

## Fujitsu: Coming to America

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**Abstract:** For years Fujitsu has been a well-recognized brand within the world of Information Technology. Fujitsu is looking to continue that same level of global recognition with the release of its latest line of ETERNUS storage subsystems and the introductions of the arrays into the North American market.

### The Company

Don't let the title of this brief mislead you - Fujitsu Computer Systems Corporation (FCS) has been selling computer equipment in the North American market for years. From mission critical data center servers to PCs and laptops, Fujitsu has offered a well-rounded service to their customers with one glaring exception - external storage subsystems. Fujitsu Limited, which is based in Japan, is the developer and manufacturer of all Fujitsu-branded computer equipment, including the ETERNUS storage systems. In fact, Fujitsu Limited is one of the leading storage vendors in Japan. Fujitsu Limited is now looking to increase the market share and global awareness of the ETERNUS line. Expanding the availability of the service to North American customers via FCS gives Fujitsu a great opportunity to accomplish its goals of expanding their business to a worldwide perspective.

Some might question the decision to wait such a long time before introducing the ETERNUS line to the North American market. In reality, it will likely end up being very beneficial. The ETERNUS 8000 and 4000 are the first generation to offer truly unique features that address some of the hottest button IT topics of today, such as data security at the drive level as well as tremendous power and cooling benefits. Under different circumstances, customers might have just viewed the ETERNUS as another "me too" storage offering about six years late to the party.

### The Products

The most anticipated and talked about aspect of the FCS announcement is the latest generation of the ETERNUS family, the ETERNUS8000 and ETERNUS4000 arrays. The ETERNUS8000, which consists of models 900, 1100 and 2100, supports between 120 and 2,760 drives and up to 256GB of memory. This allows Fujitsu to meet the performance and availability requirements of the traditional enterprise data center customers. It also provides the flexibility to accommodate the needs of the high-end midrange space. The ETERNUS4000, which includes models 100, 300 and 500, can scale from 30 drives up to 420, with memory ranging from 2GB to 32GB. This ability, along with a starting price of \$24,500, makes the ETERNUS4000 the perfect option for small workgroup environments all the way up to large departmental customers.

There are a number of core features that the ETERNUS8000 and ETERNUS4000 have in common. Both offer 4Gb/s Fibre Channel and 1Gb/s iSCSI host connectivity. On the back-end, there are a number of standard RAID flavors (1, 5, 10) that are supported, as well as RAID-6. This is significant because the ETERNUS arrays support LC-FC (low cost fibre channel) drives which are more likely to experience a double drive failure, making a dual parity (RAID-6) a welcome feature. Offering RAID-6 protection enables customers to mix Fibre Channel and LC-FC drives within an array without sacrificing reliability and availability. It also allows for the industry's first three-tiered enterprise array with MAID capabilities.

Another major part of the latest ETERNUS announcement is the ETERNUS VS900, Fujitsu's storage virtualization platform. The VS900 provides a single common interface to a shared pool of both Fujitsu ETERNUS and heterogeneous storage, fitting perfectly into Fujitsu's TRIOLE strategy. With the goal of IT optimization, TRIOLE, which means three notes played in harmony, is the framework that unites servers,

storage, networks and middleware, providing an adaptive and flexible customer IT infrastructure. Fujitsu views TRIOLE as being comprised of three core technologies - virtualization, automation and integration - which are all brought to fruition with the VS900 and its management console.

### **Disk Level Data Encryption**

Disk level data encryption adds an additional layer of security within the storage system. Encrypting the data on laptop hard drives, USB memory keys and tapes are recommended best practices for security, considering that these devices are mobile and have the potential to be misplaced or stolen. Encrypting data at the application or database level or “in flight” as it travels across the network ensures a greater level of data protection and further reduces the vulnerability of corporate assets against data intrusion.

Encrypting the data at the disk level within the storage system ensures data security when the drives are removed from the storage system. The Fujitsu ETERNUS storage systems support drive level data encryption and each disk can be encrypted at the LUN level. The storage administrator has the option to encrypt the LUN which protects against data leakage when the disk drive is physically removed from the storage system. Fujitsu is a leader in disk level data encryption within the storage system, enabling IT organizations to proactively meet auditing requirements as they evolve in the litigation and compliance world.

### **Tiered data storage with MAID**

Placing the data on the right storage tier, at the right time, based on the value of that data (at that time) with the appropriate attributes and costs are all essential to streamline IT efficiency and reduce data center overhead. Reducing the power consumption of storage systems is crucial in helping customers maximize energy efficiency in their data centers. Power companies are beginning to offer significant rebates for data center consolidation, which encourages customers to explore new technologies that can reduce their power consumption. For example, qualifying Pacific Gas and Electric Company customers can earn a maximum rebate amount of \$4 million per project site on a rebate program that is targeted towards data center consolidation.

Additionally, customers are being forced to buy stovepipe storage solutions for different data tiers. This process creates additional costs, more complexity and an increase in power consumption. You are forced to buy a storage system for primary applications, another for secondary applications, one for archiving and another for disk-to-disk backup. This method of implementing storage solutions drives up cost and complexity. A single storage system that provides the intelligence to support all of these tiers at the right price/performance offers an undeniable value. Add into the equation that the solution has the ability to apply MAID (Massive Arrays of Inactive Disks) technology to further conserve energy, and you have an even greater opportunity to implement a storage solution that can really improve your business.

The Fujitsu ETERNUS storage systems support three tiers of storage within the same storage system. Tier one combines high performance availability, utilizing FC drives. Tier two offers moderate performance and availability stored on LC-FC drives. Tier three delivers less performance and cost by utilizing MAID technology. MAID enables the storage administrator to schedule spin down and spin up times in order to align the system up with daily activities. Additionally, selected drives can be configured to spin down automatically after 30 minutes of inactivity. For example, tier one disks storing primary data will always remain actively spinning, but creating a backup volume using LC-FC disks enables the administrator to demonstrate the efficiency of MAID. The disks on the backup volume can be spun up during the backup process and spun down upon completion. This process produces a chain of efficiency, while conserving power and cooling. Fujitsu claims up to 20% in the total reduction of power consumption when deploying their tiered storage approach.

### **The Bottom Line**

By adding a solid storage offering to its repertoire, Fujitsu Computers Systems is aiming to make a transition from a technology vendor to a Customer System Solution Partner. FCS has a well-established presence in the data center space thanks to its PRIMEPOWER and PRIMEQUEST servers, which should certainly serve to increase the potential receptiveness to its new storage story. Fujitsu Computer Systems also recognizes the

value in tailoring its storage solutions to align with the needs of customers in various vertical markets. Additionally, the broad range of the ETERNUS line not only allows FCS to address the requirements of specific industries, but also those of different-sized customers, with the flexibility to grow or change with the respective businesses.

Despite the shift from being a box vendor to a strategic IT partner with a vertical market strategy, Fujitsu Computer Systems faces a difficult task in gaining traction in the high-end storage space with competition from several firmly entrenched players. In order to establish and increase the profile of its storage brand, FCS must continue to raise awareness in North America and grow its customer base, including key reference accounts. FCS won't be taking on these industry titans with a brand new storage offering.

The ETERNUS4000 and ETERNUS8000 systems represent the 4<sup>th</sup> generation of the product family. The ETERNUS is clearly a market-tested product line that has been very successful in Japan. In addition, Fujitsu was not content to merely sell an array that would meet the criteria of most storage RFPs. Instead, it addressed two of the most significant issues currently facing North American IT staffs, security and power & cooling, by including features to deal with these topics in its storage systems. Successful market execution will not only elevate ETERNUS to a globally recognizable product, but will help establish Fujitsu as a true IT solution provider.