



Brocade 2007 — More than Fibre Channel SANs

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Management Summary

Nutrition advisors like to say that we are what we eat. Milk builds strong bones. Broccoli and whole grains become strength and vitality. And so forth. In the business world, a similar notion applies. When one corporation acquires another, the combined entity takes on some of the characteristics of the acquired. Product lines and market focus expand accordingly. New people join the organization and bring different expertise and practices. A corporation may even alter its direction and strategy as a result of an acquisition. If we are what we eat, then corporations are what they buy.

Five years ago, Brocade was a Fibre Channel SAN (storage area network) equipment vendor. It still is today, though it has grown beyond, largely due to and facilitated by several strategic acquisitions in the intervening years. The most recent and well-known acquisition is its SAN rival McDATA. Brocade has also acquired Silverback Systems, NuView, Therion Software, and Rhapsody Networks.

So, who is Brocade today, and what does it offer enterprise data centers? Read on for details.

Brocade's Areas of Focus

Brocade's stated areas of market focus are the best indicators of the type of IT vendor it is. Its acquisitions also affect each of these areas.

Fibre Channel SANs

Brocade has always been a leading Fibre Channel SAN equipment vendor, so it is no surprise that it will continue to emphasize this market. Even with the entrée of alternatives like iSCSI for IP storage, Fibre Channel continues to be the de facto standard for SAN fabrics because of the performance, robustness, manageability, and momentum from its large installed base. With the acquisition of its rival McDATA in January 2006, Brocade is now undisputedly the largest SAN equipment vendor. It has approximately 85% market share in Fibre Channel switches and 60% in directors.

McDATA brought in many SAN customers as well as a full slate of products and technologies. To reassure customers, partners, and investors, Brocade, in a document entitled *Brocade Product Plan and Portfolio: January 29, 2007*, clearly spelled out its plans to merge the two product lines. It will offer both Brocade and McDATA's directors, eventually merging them into a single, "best-of" platform in the 2008 timeframe. Switches (both stand-alone and blade) will be based on Brocade's

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architecture but will be fully interoperable with McDATA switches in the field. After integrating the special functionality from *Fabric Manager*, Brocade's SAN management software will be *Enterprise Fabric Connectivity Manager* from McDATA. Through Brocade Professional Services, it will continue to offer products that McDATA had previously rebranded: *Adva FSP 2000 DWDM Multiplexer*, *FalconStor Replicator*, and *FalconStor Virtual Tape Library*.

Going back further to January 2003, Brocade acquired Rhapsody Networks for its enabling technology for fabric-based applications. This allows data management services to run in the SAN for maximum scope and scale, applying to any servers and storage systems connected to it. Today, Brocade offers the *AP7420*, a network-resident application platform that currently supports Brocade *Multiprotocol Router*, Brocade *Data Migration Manager*, EMC *Invista*, and Fujitsu *ETERNUS*.

Brocade's acquisition of Therion Software in 2005 gave it technology for server and data management in SAN environments, which it is using to develop solutions in this area.

SAN Extension and Routing

There are times when a Fibre Channel SAN needs to connect to another SAN over distance or to an IP network to allow servers to access storage using iSCSI or to a FICON network for mainframe access. A SAN routing or extension solution is the answer, and Brocade offers several of them. The McDATA acquisition brought a strong solution for mainframe and SAN extension called the *USD-X Storage Director*. It routes FICON, ESCON, bus-and-tag, and Fibre Channel over IP, ATM, DS3, or POS connections for unlimited distances. It can be used for replication, tape vaulting, and other purposes.

10 Gigabit Ethernet

Brocade's acquisition of Silverback Systems in January 2007 gave it technology and engineering expertise in high-performance IP connectivity, including the fast-growing category of 10 Gigabit Ethernet. Brocade plans to announce a roadmap of related products

later in 2007.

Meanwhile, existing products from Silverback Systems include the *iSNAP 2110 iSCSI Initiator Host Bus Adaptor* (HBA) and the *iSNAP 2110 Processor* on which it is based. The HBA offloads network processing from a server without modifying applications. Under heavy loads, this increases throughput by three to four times. This solution is for network-intensive applications, such as media streaming and voice over IP.

File Area Network

File data comprises by far the largest portion of enterprise data, and it is growing quickly. Enterprises are challenged to store and manage all of it. Many in the industry have rallied around the concept of the *File Area Network* or *FAN*. It describes a work for unifying file storage across an enterprise, so that clients see a single "global namespace" and administrators have central control and apply a single set of services and policies. A FAN distinguishes between the physical file storage devices (e.g., NAS systems and file servers) and the layers above, which include virtualization, file management, and control services. Like a SAN, a FAN is an open, vendor-neutral concept that preserves heterogeneity and customer choice. It is intended to simplify and lower the cost of deploying a scalable file storage environment.

By acquiring NuView in 2006 and opting to resell a Wide Area File Services (WAFS) product from Packeteer, Brocade has jumped headlong into FAN solutions. It focuses on the file management and control services and global namespace, not on physical storage devices. The products from NuView include the following.

- *StorageX* – Integrated software suite that includes a global namespace for aggregating heterogeneous *Windows* and *UNIX* file servers, policy-based automation, data migration, differential replication, reporting, and automatic failover for disaster recovery.
- *File Lifecycle Manager* – A specific solution for automated file migration and infor-

mation lifecycle management (ILM) in a tiered-storage environment.

- *MyView* – A management tool that addresses the security aspect of distributed Windows file storage. It provides a centralized view of user access and authorization rights.
- *UNCUpdate* – A tool for revising UNC references in existing documents, which is useful when switching to a global namespace.

Additionally, the Brocade WAFS consolidates file storage in branch offices to a central data center, while preserving fast file access in the branches over WAN links by using caching and acceleration techniques. This allows enterprises to streamline and simplify data protection and management, saving costs and ensuring a higher level of protection.

Data Mobility

Data mobility is the practice of moving data, whether for equipment upgrades, performance load balancing, or ILM strategies. All enterprises have occasions to move data, though it remains a challenge to do quickly, easily, and without disrupting user access, especially in heterogeneous environments.

Brocade DMM, which runs on the AP7420 application platform from the Rhapsody acquisition (see above), migrates block data in heterogeneous environments over a SAN. It does this either online (maintaining user access) or offline (for faster migrations) and is effectively independent of server operating system and storage arrays.

At the file level, the StorageX product – originating from NuView – offers heterogeneous byte-level file differential replication for data mobility and protection.

Professional Services

Brocade offers a menu of professional services that are designed to help enterprises plan, implement, and manage IT solutions. Its technical areas of focus now extend well beyond the data center SANs, in part due to expertise brought in from the McDATA and NuView acquisitions.

- *SAN data management services* – Building and managing a SAN
- *SAN data migration services* – Moving block data in SAN environments
- *Remote SAN connectivity services* – Establishing FCIP links to branch offices
- *Data access and business continuity services* – Includes backup and restore in SAN and FAN environments
- *SAN security audit services* – Enhancing data security in a SAN
- *Mainframe services* – Storage performance assessment, SAN ROI analysis, SAN implementation and management
- *File data infrastructure management services* – Building and managing a FAN
- *File data migration services* – Moving file data
- *File remote connectivity and optimization services* – Deploying a WAFS solution

Conclusion

To answer the original question, Brocade is now more broadly focused on helping enterprises connect, share, and manage their information. Its acquisitions and evolution over the last five years have made it significantly more than a vendor of Fibre Channel switches.

Therefore, consider Brocade if your enterprise needs any or all of the following.

- To deploy any type of Fibre Channel SAN,
- To connect a SAN over distance or to an IP network,
- To migrate data,
- To manage and control file storage,
- To consolidate remote office file data,
- To deploy 10 Gigabit Ethernet for the data center (eventually), and
- Help with planning and implementing any of the above.



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