

EMC CLARiiON FC4700 Networked Storage System

Scalable, high-performance solution offers unsurpassed software capability.



The CLARiiON[®] FC4700 networked storage system exploits the potential of full Fibre Channel interfaces to deliver exceptional storage performance for a broad spectrum of applications. Running on the FC4700, EMC SnapView[™] software provides a point-in-time view of information for non-disruptive backup. EMC MirrorView[™] enables disaster recovery and remote backup by keeping mirrored copies of your information at a separate geographic location. MirrorView and SnapView are complemented by EMC Access Logix[™], PowerPath[®], and Navisphere[®] Manager software. This exceptional hardware and software solution provides a storage infrastructure that supports today's constantly changing IT environment.

The Big Picture

- Supports increased 2 Gb Fibre Channel connectivity and higher performance for a competitive advantage in both direct-attach and shared storage environments
- Frees up host and CPU resources using MirrorView and SnapView intelligent software (host independent functionality)
- Boosts IT productivity and reduces management costs across the enterprise through centralized storage management
- Reduces unplanned downtime and improves revenue generation by employing highly available, fully redundant storage

The FC4700 exploits multiple 2 Gb Fibre Channel connections to deliver unparalleled storage performance.

- Enables nondisruptive storage software upgrades and on-line capacity expansion further increasing system availability
- Accelerates server deployments through storage consolidation and multiple-host connectivity

EMC CLARiiON FC4700 System

The EMC CLARiiON FC4700 system supports enterprise storage software to better meet today's business demands. Whether it's adding to a website, replacing an existing OLTP system, or building a data warehouse, today's IT organization must be able to respond at Internet speed. The CLARiiON FC4700 meets this need by providing a highly scalable, easy-to-reconfigure solution.

A fully redundant, highly available system with no single points of failure, the FC4700 retains all of the same data integrity and high-availability features for which EMC CLARiiON is so well respected — global hot spares, redundant power and cooling, on-line RAID group expansion, and data path parity checking throughout the array. The FC4700 advances enterprise features as well with new multiprocessor storage processors, four 2 Gb Fibre Channel connections, redundant paths from each storage processor to Fibre Channel disks, and raw capacity of up to 17.5 TB.

Maximize your information investment with EMC SnapView software.

The challenges of providing shorter backup and recovery windows, faster application testing and development, and more frequent data warehouse refreshes are constant in today's electronic economy. EMC SnapView is a nondisruptive point-in-time backup and recovery enabler that facilitates increased data availability. As a value-added software option for the CLARiiON FC4700 system, SnapView can help you drive increases in operational efficiencies and information management to levels that you never thought possible.

SnapView provides a point-in-time image of information stored on a CLARiiON FC4700 by maintaining a view of the data at the desired point in time and allowing access to that view for other uses. This snapshot image requires only a fraction of the data storage of the original data and is created and destroyed instantly. The host can proceed with normal I/O to the original data, and the snapshot image will remain separate from the original, providing read and write access to the point-in-time image from an alternate host for backup, query, or other use. Each FC4700 supports up to 100 active snapshots, with the ability to generate eight snapshots per LUN.

EMC MirrorView remote backup.

EMC MirrorView provides highly available data storage across geographically separate locations. By maintaining synchronous data mirroring between EMC CLARiiON FC4700 arrays, MirrorView ensures data availability of byte-for-byte mirrored images. MirrorView is array based, so there is no impact on hosts, and it is easily managed from within CLARiiON Navisphere Management software. MirrorView is also very tightly integrated with EMC SnapView, and can fully utilize switched fabric to extend distances between arrays. Together, they provide a unique solution for online disaster recovery and data availability.

MirrorView can be used for both local and remote mirroring of your critical business information. Using MirrorView's multiple relationship capability you can consolidate information from up to four CLARiiON systems to one centralized CLARiiON for purposes of consolidated remote processes such as: backups, decision support queries, simplified disaster failover and even remote data bunkering. And, because MirrorView is bi-directional, each

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CLARiiON can be both a Source and a Target to other CLARiiONs—putting information exactly where your business needs it. MirrorView can also provide concurrent mirroring capability that enables you to synchronously mirror one Source to two different Target CLARiiON systems for the utmost in data protection and parallel processing at multiple locations.

Navisphere system management.

Through a combination of EMC Navisphere and EMC ControlCenter™ software, administrators can view a complete range of their EMC storage environments (CLARiiON, Symmetrix®, Connectrix™, and Celerra™). If a fault occurs on the FC4700, Navisphere Manager provides event notification to the centralized management console, and optionally via e-mail, pager, or SNMP. Administrators can then address the issue. For multihost storage consolidation, Fibre Channel switches and EMC Access Logix software or ESN Manager are available to facilitate connectivity and management of the complete environment.

Access Logix.

Access Logix provides secure, shared, or selective access to the FC4700 storage array in both mixed and homogeneous platform environments. Protection is provided on the CLARiiON FC4700 system and easily managed centrally and graphically with EMC Navisphere Manager. Network management systems have also become an important tool for many organizations. To ensure ease of integration, the FC4700 can be integrated into a variety of network management systems, such as IBM's Tivoli, HP's OpenView and CA's UniCenter TNG.

PowerPath.

The FC4700 delivers high availability with non-disruptive storage upgrades. Even when the FC4700 is running, customers can install storage software or add disk capacity. In addition to its fault-resilient architecture, the FC4700 extends availability protection outside the array through EMC PowerPath. This software ensures that users have continuous access to data, even in the event of a failure in one of the data paths between the host and the FC4700. This level of protection becomes paramount as you build larger Fibre Channel switched environments.

High performance.

The FC4700 exploits the potential of 2 Gb Fibre Channel interfaces to deliver unparalleled performance. The FC4700 has four GBIC connections or ports, each delivering 2 Gb/s Fibre Channel throughput. And using multipath I/O, customers can operate all four ports simultaneously. Capable of delivering more than 50,000 cached I/Os per second, and over 350 MB/s sustained throughput, the EMC FC4700 is the ideal array for a broad spectrum of applications. From OLTP and Web servers to data warehouses and graphics-intensive or video-streaming environments, the FC4700 delivers information fast.

Flexibility in deployment model.

To facilitate standardization and consolidation, the EMC CLARiiON FC4700 has a number of connectivity options. Direct attachment to a single or multiple heterogeneous hosts with a variety of operating systems, through major clustering software or to storage area networks, is provided. While the FC4700 allows multiple or clustered hosts to share a single array to enhance performance and data availability, Access Logix creates a safe environment by protecting data where it resides — on the array.

Building-block approach.

The FC4700 is available in a rackmount configuration and supports from 10 to 120 disks utilizing easy-to-configure building blocks. Available for the array are 73 and 146 GB 10,000 RPM disks, and a 36 GB 15,000 RPM disk, for a total raw capacity of up to 17.5 TB. Capacity can be expanded online, and the systems can be dynamically and easily reconfigured. The CLARiiON FC4700 supports 2 GB of memory, a portion of which is reserved for write cache mirrored between the two storage processors.

The CLARiiON FC4700 is the industry's first multi-personality storage solution. The FC4700 can be easily implemented in a SAN environment or redeployed in a NAS environment by simply swapping its storage processors and attachment personality, loading file system support software, configuring the file systems, and loading data. This unique feature provides unsurpassed investment protection and flexibility.

And, the CLARiiON FC4700 is an integral part of the EMC E-Infostructure[®], a shared foundation of technologies, tools, services, and intellectual capital that enables an uninterrupted flow of information, ensuring your business will always be ready to meet future growth.

Prerequisite operating systems.

The FC4700 works with a wide range of operating systems, including Microsoft Windows NT/2000; Sun Solaris, HP-UX; IBM AIX; Novell NetWare, Compaq Tru64 UNIX, SGI IRIX; and Red Hat Linux.

CLARAlert remote diagnostics.

CLARAlert[®] remote support, automatically included with your EMC CLARiiON FC4700 system, detects hardware or software problems as they occur. CLARAlert's diagnostic tools automatically transmit a machine-initiated (MI) notification packet to the EMC Customer Support Center, where technical experts remotely dial in to your site to perform diagnostics. An automated escalation process for CLARAlert-initiated situations ensures notification of all appropriate individuals at your site, the local and regional field service offices, and EMC corporate headquarters.

Global Services support.

EMC Global Services helps you receive the maximum benefit to your business in the shortest possible time. Services range from basic installation to a custom engagement that includes planning, design, and implementation of a more complex solution.

EMC delivers around-the-clock coverage for your FC4700 systems, including onsite service, parts, and labor, 24-hours-a-day, seven-days-a-week, including holidays. EMC hardware includes a standard two-year warranty with installation*.

* Warranty may vary outside the U.S. Ask your local EMC representative for warranty and service terms and conditions.

Take the Next Step.

For more information on the EMC CLARiiON FC4700 storage system, contact your EMC sales representative or authorized EMC value-added systems integrator. Or contact EMC directly.

where information lives**www.EMC.com****EMC Corporation Hopkinton Massachusetts 01748-9103 1-508-435-1000 In North America 1-866-464-7381**

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