



Key Benefits

- 500GB to 1TB Array of Solid State Disk
- Reduces total cost of transaction-intensive applications
- PermaRACK™ allows for modular replacement of 100% of all active components without de-racking or tools
- Supports Fibre Channel configurations for servers, clusters and SANs
- RMR - Remote Management Software

Solid Data StorageSPIRE

Solid Data StorageSPIRE is a managed array of SSDs providing up to a terabyte of Fibre Channel-connected, ultra low latency, non-volatile storage. The StorageSPIRE SSD array is a direct replacement for high end rotating RAID arrays or an alternative to in-server-memory systems, and can be direct-connected or used as a shared device when deployed on a SAN.

Used in high transaction rate applications they eliminate the mechanical delays of rotating disk drives, allowing conventional servers to perform 10 or more times the number of transactions per second. Because of their immediate response to read or write commands, they eliminate large server queues; thus, dramatically improving server stability and response times during peak periods. Systems built around StorageSPIRE arrays use less than half the power of conventional disk or in-server-memory architectures.

The system's advanced design provides persistent, non-volatile data retention and easy configuration with standard device drivers. Designed with 4 Gigabit data paths and up to 12 Fibre Channel connections, StorageSPIRE provides path failover or active/active multipathing via Veritas DMP, and supports direct-connect, arbitrated loop and switched fabric mode configurations with 500 Gigabytes to one Terabyte of high-performance data capacity per enclosure.

A powerful remote management system allows reporting and management of the entire array from a single local or Web-connected user interface.

Speed and Persistence

Solid Data StorageSPIRE delivers data at extremely high data rates, with access time less than 10 microseconds. To do this, StorageSPIRE stores the data on custom, error correcting memory arrays that incorporate Solid Data's third-generation Zero Latency Transfer (ZLT) architecture. This executes the data-handling processes in hardware state machines, eliminating microprocessor overhead. The ZLT architecture delivers extremely fast response times for transaction, database and messaging applications. At the same time, the high-bandwidth data paths and multiple Fibre Channel connections support resource sharing at high speeds in server clusters and SANs.

Along with its memory-based access speed, StorageSPIRE provides the persistence of disk storage by incorporating a Patented Data Retention System™. Each of the internal SSDs in the array include dual, fully redundant UPS battery back-up systems and an embedded disk drive for data recovery, as well as intelligent backup control logic which prevents unnecessary backups during brief power outages.



Robust Data Protection

For the protection of business-critical data, Solid Data StorageSPIRE incorporates multiple levels of data protection, including:

- On-board hard disk and automatic backup control logic. In the event of a power failure, batteries provide uninterrupted power to the memory arrays. After a prescribed time period, the system moves all data onto the internal disk for indefinite retention. When power is restored, the data is automatically transferred back to the memory arrays and accessible upon transfer completion.
- Memory arrays with patented on-the-fly error detection and correction.
- PermaRACK construction in which every active component is modularized. In the rare event that services is required, these active components can be swapped in seconds without de-racking any of the internal SSDs. Backup disk drives, fans, power supplies, and batteries are all hot-swappable while on-line and operating.
- Hot-swappable data retention disk drive for quick migration to a standby system. Background diagnostics conducted periodically to verify operational status. The disk drive is also powered down during normal operation for energy savings and reduced operating temperatures.



Powerful Remote Management

Remote Monitoring and Reporting (RMR) allows richer information and connectivity management by network-enabling the Solid Data StorageSPIRE array and proactively reporting system health via Web interface or Simple Network Management Protocol (SNMP).

- Offers monitoring and control for centralized information and resource management
- Provides an intuitive interface for managing each Solid Data SSD within the StorageSPIRE array
- Increases system availability with real-time monitoring of key system functions
- Enhances manageability of individual or distributed StorageSPIRE arrays
- Offers interface plus integration with major network management suites via SNMP alerts
- Improves system serviceability with real-time notifications of potential component errors
- Enables lights-out operation for co-location and Storage Service Providers (SSPs)
- Provides out-of-band security allowing data to remain separate and protected

Easy Installation and Operation

StorageSPIRE provides industry-standard Fibre Channel connections. No special device drives are required. Installation is fast and easy; StorageSPIRE can be implemented as part of a new platform deployment or to increase the transaction performance of an existing system. Migration of high-transaction data sets to StorageSPIRE is straight-forward as there is no need to re-engineer applications or make extensive changes to business processes.

Service and Support

24x7x4hr response onsite service and support is globally available for StorageSPIRE deployments. Please consult with you Solid Data Account Executive for more details.

**For additional information,
visit Solid Data at www.soliddata.com
or email Solid Data at info@soliddata.com**

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<i>Specifications</i>	<i>StorageSPIRE</i>
Capacity (TB)	
Minimum	0.52
Maximum	1.031
Host Interface Options	
Fibre Channel Ports 4Gbit Full Duplex	12
Supported Fibre Channel Configurations	
Switched Fabric (FC-SW)	Yes
Arbitrated Loop (FC-AL)	Yes
Direct Connect	Yes
Performance	
Access Time (microseconds)	Less than 10
Throughput (Gbit/Sec)	96
Seek Time	0
Latency	0
Patented Direct Addressing™	Yes
Data Protection	
Patented Data Retention System™	
On-Board UPS	Yes
Hot-swappable Data Retention Disk	Yes
Automatic Backup Control	Yes
Backup/Restore Rate (GB/Min/TB)	40
Redundant, Hot-Swappable Power Supplies	Yes
Power Input Sources (power cords)	2
Patented Error Detection/Correction (bytes corrected per 512 byte sector)	64
Remote Management	
Password Protection	Yes
Automatic Predictive Health Notification™	Yes
Monitored Parameters	94
Management Alerts (SNMP/Email/Ethernet)	56
Maximum IP Alert Addresses	10
Web Browser and Serial Based Management	Yes
Power Requirements (AC)	
Voltage (VAC, autoranging)	180-264
Frequency (Hz)	50/60
Maximum Power Consumption (Watts/TB)	2000
Input Power	3-Phase
LUN Management	
LUNs Supported	512
LUN Mapping	Yes
LUN Masking	Yes
Physical	
Width (in/cm)	24/60
Height	
Rack Units	42U
Measure (in/cm)	79/200
Max Depth (in/cm)	40/102
Max Weight (lbs/kg)	1300/590
Environmental	
Ambient Temperature (F/C)	32-104/0-40
Relative Humidity (non-condensing)	0-90%
Altitude (feet/meters, above sea level)	
Operating	10,000/3,048
Non-operating	40,000/12,192
Regulatory Compliance	
UL, C-UL, FCC, VDE/TUV, VCCI	Yes