SGI® InfiniteStorage Data Lifecycle Management Server

Features & Benefits

- Turnkey solution for data lifecycle management policy automation
- Reliable data migration & retention
- Industry-leading data integrity and protection
- Built on robust, proven technology
- Scalability for investment protection
- Greatly reduced storage acquisition and administration costs
- Deployment flexibility with SAN or NAS connectivity to fit current environment
- Seamless integration with a full line of storage solutions

Turnkey Solution for Complete Data Lifecycle Management Policy Automation

The amount of data in a typical computing environment doubles every two years. In a data-intensive environment, data is doubling every 6 to 18 months. Today's most complex problems require and generate mountains of data. Faster processors, less expensive storage hardware, more sophisticated instrumentation, proliferation of output formats, compliance regulations, corporate oversight, and market pressure to produce ever-more-granular results are all combining to create the data explosion. Many environments are finding their traditional tools and processes breaking under the strain - and are experiencing significantly increased total cost of ownership (TCO) of storage acquisition and management. Data Lifecycle Management (DLM) is an approach to managing this data explosion cost-effectively and over time such that data is properly retained based on its value or criticality.

SGI has been providing the core of the world's largest, most complex and most demanding data lifecycle management environments for years. Now with SGI InfiniteStorage Data Lifecycle Management Server, everything needed to automatically manage the changing value of data over time is available in a turnkey solution built specifically for high performance computing workflows. InfiniteStorage Data Lifecycle Management Server (DLM Server) is available as either a Network-Attached Storage (NAS) or a Storage Area Network (SAN) configuration and provides complete data lifecycle management policy automation for the entire computing environment.

Reliable Data Migration & Retention

DLM Server virtualizes storage assets, automatically placing and moving data based on user-specified criteria to deliver the maximum performance balanced by the optimum cost profile. Rather than archiving older or less frequently used data, DLM Server allows you to retain all relevant data live and visible to all users, applications and administrators for it's useful life without paying the premium of keeping it all on the latest, fastest, most expensive storage media. This flexibility allows you to control your storage media investment over time - maximizing the price and performance trade-offs of RAID, JBOD, Serial ATA, tape and other storage devices.

Proven Data Integrity and Protection

Manually managing disk and tape subsystems, making archive decisions and journaling the storage location so that data can be retrieved at a later date are time-consuming tasks. Performing these tasks introduces risk to data integrity in the form of operator error, data format change failures and media integrity problems.

DLM Server transparently solves these storage-management issues by automating data movement among tiers of storage devices, retaining data format, performing multiple data integrity checks and actively verifying storage hardware integrity before committing data to it. Data access can be restricted to prevent out-of-policy alteration, and all alteration that does occur is journaled for complete verifiability.

Industry-Leading Performance

Scalability in all aspects of high-performance computing is critical, and DLM is no exception. One true measure of the strength of a DLM system is scalable performance. Whether performance needs are modest or pushed to new heights, DLM Server is capable of handling the load. SGI data lifecycle management customers commonly move from 150GB to 500GB daily, with some environments routinely moving over 3TB of data every day.

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Near-Infinite Scalability Ensures Investment Protection

The number of files that can be managed, the size of an individual file, and total capacity are all critical measurements in choosing a data lifecycle management solution that will sustainably deliver as your data grows. DLM Server is architected to manage millions of files across single or multiple filesystems. Movement of multiple-gigabyte individual files to and from storage devices is a daily occurrence for SGI data lifecycle management customers, allowing you to effectively manage thousands of terabytes of total storage.

Ease and Reduced Cost of Management

Once DLM Server is installed and configured, policy management typically requires no maintenance, removing almost all of the administration overhead of managing data over time. When space is running low in online storage, DLM Server automatically migrates less critical data to nearline media. By doing this DLM Server ensures that the most critical data in the environment is always on the fastest (and typically most expensive) storage media while less critical data storage requirements are fulfilled by lower cost alternatives. DLM Server migration policies can be customized based on several factors, including total number of files, size of individual files, total amount of data, and performance requirements.

Seamless Integration with a Full Line of Storage Solutions

DLM Server interfaces seamlessly with the complete line of SGI® InfiniteStorage solutions. Pre-configured, easy to size options turn DLM Server into the keystone of a storage strategy with additional high-availability and data protection.

High-Availability - Add application failover to the inherent reliability of DLM Server for complete environmental integrity in the case of system failure. SGI InfiniteStorage high-availability clustering software FailSafe® automatically fails over applications and user connections on failure or manually, to allow for uninterrupted service during routine maintenance.
Backup - SGI is the world record holder for backup performance with the only complete backup solution built specifically for high performance environments.

Supported Hosts

Network-Attached - all systems with support for NFS, CIFS or Samba® SAN-Attached SGI® InfiniteStorage Shared Filesystem CXFS™ - IRIX® on Silicon Graphics® 64 bit systems; 64-bit Linux® on SGI® Altix®; 32-bit Linux® Red Hat® 7.3 and Red Hat® 8.0; Solaris™ 8 and Solaris™ 9; AIX® 5L; Windows® on any standard Intel® Pentium® II (minimum) or compatible PC; MAC OS® X on the G4; other UNIX® hosts in future.

Data Manager	Entry	Midrange	Power
• Maximum capacity (TB : FC RAID/SATA)	98/168	228/392	228/392
• CPU	2	4	8
• System Memory (GB)	2	4	8
• Maximum number of GigE	5	15	15
• Maximum number of 2GB FC ports	8	16	32

RAID Storage Modules	Model 2000/Model 3000
• Number of FC connections per module	2/4
• Maximum bandwidth per module	400 MB/s/800 MB/s
• Cache per Raid controller	256MB/1GB
• Each module is scalable to	112 drives/224 drives
• Primary storage disk drives (FC)	146GB 10K/146GB 10K
• Secondary storage disk drives (SATA)	250GB 7200/250GB 7200

Dimensions

Data Managers

	Entry	Midrange/Power
• Height	3.44 in (8.74 cm)(2U)	6.88 in (17.48 cm)(4U)
• Depth	27 in (68.58 cm)	27 in (68.58 cm)
• Width	17.06 in (43.33 cm)	17.06 in (43.33 cm)
• Weight	44.5 lb (20.23 kg)	89 lb (40.46 kg)

Storage Modules	Fibre Channel/SATA
• Height	5.25 in (13.3 cm)(3U)
• Depth	22.6 in (57.6 cm)
• Width	19.0 in (48.2 cm)
• Weight (w/ 14 drives)	89 lb (40.4 kg)
Rack	
• Height	72 in (182.9 cm)
• Depth	36.0 in (91.4 cm)
• Width	22 in (55.9 cm)
• Weight (empty)	440 lb (215 kg)

Software

Data Lifecycle Management Features

- Supports multi-tiered hierarchy
- Maximum file size: 9 million TB
- Maximum filesystem size: 18 million TB
- Virtualizes the storage pool
- Policy-based decisions for migration activities
- Automated management of migration, retention and utilization policies
- Automated process for creating and managing multiple images of inactive files
- Dynamic capacity and volume expansion
- Performance monitoring
- Nondisruptive upgrades

Storage Area Network Features

- CXFS™ 64-bit journaled filesystem
- XVM Volume Manager: virtualization technology which organizes data structures for high performance and easy management
- Support for SGI® IRIX®, Solaris™, Windows®, Mac OS®, Linux® and other UNIX® nodes
- SGI® InfiniteStorage Resource Manager: advanced storage resource management

Local Area Network Features

- NFS V2/V3 for file serving to UNIX clients
- CIFS for file serving to Windows clients
- TCP
- Network Load Balancing Software option (NLBS)
- Bulk Data Service option (BDS™pro)

High Availability Options

- SGI® FailSafe® high availability software for redundant data manager configurations
- SGI® XVM SnapShot for incremental backup (NAS environments)
- XVM mirroring for high performance data mirroring
- Embedded Support Partner 7x24 proactive system monitoring and automatic rule-based failure notification to SGI support personnel

Recovery and Backup Option

- Merging of incremental backups into a high performance synthetic backup
- Easy and rapid recovery though image restore
- Disk-to-tape or disk-to-disk-to-tape
- Shared library utility software

On-Site Implementation

- On-site implementation services include site planning assistance, hardware installation, configuration of network connectivy and software configuration

Environmental (operating)

- Temperature
  +5 celsius to +35 celsius
  (+41F to +96F) 5,000 MSL (feet)
  +5 celsius to +30 celsius
  (+41F to +86F) 10,000 MSL (feet)
- Noise less than 65 dBa

Electrical and Power

- Dual power input lines, single phase
- Voltage 250VAC (180 min. to 257 max. VAC)
- Frequency 50/60 Hz
- AC distribution 250 VAC, 16A
- US: NEMA L6-30P, 250 VAC, 30A
- International: IEC 309, 230 VAC, 32A

Support and Warranty

- Warranty: one year, on-site hardware repair and parts replacement with next business day response
- 7x24 support coverage option
- Warranty, SGI® FullCare™ and SGI® FullExpress™ contracts include the SGI® industry-leading suite of support tools at no additional cost

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