



## **Snap Appliance Extends Snap Server Family — Enhances NAS Performance and Functionality**

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### **Management Summary**

In the world of professional sports, complacency is the first sign of failure. If a team is content with who it is, and does not try to improve itself, that team is doomed to failure. Moreover, it seems that it is always the team on top, the winning team, which makes the greatest strides to continue to improve. They have to if they want to beat back the challenges of those who try to knock them off the top of the mountain. In sports, this means to get younger, get more athletic, to find the one player to fill the gap when injury occurs. This also describes the team that responds best to change: a change in the rules, a change in the weather, a change in personnel. The team that can adapt to the changes in the environment is the team that will continue to achieve success, in both the standings as well as the stands. After all success needs to be measured, in revenue as well as on the playing field, what good is it to win if nobody cares enough to pay to watch?

The same strategy also applies in the Information Technology (IT) game. It is not enough to have a good product or a good idea. Yes, the good, or great, product will catch the attention of the consumer, i.e., enterprise or SMB, but it requires an entire family of deliverables to win the minds and hearts of customers over the long run. Developers and manufacturers of IT products must continue to improve, to make better servers, better storage, better communications products, or risk losing their customers to the new team on the block.

This is especially true in the field of network attached storage, or NAS, where there are a few leaders who take their position seriously. One such leader is Snap Appliance, recently acquired by Adaptec, a leader themselves in communications and storage products. Snap Appliance has delivered to the IT community a series of leading edge NAS products. Their most recent family being the Snap Server line with the *Snap Server 4500*, followed by the *Snap Server 14000* and the *Snap Server 15000*, with each NAS server providing improved functionality, as well as performance and scalability. With over 150,000 storage servers installed, Snap Appliance is clearly on top of their game, and, obviously, wishes to stay there. To do that, they have now announced a new high-end model for their NAS line, the *Snap Server 18000*. The Snap Server 18000 redefines enterprise storage. To find out how the Snap Server 18000 can help your enterprise, please read on.

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## Storage Market Requirements

Because of the unscrupulous actions of a few high-level executives in enterprises across the U.S., more companies, both large and small, are paying attention to the establishment of best business practices. In fact, the federal government has implemented new regulations to monitor corporate activities in public enterprises. This has placed an increasing demand on storage and a corresponding increase in corporate expenditures for storage. In order to be able to track financial transactions and recover executive communications, these enterprises have been required to maintain significantly more thorough records of their business dealings than ever before. This has been mandated, in part, by legislation such as the Sarbanes-Oxley Act requiring the preservation of everything from financial documentation to email. This, in turn, has led to resurgence in the demand for storage products, especially in the mid-market space where multi-terabyte storage solutions now are required. The demand here is for systems, costing under \$50K, that enable the CIO to satisfy all of the enterprise's requirements. This includes the best practice requirements of the majority of SMBs who cannot afford high-end enterprise storage solutions. It also includes those looking to consolidate their storage resources, and those who would like to implement a solution to encompass their file and block access server needs.

Because these demands are not usually in a high-performance computing arena, time constraints are not as stringent. Access to an increased volume of information becomes the gating factor, along with the management and protection of that data, but not necessarily high-speed access. Value becomes the watchword, with the focus on lower cost technologies such as Internet SCSI (iSCSI) and Serial ATA (SATA) disk drives rather than Fibre Channel SANs, and high-performance RAID Arrays. After all, the requirement to watch the foxes that might be raiding the hen house does not relieve the CIO of the responsibility to control costs to meet a limited budget and falling headcount. See Exhibit 1 for a list of storage requirements.

There are a few vendors with products to handle these requirement, most of them are

### Exhibit 1 –

#### Storage Server Requirements

- **Scalability** – From 2 TB to 30 TB;
- **Cross-Platform Access** – Available to heterogeneous servers, including Windows, UNIX and Linux;
- **Unified storage architecture** – To encompass both File and Block needs;
- **Reliability** – To ensure access to both current and archived data through redundancy;
- **Data Protection** – To ensure the viability of the data.

well known and have sales representatives calling. There is one company, however, that you may not be familiar with, Snap Appliance.

### Who is Snap Appliance?

Founded in 1997, Snap Appliance has been a leading provider of network storage solutions for the distributed enterprise around the world. With more NAS units installed than any other vendor, Snap Appliance has been the volume leader in annual NAS shipments for the past four years. They own about 45% of the NAS market.<sup>1</sup> Innovation has always been a keynote for Snap Appliance, with more than 60 industry awards for their technology.

Successful companies are always targets for acquisition. Snap Appliance was no exception. They became a division of Adaptec on July 23<sup>rd</sup> in a transaction that was valued at approximately \$100M. Because of Snap Appliance's unique position in the NAS market, Adaptec decided to create a separate division for them, enabling Snap Appliance to continue to keep their own identity.

This acquisition provides a synergistic effect upon Adaptec, complementing their existing product set with a stable brand, reinforcing their own brand, creating a result that is greater than its individual components. Adaptec comes out of the acquisition a stronger company, providing unique storage solutions for departments throughout the enterprise or SMB community.

<sup>1</sup> According to Snap Appliance.

Among the products that made Snap Appliance successful is a family of NAS servers with varying degrees of scalability and functionality, all sized for the SMB or the departmental requirement of major enterprises. This family consisted of a series of *Snap Servers* and *Snap Disk Arrays*, enabling the CIO to size the right solution for any problem environment. These include file sharing of large, frequently accessed files, nearline storage of archived files for faster access, and as the on-line target for backups to improve performance in a D2D2T<sup>2</sup> environment. These arrays may be used as primary storage in a distributed environment where the performance is not critical and the savings from purchasing a low-cost solution are great. They may also be used as secondary storage in a multi-tiered environment where an EMC, HP, or IBM box is the primary storage vehicle.

The *Snap Server 4500* is configurable as a 1U consolidation platform, capable of supporting 1TB of data, or up to 3TB with the addition of two Snap Disk 10 expansion modules. The *Snap Server 14000* adds 3TB of capacity in an integrated 3U format. The *Snap Server 15000* provides even greater flexibility, with a 1U controller supporting 1TB and up to seven expansion modules, the Snap Disk 30, with 4TB in each, for a total capacity of 29TB. A new member, the *Snap Server 18000*, has now joined the family with more scalability and even more functionality.

### The Snap Server 18000 Product Set

The Snap Server 18000 is actually a set of products, the hardware platform itself, the *GuardianOS* operating environment, and applications such as *Server-to-Server Synchronization*. Let us look at each component and determine how it can help to alleviate the storage morass in your environment.

#### *Snap Server 18000*

The Snap Server 18000 is the fastest Snap Server ever. Suitable for use in either a primary or secondary storage role, the 18000 contains a pair of *Xeon* processors with SMP

capabilities. It also comes with critical high-availability functionality, including redundant and hot-swappable components, 2GB of system memory, and 512MB of battery-backed non-volatile memory (NVRAM). With a base configuration of 2TB over eight hot swappable, SATA drives, the 18000 array occupies a 2U space in a rack-mounted configuration. Combined with seven Snap Disk 30 drawers (4TB at 3U each), the Snap Server 18000 can support 30TB of data in a 23U-rack space. All of this scalability can be initiated on the fly with the *Instant Capacity Expansion (ICE)* feature, which allows the data center to provision the array for today's requirements without having to invest in additional storage until it is required. With disk prices falling every day, additional profit falls through to the bottom line when the data center can defer additional purchases until they are required in a true on-demand environment.

With a unified block and file storage architecture, the Snap Server 18000 controller provides the IT staff with centralized storage management in an IP-enabled DAS or SAN environment. It supports iSCSI initiators for Windows, Solaris, and Linux attachment and provides cost-effective capacity expansion in a consolidation environment. The 18000 also provides comprehensive data protection and advanced data availability along with high-powered performance, measuring at over 110MB/s of sustained throughput and over 67,000 IOPS<sup>3</sup>. This is Fibre Channel performance at a fraction of the price.

#### *GuardianOS*

As the IT staff attaches more heterogeneous, distributed servers to a common, consolidated storage pool, the responsibilities and intricacies of data management become more difficult. Multiple data types need to be managed. GuardianOS provides that seamless, cross-platform environment for file sharing and block-level access on a single device to simplify the storage infrastructure. That is not the only benefit of GuardianOS. For the top ten benefits, see Exhibit 2.

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<sup>2</sup> Disk to Disk to Tape, enabling high speed backup and recovery while staging files to be backed up to tape. See **The Clipper Group Navigator** dated May 12, 2004, entitled *Breece Hill Delivers ILM for the SMB* at <http://www.clipper.com/research/TCG2004043.pdf>.

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<sup>3</sup> Snap Appliance Performance Labs results using Iometer, an industry-standard I/O subsystem measurement and characterization tool originally developed by Intel Corporation.

### Exhibit 2 – Top Ten Benefits of GuardianOS

1. **Simplicity** – Snap Server is a dedicated storage appliance, connected directly to the network, with GuardianOS integrated at the factory for an easy to use, turnkey solution.
2. **Reliability** – GuardianOS provides a robust, journaling file system with integrated RAID data protection.
3. **Security** – Integrates a variety of system and data security features including Antivirus software, Kerberos authentication, Lightweight Directory Access Protocol, file and folder access control lists, and others.
4. **Manageability** – Includes Snap Server Manager – a platform-independent admin tool to provide a single screen to discover, configure, and monitor all Snap Servers in the network.
5. **Ease of Integration** – Microsoft Active Directory Service and UNIX Network Information Service leverage centralized databases to authenticate any network users.
6. **Heterogeneous** – Support for Windows, UNIX, Linux, and Macintosh eliminate the need for partitioning.
7. **Performance** – Published reports verified that GuardianOS powered servers outperform Windows-based NAS platforms.
8. **Unified Storage Architecture** – Leverage iSCSI to deliver block and file data over existing Ethernet infrastructures.
9. **Scalability and Provisioning** – I.C.E. logically groups RAID arrays to dynamically grow and provision volumes.
10. **Data Protection** – Embedded BakBone NetVault software, agent support for Veritas, CA, and Legato, plus optional synchronization support provide the ultimate backup flexibility.

### Server-to Server Synchronization v2

The second release of Snap Appliance's Server-to-Server (S2S) synchronization is ideal for synchronizing data within the distributed enterprise and adds significant new functionality to the remote replication capability, including:

- The ability to replicate only changed bytes to minimize network traffic;
- Bi-directional Asynchronous capability for simultaneous source and destination capabilities;
- Browser-based management console;
- Data compression to improve WAN performance;
- Encryption to secure the transmission over the network;
- Excludes non-critical data such as MP3 and temporary files; and
- Replicates snapshots to enhance data availability further.

### Conclusion

Snap Appliance has obviously enjoyed their position on top of the NAS Appliance provider list. Moreover, the Snap Server 18000, along with the GuardianOS and synchronization software, has been carefully positioned to deliver the improvements in performance, scalability, and availability that distance it from the field. This means not only from its predecessors in the Snap Server line, but also its competitors in their price range. The functionality added to GuardianOS to manage and secure the data position this system to provide both enterprises and SMBs with the performance they require. You cannot ask for more.



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