



Faster *and* Greener — The New EMC Symmetrix DMX-4 and Enhanced Enginuity

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Management Summary

Faster performance! Larger capacity! These have been the universal bywords and buzzwords announcing new high-end storage systems. Enterprises always needed larger and faster systems to store their growing data, so these phrases naturally tickled their ears. They still do, in fact, but they are no longer enough. Enterprises are now equally concerned with power consumption and related energy costs. For reasons that range from economics to carbon emissions and global warming, energy matters and green IT is good. **Therefore, the new bywords for high-end storage are: *Faster performance! Larger capacity! Power efficiency! Streamlined operational costs!***

In this vein, EMC recently announced *Symmetrix DMX-4*, the latest version of its high-end storage system. The DMX-4 has 4-Gbit/second Fibre Channel connections to both the front and back ends. It now offers high-capacity SATA drives, in addition to various Fibre Channel options. The entry product for the family, the *DMX-4 950*, supports mainframe environments via FICON. Moreover, EMC bolstered the performance of its *Enginuity* operating system, thereby accelerating several capabilities for the DMX-4 and DMX-3 series. Read on for details about how EMC delivers performance *and* power efficiency in the Symmetrix DMX-4 and Enginuity operating system.

Symmetrix DMX-4

The Symmetrix line of high-end storage systems has a long history stretching back more than a decade. EMC has regularly updated and evolved these top-of-the-line enterprise storage products. The new Symmetrix DMX-4 is the latest and most capable, and is scheduled for availability in August 2007.

The DMX-4 offers several enhancements.

Fibre Channel Front and Back End

Following the addition of 4 Gbit/s to the front end in the first quarter of 2007, the internal Symmetrix DMX-4 architecture now offers 4 Gbit/s Fibre Channel in the back end as well. The additional bandwidth improves the performance and responsiveness of the overall system. It also makes it easier to isolate drive faults and service the system.

SATA Drive Support

The DMX-4 now supports SATA drives in addition to Fibre Channel. In this case, it is

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500 and 750 GB SATA drives running at 7200 RPM. SATA drives provide higher capacity, lower cost, and lower energy consumption. They allow the DMX-4 to deliver a wider range of storage tiers within the system, especially for secondary data that does not need high service levels and may be stored at a lower cost. Often overlooked is how much energy, cooling, and floor space a SATA drive can save. On a per-gigabyte basis, it consumes less than 10% of the electricity of a 73 GB Fibre Channel drive (at 15K RPM). It consumes a similar fraction of cooling and floor space. Tiered storage¹ is green, and green is good. Green also saves money, helping companies stay in the black.

FICON Support in DMX-4 950

The DMX-4 950 now supports mainframe environments via FICON. Previously, it supported only open systems environments. The DMX-4 950 is the entry system to Symmetrix family, scaling from 32 to 360 drives. It is for situations that require the power and functional of a high-end system, but only midrange capacity.

Performance-Enhanced Engenuity

EMC has made several enhancements to *Engenuity*, the branded name of the operating system (i.e., system-level software) for the Symmetrix DMX family. These enhancements apply to the new DMX-4 as well as the existing DMX-3 platforms.

Streamlined Software

Rather than writing software to develop new features, in this case EMC has streamlined existing software to make certain Symmetrix features run faster. It achieves these performance gains on the same hardware and without increasing energy consumption.

- ***RAID 5 and RAID 6*** run up to 25% faster, which speeds up read and write operations.

- ***SRDF/S*** (synchronous replication) has a 33% faster response time. This can speed up an existing connection or enable it to go twice as far with the same response time.
- ***TimeFinder/Clone*** (full point-in-time copy) can be created and terminated ten times faster while the number of ***TimeFinder/Snap*** (differential copy) has increased sevenfold, as the revised Engenuity allows for 128 snapshots instead of 16. This means enterprises can implement a more granular recovery environment that approaches CDP (continuous data protection).

Built-in Security

Since enterprises prefer security to be *built in* as opposed to *bolted on*, Engenuity now integrates with *RSA enVision* to provide automated, policy-based audit log management, to facilitate compliance with industry regulations.

Conclusion

As EMC demonstrates in this announcement, faster and greener are not mutually exclusive. You can have your cake and eat it too.

Consider how the new Symmetrix DMX-4 and the Engenuity enhancements help enterprises store and access information with greater speed while preserving precious energy and budgetary resources.



¹ See the issue of **Clipper Notes** dated April 24, 2007, entitled *Practical Steps Toward Information Lifecycle Management* and available at <http://www.clipper.com/research/TCG2007021.pdf>.

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