



Capturing the Distributed Enterprise Environment — NetApp Introduces the FAS250

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Management Summary

If you mention “America” to a person from another country, he or she might envision New York City or Los Angeles – massive, urban, sophisticated, and well-known symbols of the nation. But people from the South, Midwest or Northwest know there is much more to America than Times Square or Santa Monica Boulevard. What about the Rocky Mountains, Oregon Coast, or lively, eclectic streets of New Orleans? **That’s America too, and the sum total of it is much greater than any one city.**

Similarly, if you mention the phrase “enterprise” in the context of information technology, people often think of the *data center* – the large, sophisticated locus of computing that drives the business. But what about the workgroups, departments, field offices, stores, plants, and other places where computing resources are needed, apart from the corporate data center? **The sum total of the distributed enterprise is significant, and it plays an essential role in the IT infrastructure.**

NetApp recently enhanced its offering for the distributed enterprise environment with its new entry-level unified storage appliance – the *FAS250* – which supports both block and file storage access in a single solution over an IP network. It uses the up-and-coming iSCSI protocol for block access and CIFS, NFS, and HTTP for file access. The FAS250 supports the same management tools and advanced copying and data movement features as the mid-range and high-end NetApp FAS (fabric-attached storage) products. This includes the *SnapVault* and *SnapMirror* features that send or mirror data back to the corporate data center for disaster recovery or other information processing purposes. Quick data-in-place upgrades to the other FAS products allow customers to grow into larger solutions if needs dictate.

The FAS250 is tuned to meet the particular requirements of the distributed enterprise. This includes completeness (SAN and NAS), low pricing, and ease of use, so general or part-time administrators could handle them. Even better, it can be managed remotely with the same tools and skill set as are the same as being used in the data center, reducing operating and management expenses.

In light of its competition, which is primarily the slew of *Windows*-powered NAS solutions on the market, **the FAS250 offers a unique, robust, and full storage solution suited for large, distributed enterprises with remote office and branch office storage requirements.** Not to be forgotten are smaller businesses that have similar requirements as the distributed enterprise for their primary storage needs. Read on for details about this new member of NetApp’s family of unified storage.

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The FAS250 – An Entry into Unified Storage

NetApp first made its foray into unified storage with the high-end *FAS900*, delivering the capability to serve files over IP networks as well as block-level access to data over Fibre Channel (FC) networks.¹ Now, **NetApp has expanded its reach into large enterprises with distributed environments that want to centrally manage remote storage and replicate branch office data with its entry-level *FAS250*.**

NetApp's FAS250 provides a low-cost method of networked storage that supports both file-level NAS access and block-level iSCSI² via the same Gigabit Ethernet interface. (See specifications on the right.)

The system is based on an integrated hardware design that combines a filer head and storage enclosure into a single, 3U-high unit supporting up to 1 TB of storage. Pricing starts below \$10,000, which is the lowest entry price NetApp has yet offered. Pricing is based on the drives/capacity and software features included in the unit.

Full Software Compatibility

The FAS250 runs the *Data ONTAP* optimized microkernel operating system that seamlessly integrates into UNIX, Windows, and Web environments by making use of open standards. The *Write Anywhere File Layout (WAFL)* file system provides enhanced performance and dynamic expansion with hot-pluggable drives. The combination of these building blocks constitute NetApp's time-tested technology foundation for delivering flexibility and fast client response times and throughput in its storage solutions.

A nice feature of this system is that while positioned as an entry-level appliance, it can take advantage of the breadth of NetApp software, setting it apart from other entry-level NAS solutions. (See list on the following

NetApp FAS250 Specifications At A Glance

Operating System:	Data ONTAP
File System:	WAFL
SAN Protocol:	iSCSI
NAS Protocols:	NFS, CIFS, HTTP
I/O:	2 GbE (10/100/1000), 1 FC tape port (all copper)
Drive Support:	36/72/144 GB (FC)
Max Capacity:	In-box to 1TB
Max # Drives:	14
Form Factor:	3U rack or tower

page.) In fact, Windows-based NAS solutions are currently not as scalable, and the copy utility is less robust. Furthermore, **the FAS250 can be upgraded to any of NetApp's higher-end platforms, which provides a means of investment protection. The reliability, breadth of protocol support, software capabilities of the FAS250 system allow it to cost-effectively meet a range of entry-level requirements.**

Where It Fits

The bottom line in IT is how to do more with less, which translates into meeting budget constraints, controlling the explosion of data, and improving quality of service (QoS) without incurring additional cost.³ For example, a hurdle to be cleared is operational overhead costs incurred in managing remote sites and workgroups, which often have limited IT support.

Since they can have both block and file storage requirements, the installation of an entry-priced, unified storage solution at these locations can help address this prickly problem. It simplifies administration onsite and/or remotely from the corporate data center, and it can copy or mirror data over distances to a centralized data center support - for backup and recovery or other purposes like data mining - through NetApp's *SnapVault*

¹ See **The Clipper Group Navigator** entitled *NetApp Unifies SAN and NAS - Simpler is Better*, dated October 22, 2002, at <http://www.clipper.com/research/TCG2002041.pdf>.

² See **The Clipper Group Navigator** entitled *Network Appliance Extends Unified Storage with iSCSI*, dated February 19, 2003, at <http://www.clipper.com/research/TCG200306.pdf>.

³ See **The Clipper Group Explorer** entitled *Networked Storage - A Buyer's Guide to Pain Relief*, dated April 25, 2003, at <http://www.clipper.com/research/TCG200317.pdf>.

NetApp's Unified Software Suite

Consolidation

- Multistore*..... • Allows many “virtual filers” on one physical filer
- Virtual File Manager (VFM)* • Enables and manages global name space

Backup & Recovery

- Snapshot/SnapRestore* • Provides point-in-time version of the file system
- Quickly recovers a file system from Snapshots

Management/Administration

- DataFabric Manager* • Monitors and manages entire filer infrastructure throughout the network
- Accessible anywhere through the Web

Data Protection

- SnapMirror* • Provides disaster recovery and data distribution
- SnapManager*..... • Comprehensive data management solution for data hosting of Microsoft Exchange & Lotus Domino
- SnapVault* • Centralized disk backup for heterogeneous environments

and *SnapMirror* software features. Therefore, large enterprises with distributed operations could benefit, as can small- and medium-sized enterprises with smaller, less-sophisticated data centers.

Furthermore, an enterprise might want to connect servers to a SAN but cannot afford the price and technical commitment of Fibre Channel. **The FAS250 offers an answer on an entry scale⁴ with its iSCSI support for a simple, low-cost, IP-based SAN, which can take advantage of existing IP network infrastructure.** A FAS250 appliance becomes a target device over a TCP/IP network, which allows network administrators to take servers out of less-efficient direct-attached storage configurations.

Finally, enterprises are faced with the dilemma of how to control costs and still manage the storage of enormous amounts of data growth. An enterprise can leverage a FAS250 investment through flexible upgrade options, requiring no data migration, and taking place in less than 30 minutes.

Distribution Channels

The FAS250 is available through NetApp's current channels that include its direct sales force, systems integrators like Accenture and distribution partners that include Fujitsu, Siemens AG, Datalink Corp., and Forsythe Solutions Group, Inc. In an effort to expand its reach and continue to grow its business, NetApp has signed distribution agreements with Arrow Electronics and Avnet Hall-Mark.

Conclusion

NetApp continues to deliver innovative storage solutions to market. Its earlier introduction of the FAS900 was an innovation aimed at the data center, and now the FAS250 extends it into distributed environments. If you need a unified storage solution in one or both environments, be sure to look at NetApp's full line of FAS solutions.



⁴ iSCSI support is also available on high-end NetApp FAS storage solutions, for larger-scale requirements.

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