmental

- Enclosure dimensions
 - Height: 5.25", 133 mm [3U]
 - Width: 19.0", 482 mm [IEC rack compliant]
 - Depth: RAID 21.3", 540 mm
JBOD 19.7", 500 mm
- Power
 - 110 V to 260 V AC single phase, autosensing
 - 48 to 62 Hz
 - Draw 450 W max.
- Max. heat output—single enclosure
 - 467 W [1593 BTU/hr]



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