

# S2A9900 Storage System

## Revolutionary Performance and Capacity Optimized Intelligent, Self-Healing Storage

The digital content revolution has changed the game for storage technology. 85% of all data being created today is unstructured data—a different type of data pattern than managed by conventional storage. Traditional system architectures inherently create bottlenecks & scalability problems, preventing the next leap forward.

The S2A9900 from DataDirect Networks (DDN) is a purpose-built storage infrastructure platform composed of the S2A hardware accelerated RAID architecture and advanced software that is specifically optimized for throughput and capacity intensive applications. The S2A9900 enables users to seamlessly adapt to the transition to all-digital content, manage the proliferation of unstructured data and deploy a centralized, scalable computing architecture.

The S2A9900 enables clients to run multiple applications simultaneously in parallel and provides extreme levels of performance and capacity. The system is designed to hold up to 2.4 petabytes of storage in only two floor tiles and deliver sustained, real-time throughput per appliance of up to 6 GB/s for both writes and reads.



### Features

- 6GB/s of Read and Write performance
- No impact drive rebuilds
- Scales to support 1,200 disk drives
- High Density design - up to 600 drives per rack
- Mix SSD, SAS and SATA
- D-MAID for energy efficiency
- Eliminate silent data corruption

### Applicable Markets

#### All Industries

- Rapid Backup/Restore
- Tape Replacement
- Creating Online Archives
- Open-systems CPU, OS and File System Support

#### HPC

- High Speed scalable Storage
- Scales file storage speeds beyond 200GB/s

#### Digital Media

- Broadcast, Post, VOD, DI
- Serve Multiple SD, HD, 2K, 4K Streams Concurrently

#### Web 2.0 & Content Archiving

#### Design Simulation

#### Life Sciences & Sequencing

#### IP Surveillance

#### GIS & Satellite Ingest

#### PACS

#### Tier 3 Storage Pools

## Revolutionary S2A9900 Capabilities:

### Read and Write at the Same Speed

With its ability to read and write at the same speed, the traditional RAID 5 50% write performance penalty has been eliminated

### Real-Time Quality of Service

Parallel processing, distributed cache, and the largest quantity of host-side and backend disk channels remove contention from the S2A

### RAID 6 - Without Compromise

DDN DirectRAID™ engine delivers the virtues of rock-solid double-parity protection of data without any of the typical performance hits

### Power Down and Save

Dynamic MAID allows drives to spin down after a user defined inactivity period to save additional power and cooling - especially beneficial with the S2A capacity allocated for archive use. Unlike other MAID technologies, with D-MAID you get full performance when you most need it, and energy savings when you don't.

### SATAssure™ Plus

SATAssure operates on all read operations, ensuring data integrity and automatically corrects problems in real-time assuring guaranteed data integrity with no performance impact

#### Standard Software Features

LUN Mapping and Masking and/or Port Zoning	PowerLUNs	Intelligent Stream Detection
Real-Time Data Verification	Read-Only LUNs	A/V Slow Drive Avoidance
Background Data Scrubbing	DirectAPI	DirectMirror LUN Caching

#### Optional Software Features

System Management Console with SNMP	Java-Based GUI	Pager and E-Mail Fault Notification
Sleep Mode	Read-Only LUNs	Remote Administration Utility

#### Product Attributes - Active/Active Dual Controllers (Couplet)

Sequential Read and Write Protection Level	Up to 6GB/s
Max Drives	DirectRAID (Parity), 8+2(RAID6)
Cache	1,200
Host connectivity	5GB - RAID protected
Client Support	8x FC-8, 8x IB (DDR)
	Windows, Linux, Solaris, IRIX, AIX, Mac OS

#### Environmental Attributes - Active/Active Dual Controllers (Couplet)

Dimensions	Height - 7.0" (17.8 cm)
	Width 19" (48.3 cm)
	Depth 31" Including Front Bezel (78.8cm)
Average Power	800W/3.84A
Average Cooling	2730 BTU/hr
Voltage Range	85-264 VAC
Weight	90lbs (41.0 Kg)
Certifications	UL, CE, CUL, C-Tick., FCC

#### Environmental Attributes - 4U Enclosure (60 drives)

Drive Types	SSD, SAS and SATA
Dimensions	Height - 7.0" (17.8 cm)
	Width - 17.56" (44.6 cm)
	Depth - 36.2" (92 cm) without bezel: 40.6" (103 cm)
	w/bezel and cable management arms
Average Power	1750W
Average Cooling	5973 BTU/hr
Voltage Range	85-264 VAC
Weight	240lbs (109 Kg) w/drives; 120lbs (54.5 Kg) w/o drives

**“We chose DDN because of its performance, scalability, and data integrity capabilities”**

- NASA Ames Research Center

## The World Leader in HPC

Oak Ridge National Laboratory selected 48 S2A9900s to build the world's fastest and largest POSIX file system.

S2A systems power 8 of the world's top 10 HPC systems.

## The World Leader in Digital Media

S2A9900 is the winner of Frost & Sullivan's 2008 Product Differentiation and Innovation Award for Digital Media Storage

S2A technology powers over 400 digital media facilities worldwide .

**“The fastest disk controller we could find was from DataDirect Networks. It met our needs in terms of price and performance.”**

- Microsoft Studios | Xbox Live

Learn more at [ddn.com/9900](http://ddn.com/9900).

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[ddn.com](http://ddn.com)

1.800.TERABYTE

9351 Deering Ave.  
Chatsworth, CA 91311  
USA