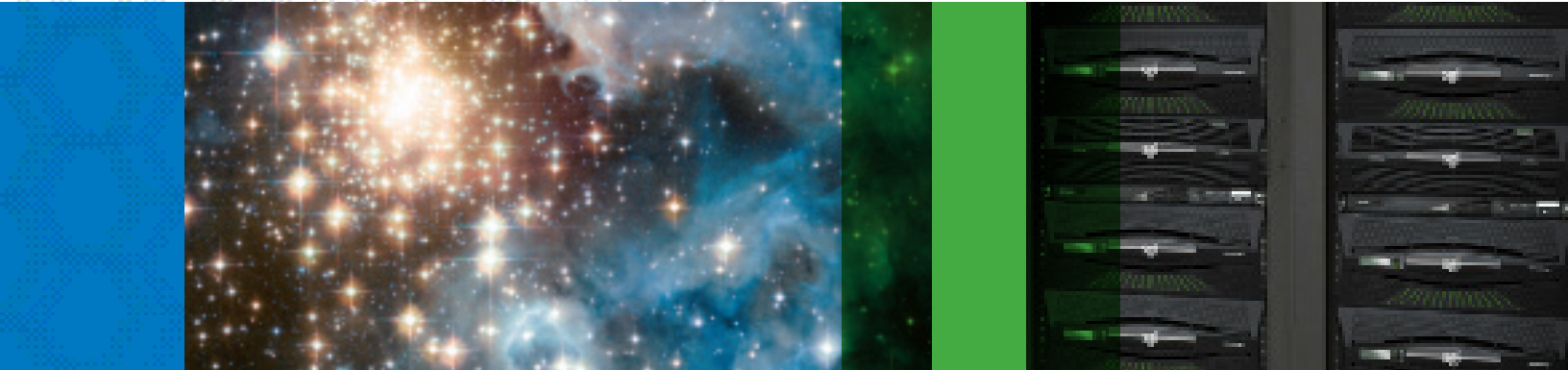# **SGI** InfiniteStorage 17500

Extreme Scale, Performance and Density for Data Intensive Applications

Key Features

Higher performance offering, up to 48GB/s throughput

InfiniBand FDR 56Gb/s host ports

Fibre Channcel 16 Gb/s host ports

Massive IOPs performance

Big Data Requires Big Storage Needs

Fusing unprecedented IOPS and bandwidth performance with highly efficient capacity management, this is the storage foundation for the next generation of data intensive applications sets.

Big Data is here and it's unruly. Capacity and performance requirements are exploding and increasingly more difficult to predict. Data patterns have changed, requiring new, massive multi-threaded storage processing capabilities designed for today's multi-core, multi-application sets.

Innovative, award-winning and proven in the world's largest and most demanding production environments, Storage Fusion Architecture (SFA) utilizes the most advanced processor technology, busses and memory with an optimized RAID engine and sophisticated data management algorithms. The IS17500 platform is designed to derive peak performance out of your compute investments with a massive I/O infrastructure and multi-media disk drives that maximize system performance and lower storage investment costs. IS17500 is purpose-built to simplify and tame Big Data growth, enabling you to architect and scale your environment more intelligently, efficiently and cost effectively than ever before.

IS17500 Storage Highlights

The InfiniteStorage 17500 with Storage Fusion Architecture fuses the best parts of today's advanced processor technology, busses and memory architecture with an optimized RAID engine and data management algorithms. These are tightly integrated to derive peak performance out of a massive IO infrastructure and multi-media disk drives to maximize system performance and lower storage

investment costs. The fusion of unprecedented levels of bandwidth and IOPS enable this system to serve as the storage foundation for any Extreme Storage application set.

InfiniteStorage 17500 Platform Highlights	
Data Management	• Cache Mirroring & Coherence, Cache Battery Protection, SATAssure Data Integrity Protection
RAID Levels	• RAID 1, 5, 6
Drive Support	• SATA, SAS, SSD (mixing within drive enclosures is allowed)
Throughput (block)	• 48GB/s
IOPs (block)	• 1,700,000 (cache), 1,400,000 (disk)

Business Advantages

- **Industry-Leading Performance & Capacity**
  Significantly reduces capital and operational expenses with fewer systems to purchase and manage

- **In-Storage Processing**
  Enables latency-sensitive applications to live right inside of the storage controller, removing the need to purchase and manage external servers, network adapters and switches

- **Reduces Energy Consumption**
  By 50% eliminating unnecessary storage enclosures, switches, fans and power supplies

- **Lower Overall TCO by 50%**
  Reduced floorspace, power and cooling requirements

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Technical Advantages

- **Balanced Storage Performance**
  For both highly transactional and high-bandwidth applications

- **ReACT™ Intelligent Cache Management**
  Optimizes writes in real-time: sequential data goes directly to disk media while small, random I/O utilizes extremely fast cache

- **Read I/O Quality of Service**
  Read I/O doesn't suffer due to a single, unresponsive disk

- **DirectProtect™ Real-Time Error Detection & Correction**
  Increases data resiliency and reliability with little performance impact

- **Unparalleled Back-end SSD Support**
  Fully utilizes SSDs for unprecedented levels of sustained random IOPS

- **Journaled Drive Rebuilds**
  Reduces rebuild times by only requiring new/changed blocks to be written to recoverable drives

InfiniteStorage 17500 Specifications

Controller Couplet	IS17500
RAID Controllers	• Dual, active/active
Memory	• 128 Gb
Host Interfaces	• 16 x 56 Gb/s (FDR) InfiniBand Ports • 32 x 16 Gb/s (FC16) Fibre Channel Ports
Inter Controller Link (ICL)	• InfiniBand FDR 1 240Gb/s

Controller Features	
RAID Levels	• RAID 6 (8+2) or (4+2) • RAID 5 (8+1) or (4+1) • RAID 1 (1+1)
Chunksizes	• 32KB, 64KB, 128KB and 256 KB
Global Hot Spare Drives	• Yes
Power and Cooling	• Dual redundant, n+1
Maximum Number of Drives Supported	• 60bay/4U/3.5" - 1200 drives • 84bay/4U/3.5" - 1680 drives

Dual Controller Enclosure Dimensions	
Height in RackU	• 8U with two BBUs and ATSs
Height	• 14", 35.6 cm (with BBUs)
Width	• 17.25", 43.8 cm (with BBUs)
Depth	• 28.75", 73cm (controller only)
Weight	• 246lbs (111.6kg) including BBU's and ATS

60bay Drive Expansion Enclosure Dimensions 7000	
Height in RackU	• 4U
Height	• 6.97", 177 mm
Width	• 16.56", 420.6 mm
Depth	• 38", 965.2 mm
Weight	• 215 lbs., 97.50 kg (full)
60 Drive Enclosure	• Two 1865W Power Supplies • 190-264 VAC @ 47 – 63 Hz and 400 Hz • 2 IO SAS Modules (Four 6Gb/s SAS 4x ports via Four SFF-8088 connections, per IO module) • Supports 6Gb/s or 3Gb/s, SAS and SATA HDDs or SSDs

Power AC Power	
Power/Cooling/Airflow	• 1200W nominal, 1500W max • 4092 BTU nominal • 120CFM nominal, 200CFM max
Voltage	• 200-240V, 50/60Hz

Environment	
Operating Temperature	• 50°F to 95°F (10°C to 35°C)
Maximum Heat Output	• 5973 BTU/hr Enclosure

Optional Host Software	
CXFS	• Heterogeneous shared file system for storage area networks; eliminates the need for replication of data across a network by allowing multiple users to share one version of content at Fibre Channel or InfiniBand speeds
DMF	• Data Lifecycle Management (Archive) policy automation software virtualizes storage devices and automates the migration and archive of digital content throughout a virtual tiered storage pool based upon business policies

84bay Drive Enclosure Dimensions	
Height in RackU	• 4U
Height	• 6.97", 177 mm
Width	• 19", 482.6 mm
Depth	• 34" (863.6mm) without bezel and cable management assembly • 40" (1016 mm) with bezel and cable management assembly
Weight	• 76 lbs (34.5kg) without disks • 244 lbs (110.9 kg) with disks
84 Drive Enclosure	• Two 1865W Power Supplies • 190-264 VAC @ 47 – 63 Hz and 400 Hz • 2 IO SAS Modules (Four 6Gb/s SAS 4x ports via Four SFF-8088 connections, per IO module) • Supports 6Gb/s or 3Gb/s, SAS and SATA, HDDs or SSDs

IS17500 Controller Enclosure

IS17500 84bay Drive Enclosure

About SGI

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