EMC SRDF Family of Software

Keeping the world’s most-critical data highly available and disaster-restart ready

The EMС SRDF family of remote replication solutions

The EMС® Symmetrix® Remote Data Facility (SRDF®) family of remote replication software is the most field-proven, widely deployed, array-based disaster restart solution in the world with tens of thousands of licenses shipped in the most-demanding customer environments. Leveraging the industry-leading high-end Symmetrix system, SRDF offers the most choice and flexibility to meet any service-level requirement.

The SRDF family of software provides remote data replication, independent of the host and operating system, application, and database. SRDF helps companies manage planned and unplanned outages, enabling 24x7x365 data availability. It allows businesses to focus on maximizing revenue-generation and customer-support opportunities, improve productivity, and control or reduce costs for increased competitive advantage.

The SRDF family of software includes:

• SRDF/Synchronous (SRDF/S) maintains realtime synchronous remote data replication from one Symmetrix production site to one or more Symmetrix systems located within campus, metropolitan, or regional distances and provides a recovery-point objective of zero data loss.

• SRDF/Asynchronous (SRDF/A) maintains asynchronous data replication that is usually at extended distances and provides a recovery-point objective that could be as minimal as a few seconds.

• SRDF/Data Mobility (SRDF/DM) provides for the transfer of a Symmetrix data volume to a secondary Symmetrix anywhere in the world, enabling disaster restart, allowing information to be shared for decision support or data warehousing activities, or for data migration between Symmetrix systems.

The Big Picture

• **Highest performance**: delivers unsurpassed recovery-point and recovery-time objectives with minimal server impact.

• **Unmatched flexibility**: Zero-data-loss exposure, very-long-distance and advanced multi-site protection capabilities enable resource optimization while meeting mixed service levels.

• **Enterprise consistency**: coordinated processing across multiple sets of data ensures enterprise-wide application restartability.

• **Seamless integration**: integration with hundreds of industry-leading enterprise, storage, and backup applications enables faster time-to-deployment and simplified management.

• **Automated manageability**: Provides flexible, easy-to-use, and automated management options to ensure continuous protection.

• **Proven results**: Confidently deploy the world’s most widely used high-end remote replication solution.

SRDF delivers high-performance synchronous and asynchronous remote mirroring enabling customers to meet their recovery-point objectives (RPOs) and recovery-time objectives (RTOs).
The SRDF family of software also consists of other options including advanced three-site capabilities using the combination of SRDF/S, SRDF/A, and/or SRDF/DM, offering the most comprehensive portfolio of remote replication solutions in the industry to meet a wide range of business needs for high data availability, data mobility, and disaster-restart requirements.

The other SRDF options and advanced three-site solutions include:

- **SRDF/Asynchronous Replication (SRDF/AR)** option enables rapid disaster restart over any distance with a two-site single-hop option using SRDF/DM in combination with TimeFinder, or a three-site multi-hop option using a combination of SRDF/S, SRDF/DM, and TimeFinder.

  SRDF/AR Single-Hop provides remote disaster restart at the secondary site with low data-loss exposure (minutes to tens of minutes). SRDF/AR Multi-Hop provides long-distance remote disaster restart with zero data loss achievable at the “out-of-region” site.

- **SRDF/Cluster Enabler (SRDF/CE)** option enables automated or semi-automated site failover using SRDF/S or SRDF/A with Microsoft Failover Clusters. SRDF/CE allows Windows Server 2003 and Windows Server 2008 Enterprise and Datacenter editions running Microsoft Failover Clusters to operate across a single pair of SRDF-connected Symmetrix arrays as geographically distributed clusters.

- **SRDF/Star** option is a three-site disaster-restart solution that can enable resumption of SRDF/A with no data loss between two remaining sites, providing continued remote-data mirroring and preserving disaster-restart capabilities.

  It offers a combination of continuous protection, changed-data resynchronization, and enterprise consistency between two remaining sites in the event of the workload site going offline due to a site failure, fault, or disaster event.

  As more businesses require solutions to provide the highest levels of disaster-restart capabilities with zero to minimal data loss and low RTO, SRDF/Star is the industry’s first solution to enable organizations to satisfy these requirements.

- **SRDF Concurrent** provides the ability to remotely mirror a Symmetrix production-site data device to two secondary-site Symmetrix data devices simultaneously using either SRDF/S or a combination of SRDF/S and SRDF/A.

- **SRDF Cascaded** is an advanced three-site solution that can synchronously mirror a Symmetrix production-site data device with SRDF/S to a secondary-site Symmetrix data device, then asynchronously mirror that secondary-site Symmetrix data device with SRDF/A to an out-of-region Symmetrix data device with no data loss achievable in the event of a production-site disaster event.

- **SRDF/Extended Distance Protection (SRDF/EDP)** is a new disaster-restart solution providing customers the ability to achieve no data loss at an out-of-region site at a lower cost. Using the cascaded SRDF mode of operation as the building block for this solution, SRDF/EDP allows the intermediate site to provide data pass-through to the out-of-region site.

- **SRDF/Consistency Groups (SRDF/CG)**, provided at no additional cost, ensures application-dependent write consistency of the application data being remotely mirrored by SRDF in the event of a rolling disaster, across multiple Symmetrix systems or across multiple devices within a Symmetrix, providing for a business point of consistency for remote-site disaster restart for all identified applications associated with a business function.
SRDF/Star maintains continuous remote data mirroring protection by maintaining or re-establishing a remote mirror relationship between any two sites in the event of any one site going offline due to a failure, fault, or disaster event.

The key benefits of the SRDF family of software include:

- Protects data against local and regional disasters
- Increases application availability by reducing downtime
- Minimizes/eliminates performance impact on applications and hosts
- Independent of hosts and operating systems, applications, and databases
- Supports UNIX, Linux, mainframe, and Windows operating system environments
- Integrated with major server cluster software, providing automated and semi-automated restart solutions to improve RPO and RTO
- Mission-critical, proven solution with tens of thousands of licenses shipped

The Symmetrix Management Console is a simple, intuitive, browser-based user interface for the configuration and management of Symmetrix systems used to operate and monitor SRDF remote mirroring operations.

Symmetrix Management Console provides health indicators for SRDF/A cache usage, cycle time, and throughput at user-configurable polling intervals and with multiple levels of threshold alerting.
Symmetrix Performance Analyzer can be launched from within Symmetrix Management Console and provides enhanced monitoring of Symmetrix operations at the application (Device Group) level and helps ensure successful SRDF/A deployments.

Maximize SRDF family benefits with EMC services
EMC Global Services delivers expert implementation of SRDF family products by leveraging EMC’s extensive storage deployment best practices and proven methodology to accelerate business results without straining your resources. Our services professionals have the technical expertise and skills needed to help you quickly realize the value of SRDF family software in your Symmetrix environment without the risks of self-implementation. The EMC Global Delivery Model ensures rapid, flawless service delivery in every customer engagement, regardless of location.

Ask your EMC sales representative about the full spectrum of SRDF family software solutions and services from EMC that can benefit your organization.