



Analytico, Inc.  
Analysis from all Angles™

**April 14, 2008**

## **DataDirect Networks; No Longer the Best Kept Secret in Storage Performance! Announcement Analysis**

### **Announcement Summary**

On April 14<sup>th</sup> at the National Association of Broadcasters Conference (NAB) in Las Vegas, Nevada, a Chatsworth, California-based Storage Company lost its reputation as the best-kept secret in storage performance. In fact, they lost their best-kept secret status market-wide in the highly competitive storage market.

With the introduction of the new high capacity, high throughput S2A9700 & the entry-level S2A6620, purpose-built storage systems, DataDirect Networks has strengthened not only their product position as leaders in overall data throughput and performance for high performance computing, rich media and Web 2.0 environments, but now enables users to leverage the designed high-speed performance for OLTP, E-Mail, and database environments. General availability for both systems is expected Q3CY2008.

### **DataDirect Company Update**

DataDirect Networks has over a ten year history in delivering storage products that meet demanding storage I/O and overall product throughput requirements in the broadcasting, post-production processing, computer generated imaging, research and development, and image rendering and storing environments. Over the past few years, DataDirect Networks has expanded their product reach and entered into new vertical markets that will take them further into the commercial processing data centers.

DataDirect Networks is a privately held corporation and while quarterly results are not published, it is widely believed that this company has not seen an unprofitable quarter in many years, and continues to fund research and development projects with a healthy percentage of realized revenue.

Vertical markets historically addressed by DataDirect Networks include Internet, Entertainment, Natural Resources, and High Performance Computing. We anticipate further vertical expansion into Digital Media, Finance, Government, and deeper penetration into Internet Services.

Positive management changes within DataDirect Networks include a new Senior Vice President of World Wide Sales, Marketing, and Support along with a new Vice President of Marketing and Communications. Additionally, product management and storage engineering expansion indicate further feature function and product development on the horizon. Greater attention to building a stronger world wide sales focus and getting the message out on product value will result in the removing of the "best kept secret" status and bring this well positioned storage provider a new nickname. With continued strong business execution, Analytico believes a new nickname could be "Extreme Competitor" within a year's time.

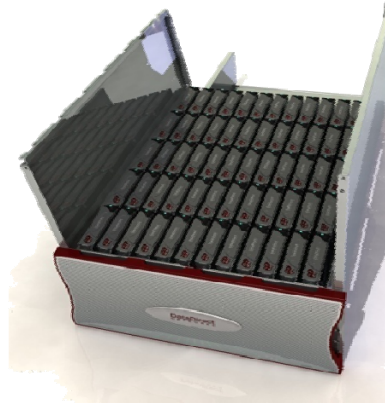


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### Technical Quick Facts



**Figure 1 - S2A6620 StorageScaler Appliance**

- Host Logins - 1
- Dual Active RAID Storage Managers
- I/O Performance – up to 30,000 IOPS to disk
- 2GB/s Throughput
- Supported RAID levels – RAID 5 and RAID 6
- Capacity: 120TB (1TB SATA disk drives)
  - 54TB (450GB SAS disk drives)
- Max LUNs 128
- Max Capacity per LUN – 256TB
- Cache 3GB
- Max disk per main unit – 60 (4U height)
- Max disk per expansion unit – 60 (4U height)
- Disk drives supported: 500/750/1TB SATAN  
146/300/400/450GB SAS

Figure 1 above illustrates the S2A6620 main unit with its top access door open, displaying the disk drive layout in rows. Up to 60 drives can be installed with the enclosure as well as another 60 drives connected via an expansion unit. A two unit, main and expansion, yields a raw capacity of 120TB's.



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**Figure 2 – S2A9700 StorageScaler System**

- Sustained Sequential Read & Write Performance – up to 3GB/sec
- Supported RAID levels – DirectRAID (Parity) 8+2 (RAID 6)
- Host Logins: FC=4096, Infiniband=512
- Max LUNs 64,000
- Max Capacity per LUN
  - 32 bit LBA Support
    - 2TB (512 byte block) to 16TB (4096 byte block)
  - 64 bit LBA Support
    - 128TB (512 byte block) to 128TB (4096 byte block)
- Cache 5GB RAID protected



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- Max disk drives 1200, Min disk drive 10, 8+2 RAID 6 configuration
- Max number of 60 drive disk trays supported – 70
- Min number of disk chassis supported - 5
- Hot Spare Drives Max is configurable
- Disk Side SAS ports - 20
- 8 FC, or IB Host Ports
- Redundant, hot pluggable cooling fans (2) and power supplies (8)

Figure 2 above, illustrates the racked configuration of the S2A9700 with control units and 10 storage units. Table 1, below provides a break out of capacity and disk drive support for the S2A9700 StorageScaler:

S2A9700 StorageScaler	SAS Drives 60 Bay Chassis	SATA Drives 60 Bay Chassis
Max Raw Capacity (includes Parity and Spares)	540TB (450GB Drives)	1.2PB (1TB Drives)
Supported Disk Drives	300/400/450GB Drives	500/750/1TB Drives

The S2A9700 supports Infiniband on Linux operating systems with connectivity via Cisco and Mellanox. Additionally, Fibre Channel Fabric connectivity is provided via Brocade (McData), Cisco, and QLogic. More on various operating systems and fabric connectivity can be found on the vendor's website.

The S2A9700 supports two innovations that will be both beneficial in power savings and data assurance. First, "SleepMode" enables drive to spin down after a user-defined period of inactivity. The benefit of SleepMode is over all lower power consumption via no current used to spin the drive(s) and lower overall BTU's required for cooling – a further cost savings.

Second, DataDirect Networks has developed "SATAssure Plus" subsystem software technology that delivers data protection and reliability. This software is operates at the subsystem level, in real time, and verifies each read operation and corrects errors without performance penalties – helping to assure a higher lever of reliability of the SATA drive.

Additionally, the S2A9700's vertical disk packaging and unique, patented design of its disk array enclosures enable DataDirect Networks to package 60 disks in a single enclosure and to intermix SAS and SATA disks within the same enclosure; capabilities not available from any other vendor at this time. Moreover, the company's dense packaging delivers up to 74TB per square foot, which is 2-4 times denser than competing systems.



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### **Competitive Landscape**

There are a few storage companies that address high I/O and storage subsystem bandwidth requirements; however, we cannot cover them all in this analysis, nor do all provide a broad spectrum of products such as DataDirect Networks.

We will look at three competitors herein that DataDirect Networks meets in the competitive landscape today and that they will meet more often as they expand into new market spaces.

EMC, a publicly traded company (NYSE: EMC E M C CP) provides the CX300 series for higher performance requirements (sustained higher bandwidth than other CX products). EMC's market presence in many vertical markets has assisted them with selling CX300 units where other EMC products are already installed. The CX300 architecture is aging and high performance requirement users have expressed some concern over what the next generation of product will be that will address their needs.

Isilon, a publicly traded company (NASDAQ: ISLN) has provided challenging hardware competition in the high performance space and has pioneered their product into expanding vertical market segments; however market acceptance may continue to be a struggle for Isilon, and quarter over quarter revenue struggles have been widely reported in the market as well as their stock price decline. However, Isilon may well continue to be a competitive challenge to DataDirect Networks.

Network Appliance Corporation (NASDAQ: NTAP) has provided configured filer server solutions for what they characterize as "other" solutions for the high performance broadcasting market space. Based on their overall file server market presence in many vertical markets, Analytico believes NetApp has benefited by broadening their reach and tuning the basic file server to meet specific criteria.

While some of the above competitors may offer products, services, or other feature functions that are attractive, Analytico believes the sheer performance characteristics of the DataDirect Networks will be a strong attractant for fast market acceptance of the newly announced models.

### **Analysis Summary**

With the April 14<sup>th</sup> announcement of the S2A6620, DataDirect Networks now provides high performance oriented storage for the small-to-medium-sized business that may be I/O constrained, or who may have the need for an application-specific high performance server, network, and storage infrastructure. From the enterprise perspective, DataDirect Network's S2A9700 provides the performance, scalability and reliability for performance-intensive environments, while enabling clients to deploy real-time storage and nearline storage within a single platform.



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Analytico believes the challenges DataDirect Networks will face as they expand into the small-to-medium sized business - and broader enterprise market verticals – will be in brand name recognition and educating prospects on the differences in their design that yield such high performance. Changes in management at DataDirect Networks, focus on broader market messaging, along with continued positive execution on feature function development will continue to move DataDirect Networks up the competitive ladder and open more doors of opportunity.

Analytico advises all users to seek references from vendors and assure proper fit of all information technology products with vendor systems engineering personnel. For those clients looking for high throughput storage platforms with extreme levels of storage density, Analytico recommends that DataDirect be placed on the short list of vendors to consider

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