

EMC Symmetrix 8000

Enterprise Information Storage Systems



Consolidation, consistency, and choice for today's most demanding business environments

EMC Symmetrix® enterprise information storage systems provide the foundation upon which businesses can build a flexible, scalable, and continuously upgradeable information infrastructure for today's connected world.

Symmetrix systems consolidate all your information so you can more easily and quickly access and gain business value from it. Symmetrix provides a consistent IT environment that won't be disrupted by architectural and technological obsolescence, thereby increasing productivity. Symmetrix offers choice—choice of capacity range and connectivity technology, as well as operating system, server, and database system independence. And the newest generation of Symmetrix systems further extends the performance capabilities that have made it the industry's leading information storage system worldwide.

The Big Picture

- The world's most reliable, trusted, performance-proven information storage technology—over 44,000 systems deployed worldwide, delivering over 25 million hours of continuous uptime every month
- Lowers information infrastructure Total Cost of Ownership (TCO)—a vital metric in today's cost-conscious business climate
- Facilitates unparalleled protection, management, and sharing of information for increased Return On Information (ROI)
- Over 100 new performance, connectivity, and Engenuity™ operating environment features for enhanced business and application value
- Connects to heterogeneous environments, facilitating storage and retrieval from all mainframe, open systems, and networked storage environments
- EMC software solutions and services enable businesses to expand and exploit new opportunities faster

EMC Symmetrix 8000 enterprise information storage systems provide a fully protected, shared repository for transparent access to all your business information.

Symmetrix features and capabilities:

- ***Three new Symmetrix models: Expanding the range of functionality, capacity, connectivity, scalability, and Total Cost of Ownership advantages of the Symmetrix family.***
- ***Global cache directors with CacheStorm™ technology: EMC-exclusive technology implements advanced arbitration, buffering, and contention-eliminating techniques for rapid-fire transaction throughput unmatched by any other storage system.***
- ***Enhanced mainframe support: Already the leading mainframe information storage system, Symmetrix adds FICON support, GDPS compliance, RAID 10 for IBM z/OS and OS/390, dynamic PAV/MA support, and other Enginuity operating environment enhancements.***
- ***Industry-first embedded switch technology: New Fibre Channel directors offer four- or 12-port per director connections for enhanced server connectivity and enterprise consolidation, decreasing cost and complexity.***
- ***Additional Enginuity operating environment features: Further enhancements to EMC's industry-leading E-Infostructure enterprise information storage infrastructure.***

Symmetrix forms the rock-solid foundation for an EMC E-Infostructure

Businesses competing in today's fast-paced digital economy require an information-centric IT infrastructure that allows them to use all their information resources, regardless of source, form, or geographic location, to solve their biggest challenges. Such an infrastructure—an EMC E-Infostructure™—brings together storage platforms, rich functional software, network technologies and capabilities, and expert services to meet these challenges. Symmetrix systems form the rock-solid foundation for the E-Infostructure environments in leading businesses around the globe.

Low TCO and high ROI—the new mantra for business today

In addition to their industry-leading capabilities, Symmetrix systems also offer dramatically improved Total Cost of Ownership (TCO) over competing systems. With storage hardware costs continually falling and staff costs rising, the cost to manage your storage infrastructure can rapidly become your major expense factor. According to a recent IDC study, an EMC information infrastructure offered the following advantages:

- Customers using an EMC information infrastructure experienced as much as a 9:1 efficiency gain in storage management headcount.
- Compared with alternative methods, an EMC infrastructure enabled many companies to gain an additional 40-50 percent storage capacity utilization.
- With a hardware-only approach to storage, costs double with capacity growth—and costs compound over time.

Reduced TCO plus the outstanding capabilities of Symmetrix yield increased Return On Information—the new ROI for your business.

The business value of Symmetrix

As new application linkages are created, demand for more operational capabilities escalates, driving the need for a single, open, heterogeneous framework to protect, share, and manage all of the information within the enterprise.

Symmetrix systems enable your business to deliver more information faster to those applications that need it, when they need it, regardless of application, operating system, database, or host platform. An EMC E-Infostructure environment, with Symmetrix at its center, also standardizes the processes required to manage, share, and protect information while allowing skilled staff to be re-deployed for more productive business purposes.

An EMC E-Infostructure can be described in terms of the following five business values:

- **Time**—completing projects faster, speeding data transfers, loading data warehouses, and executing more backups creates a competitive business advantage while ensuring the availability and integrity of your information assets.
- **Resources**—freeing up network bandwidth, using fewer CPU cycles, and providing immediate data availability improves the efficiency of your business operations.
- **Cost**—using fewer staff members to manage more storage, and re-deploying them to more mission-critical tasks maximizes staff resources and their potential value.
- **Avoiding Risk**—implementing standardized, repeatable processes enables your business to safely and non-disruptively adapt to new business demands.
- **Business Expansion**—scalable capacity and universal connectivity eliminate the obstacles that commonly impede aggressive business growth.

*The new Symmetrix 8230
delivers Symmetrix performance and functionality in the
smallest footprint ever.
Capacity ranges from 73GB
to 3.5TB.*



Symmetrix 8000 enterprise information storage systems

There are currently three models in the Symmetrix 8000 family—the Symmetrix 8230, the Symmetrix 8530, and Symmetrix 8830, each with leadership performance and capabilities in their respective capacity ranges. Each model fully adheres to the EMC Enterprise Storage philosophy.

EMC Enterprise Storage Philosophy

- Highest performance
- Industry-leading scalability
- Assured information protection
- Superior intelligence at the storage system level
- Universal, open connectivity through industry-standard interfaces

Highest performance to put information at your fingertips – without ever waiting

Deriving optimal performance from an information infrastructure depends on how quickly information can be reliably accessed. Symmetrix systems use large cache memory configurations (up to 64GB) and one hundred percent cache fast writes to ensure the highest possible performance when writing data.

The latest Symmetrix models incorporate more powerful microprocessors, global cache directors with CacheStorm technology for faster information throughput and reduced cache queuing, and increased port density for enhanced connectivity. The result is an enterprise information storage system that more rapidly adapts to a constantly changing business climate and easily accommodates growth.

The Symmetrix 8530 offers increased capacity and performance for multiple applications in a single-bay storage system. Capacity ranges from 144GB to 17.4TB.



Industry-leading scalability to handle the largest applications and databases

Symmetrix systems offer new ways to manage change and growth in applications, databases, servers, and overall business requirements. Symmetrix 8000 systems enable deployment of consolidated storage strategies by providing incrementally scalable storage in a common family. System capacities scale from 73GB to 70TB of fully protected storage.

Assured information protection for peace of mind

Once information has been assembled and centralized, it must be fully protected in order to maintain its value to the business. Symmetrix provides a variety of hardware information protection features and optional software applications. The Symmetrix 8000 architecture offers a choice of data protection at the disk level: Mirroring, the optimal RAID level for both performance and availability; EMC's RAID-S enhanced parity protection; Symmetrix Remote Data Facility (SRDF™) for remote mirroring; and dynamic sparing.

These basic data protection schemes are supported by fully redundant data paths, disk and channel directors, and redundant power supplies with full-system battery backup to provide protection against loss of data access due to component failure or power loss. All Symmetrix 8000 components are capable of non-disruptive replacement, enabling continuous full data availability.

Engenuity operating environment—the fuel that powers your information

The EMC Engenuity operating environment is designed from the ground up to drive high-speed, highly available storage management functionality. The Engenuity operating environment enables Symmetrix systems to serve as the foundation for a scalable, open, and manageable enterprise information storage infrastructure. Such an infrastructure—an E-Infostructure—meets today's seemingly infinite needs for growth, speed, and flexibility while anticipating tomorrow's needs. Through its robust, open Application programming interfaces (APIs), industry-leading software developers are leveraging Engenuity's wide range of capabilities for moving, replicating, managing, and protecting information, giving customers a seamless infrastructure that's both totally achievable today and incredibly powerful. Through Engenuity microcode, virtually all major mainframe, UNIX, Windows 2000/NT, PC LAN, and AS/400 systems can use these capabilities without incurring host processor overhead.

The Symmetrix 8830 can support the throughput, capacity, and connectivity of the largest information infrastructures and data center consolidations. Capacity ranges from 579GB to nearly 70TB.



Universal connectivity through industry-standard interfaces eliminates interoperability issues

Businesses are challenged by the wide variety of host platforms commonly found in today's information infrastructure environments. Symmetrix systems provide connectivity to host platforms through multiple industry-standard interfaces. The Symmetrix 8000 series can simultaneously support main-frame connections through ESCON and FICON channels and connection to open UNIX, Linux, Windows 2000/NT, and AS/400 systems with connectivity through SCSI and Fibre Channels.

At the heart of EMC's commitment to openness and interoperability is the EMC E-Lab. Using proven best practices in interoperability testing, the E-Lab spans nearly five acres of floor space and replicates customer environments using over 2,600 terabytes of storage. EMC has tested and assured compatibility of EMC hardware, software, and networked storage solutions with nearly 400 server types, 40 operating systems, 81 storage software products, 145 network connectivity elements, and over 1,200 different devices ranging from HBAs and drivers to switches and tape subsystems.

The EMC Interoperability Support Matrices are offered online at http://www.emc.com/horizontal/interoperability/interop_support_matrices.jsp.

Networked storage infrastructure connects you to all your information

A Symmetrix-based networked storage solution from EMC means you can connect all your information. Deploy over any operating system, platform, server, or application. Scale to match your exploding information content. It means you can do whatever you want with your information. Centralize it. Repurpose it. Consolidate it. Share it. Distribute and manage it. Put it to work when and where it's relevant. And do it 24/7 without compromise.

EMC's networked storage solutions have put an end to the SAN (Storage Area Network) NAS (Network Attached Storage) debate. You can accommodate either one or both simultaneously to get the flexibility to consolidate and distribute information in the manner that most suits your needs, even if those needs change.

EMC Enterprise Storage software—functionality for any business need

Enterprise storage is not just about hardware infrastructure, capacity, and connectivity. EMC also delivers functional storage software to meet the demands of business. Symmetrix 8000 systems and EMC Enterprise Storage software deliver industry-leading capabilities that help you focus on the real operational challenge: sharing, protecting, and managing the lifeblood of your organization—information. These functional capabilities simplify, standardize, and streamline the processes that support your business needs. As demand for information increases, your ability to quickly adapt to those demands will dictate success or failure. EMC and many third-party suppliers offer a wide range of compatible software solutions to enhance the information sharing, protection, and management capabilities of Symmetrix for the advantage of your business.

Global Services to meet your infrastructure needs

EMC Global Services, consisting of EMC Professional Services, EMC Customer Service, and EMC Global Technical Training, offer a complete range of analysis, consulting, implementation services, and education to make sure your E-Infostructure is up and running as soon and as effectively as possible so you receive return on your investment faster. And EMC delivers around-the-clock coverage for your EMC systems, including onsite service, parts, and labor, 365 days a year, including holidays. Service is delivered directly by the EMC Customer Service organization, consistently ranked number one in independent customer satisfaction surveys. One toll-free call to the EMC Customer Support Center will put a worldwide support organization at your service.

Today's businesses require an infrastructure model constructed for unexpected opportunity and infinite need. EMC surrounds this model with all the products and services necessary to take your business from where it is today to where it needs to be tomorrow. An EMC E-Infostructure drives businesses forward by enabling speed, change, and expanding opportunities, while reducing risk and improving efficiency.



Take the Next Step

For more information on EMC Symmetrix 8000 enterprise information storage systems, contact your EMC sales representative or authorized EMC value-added systems integrator. Or visit our website at www.EMC.com.

where information lives

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