

Today's Choices for Business Continuity

- Business Continuity Best Practices
- Tiered Protection and Recovery
- Data Mobility and Migration
- Scalable Backup, Recovery and Archive
- Replication Management
- Application Integration
- Advanced Business Consistency
- Multi-site Recovery with Continuous Protection



Today's Choices for Business Continuity

Continuity of business operations is vital to today's enterprise. Today, IT organizations are being asked to create an environment that enables them to achieve all of their protection goals. They must be able to:

- Survive a disaster and restart the enterprise
- Proactively detect data corruption and minimize exposure and risk
- Test new applications against real data and in real-world environments
- Shorten backup and restore times

- Perform non-disruptive hardware and software maintenance and upgrades
- Move and migrate data
- Protect remote locations
- Provide continuous multi-site protection

And do all of this while containing costs and without adding additional headcount. Traditionally, there have been few choices for delivering information protection and recovery: either low-cost tape, or copying each transaction onto remote disk.

The new reality is that business information needs different levels of protection—some information and transactions need more advanced levels of protection than ever before, and some information and transactions just need standard protection at more attractive cost points.

EMC has many choices to help you meet all of your business continuity challenges.

Business Continuity Best Practices

These services are designed to identify availability and continuity requirements, deliver the design, and implement business continuity projects. Best practices also include tested and proven solutions that have the right combination of hardware, software, services, and blueprints that deliver advanced business continuity.

Tiered Protection and Recovery

This is the software that allows you to create and use local and remote replicas to restore, restart, or resume operations when needed.

Data Mobility and Migration

The ability to transparently move and migrate information between heterogeneous storage platforms enables customers to push point-in-time copies to multiple users simultaneously, pull information from multiple systems to a centralized location, and migrate information to newer technology.

Scalable Backup, Recovery, and Archiving

New choices in Backup, Recovery, and Archiving allow you to improve backup and restore service levels, including shorter backup windows, faster restores, enhanced reliability and manageability, and lower costs. New archiving capabilities allow policy-based movement of unchanged information to minimize duplication, improve performance of production applications, and reduce the volume of data that needs to be backed up and managed.

Replication Management

Achieve simple, easy, and effective management of replicas that deliver protection and recovery in multi-vendor environments.

Application Integration

Integrate business continuity products into popular applications for more complete protection.

Advanced Business Consistency

Assure recoverability of integrated applications running on different operating platforms by ensuring that all related data is protected in an identical fashion at a common level of currency.

Multi-site Recovery with Continuous Protection

Conduct multi-site business recovery with resumption of protected operations—by combining the power of SRDF synchronous and asynchronous remote replication. This enables you to deploy the most advanced three-site business continuance solution available today.

Business Continuity Best Practices

Developing an effective business continuity program requires an understanding of the business, flexibility to meet changing requirements, and deep technical expertise across the infrastructure.

EMC Technology Solutions has helped thousands of customers around the world develop effective business continuity programs. EMC has hundreds of dedicated business continuity consultants and solution architects with in-depth knowledge and broad technological experience to meet today's demanding business challenges.

EMC offers a complete range of business continuity services to help you at every stage of your program. You can engage us at any step, or ask us to help with the entire program. EMC business continuity experts tailor our comprehensive services methodology, developed from more than ten years of experience, to meet your specific goals and requirements. (See Figure 1)

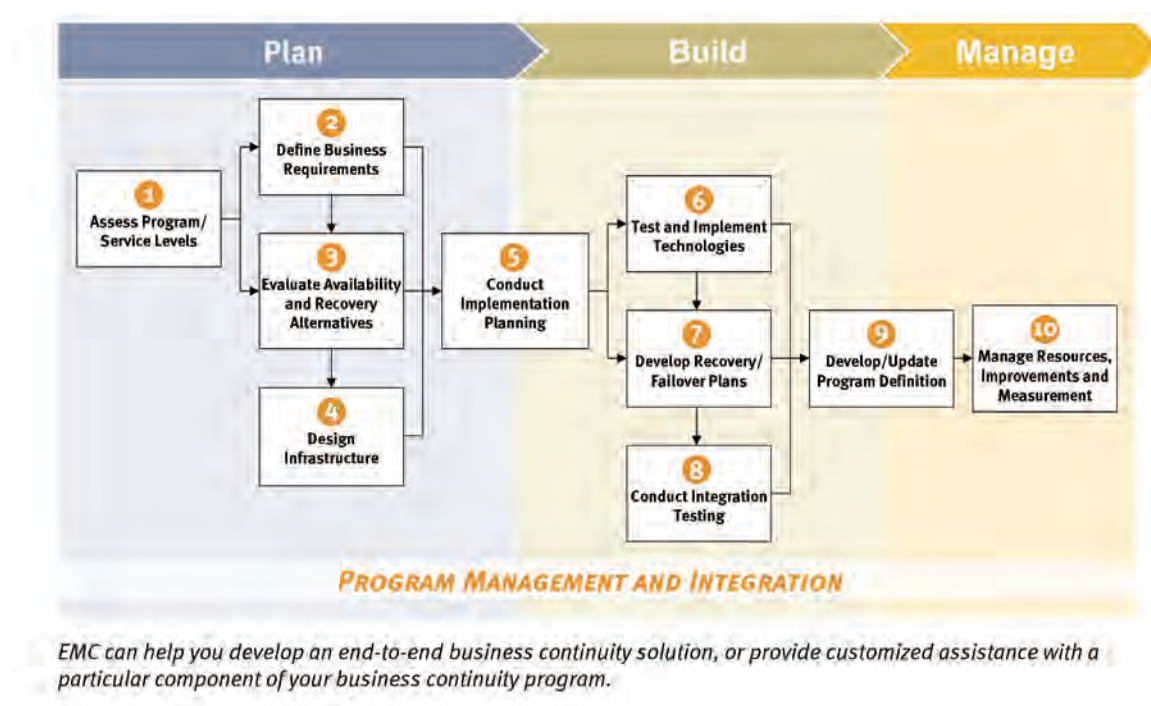
Planning Services: A good business continuity program starts with business and IT stakeholders agreeing on a clear articulation of your particular needs and requirements. EMC Technology Solutions offers the following services for each step in the planning process:

Service Level Assessment: Identify the strengths and weaknesses of your current business continuity program and evaluate its ability to meet business requirements with a comprehensive review of plans, processes, and

validation of service levels by testing. EMC experts document the findings and outcomes in an executive-level presentation.

Requirements Definition: Determine the financial and operational impacts to your business of downtime or data loss from key applications and processes and determine the service levels of your critical business systems. EMC consultants perform a thorough analysis of key business processes and applications by determining interdependencies of key applications and supporting data, and determining the required recovery-time objective (RTOs) and recovery-point objectives (RPOs) to support the business requirements.

Figure 1 — Business Continuity Services Capabilities



Alternatives Evaluation: Make an informed choice of the right cost/benefit tradeoffs for your business continuity program. EMC analyzes availability and recovery alternatives, recommends a business continuity strategy that meets the defined business requirements, and provides technical architectures and high-level cost and benefits for each alternative.

Infrastructure Design: Conduct detailed analysis to determine recovery strategy of interdependent applications with the same requirements and map to target infrastructures. Outcomes include detailed architectural specifications with infrastructure diagrams, definitions, and assumptions.

Implementation Services: EMC Technology Solutions best practices, expert consultants, and wide-ranging experience ensure that you quickly realize the benefits of improved business continuity with this set of implementation services.

Implementation Planning: Develop a detailed implementation plan for the infrastructure build-out, including product selection criteria, implementation procedures, and a detailed project plan listing all tasks, dependencies, resources, timelines, milestones, deliverables, and costs.

Technology Implementation: Integrate and test the specified business continuity products and technologies in your environment. EMC Technology Solutions architects provide comprehensive installation and integration services, including technical sizing, tuning, and installation of products for technologies including availability, backup/recovery and archiving, and data replication technologies.

Recovery Plan Development: Create detailed procedures and scripts to recover from the primary to the alternative sites and return to the primary site when available. Outcomes include completed recovery/availability plans including automation software, procedures, and maintenance schedule.

Integration Testing: Conduct system-level testing across applications, infrastructure and user validation. Outcomes include testing guidelines, scripts and testing scenarios with goals, success criteria, budget and audit procedures, documented test results, and 12-month test plan.

Recovery Program Definition Service: Develop or update all internal and external communications materials, policies, procedures, and service-level agreements to reflect the enhanced availability and recovery program.

Manage Services: Good business continuity programs evolve with your business needs. These services ensure that your processes, procedures, and documentation adapt to your changing requirements.

Operations and Management Services: Develop the organization, staffing levels, budgets, metrics, and reporting and change management systems needed to operate the business continuity program over time. Optionally, provide on-site resident consultants to assist in management of program. Outcome is a fully operational, measurable program.

EMC Business Continuity Services are designed to help you quickly and cost-effectively achieve business continuity success. We'll make it happen—and make sure that it works.

Tiered Protection and Recovery

Today, EMC offers a number of choices for business continuity. As a result, you can select the option that best aligns with the value of the data, your recovery objectives, required service levels, and budgetary constraints. Tiered Protection and Recovery from EMC delivers the right levels of protection, recoverability, and performance at the right cost. (See Figure 2)

The success of protection and recovery depends on your ability to access a separate point-in-time copy of the data. These copies can be local or remote—you can select from various recovery-point objectives (RPOs), recovery-time objectives (RTOs), and distance options. These additional copies can allow the performance of support operations on multiple point-in-time copies of production data, while

providing data protection. In fact, the same product can be deployed in multiple ways, thus protecting the intellectual capital of the organization, minimizing the number of products/disciplines supported, and enable various levels of data currency to be sustained for different data, all within the same array.

Recovery-point objective—The amount of data that will be lost in the event of a disaster.

Recovery-time objective—The amount of time it takes to restart business operations.

Tiered Protection and Recovery allows you to meet required service levels—while containing costs—by matching price, performance, and availability requirements with the value of the data. The two applicable areas are:

- Local Replication software
- Remote Replication software

Local Replication

EMC offers the following choices for local replication: (Local replication means data replicas reside within the same array as the source data.)

For EMC Symmetrix

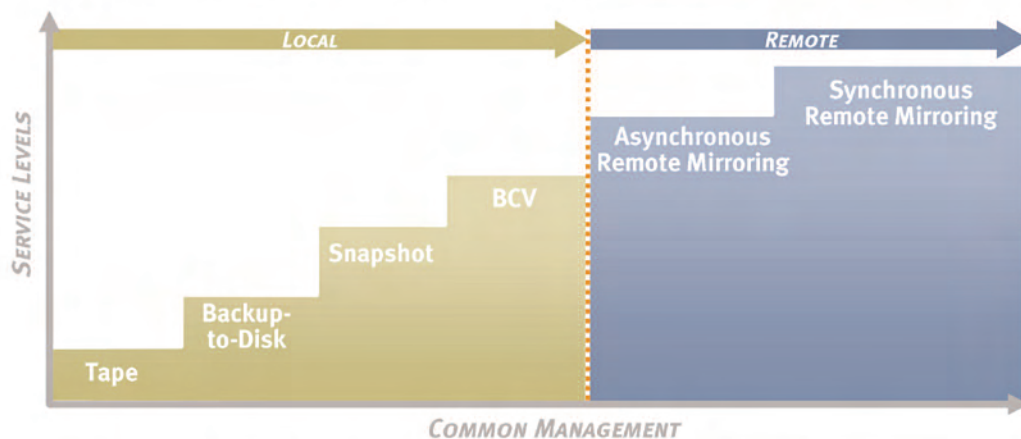
- **EMC TimeFinder Clone** is a full-volume copy that is immediately available and can be used to recover from corruption or equipment failure once the volume is completely copied in the background.
- **EMC TimeFinder/Mirror** provides full copy with differential resynchronization to deliver the highest levels of performance and availability.
- **EMC TimeFinder/Snap** is a capacity-saving, pointer-based replication product, used to make copies when the cost of capacity for full mirrors can't be justified.

Mirrors require 100 percent additional capacity for local replicas.

Snapshots require 10-30 percent additional capacity for local replication.

Figure 2 — Tiered Protection and Recovery

Previously, the choices for managing data replication were extreme: at the high-end—fully protect information with full-volume, offsite copies. At the basic level: back it up.



Today, there is a wide range of both local and remote replication technology choices available to meet a wide variety of protection and recovery requirements. One of the most significant developments has been the availability of common management of replicas across this spectrum of choice.

For CLARiiON

- **EMC SnapView** provides full copy with differential resynchronization or pointer-based copy.

For Celerra

- **EMC TimeFinder/FS** provides a full-volume copy of a production volume with differential resynchronization capability to quickly refresh the production volume with changed data. TimeFinder/FS also provides a pointer-based copy that does not require as much capacity as a full-volume copy.
- **Celerra SnapSure** provides a read-only, point-in-time view of Celerra file systems and is pointer-based. It is used mostly for low-activity, read-only applications, and also has a simple file undelete feature.

Remote Replication

EMC offers the following choices for remote replication:

For Symmetrix

- **EMC SRDF/S (Symmetrix Remote Data Facility/Synchronous)** offers full-copy (peer-to-peer) replication at communication link distances of up to 200 kilometers with no data loss. SRDF/S has been deployed in thousands of customer environments and is considered the gold standard for remote replication.
- **EMC SRDF/A (Symmetrix Remote Data Facility/Asynchronous)** provides asynchronous remote replication at unlimited link distances with a recovery-point objective that can be user-defined. SRDF/A is completely transparent to an application with no performance degradation to the production environment.

SRDF plug-in functionality

- **Cluster Enabler** enables any SRDF software product to operate with a clustered server environment.
- **Consistency Groups** link together multiple disparate databases to maintain ongoing remote replication to a consistent recovery point for all applications that share a common database. (See Advanced Business Consistency on page 12)
- **Automated Replication (EMC Symmetrix Remote Data Facility/Automated Replication)** provides low-cost, point-in-time copies on a scheduled basis over extended distances with less bandwidth than SRDF/S or SRDF/A.

For CLARiiON

- **EMC MirrorView** provides synchronous, full-copy, replication with no data loss. MirrorView has been fully tested at distances up to 200 kilometers providing a business continuity solution that could survive a local or regional outage.
- **EMC MirrorView/A** provides asynchronous remote replication at unlimited distances and at moderate cost. MirrorView/A represents a significant advantage over tape-based recovery by dramatically improving the recovery point from days to minutes or hours.

For Celerra

- **EMC Celerra Replicator** provides server-based, point-in-time, read-only file system copies over IP.

EMC Rainfinity Global File Virtualization

EMC Rainfinity Global File Virtualization enables both read and write access to data being moved between NAS devices while maintaining failback capability. It supports synchronous and asynchronous IP replication for CIFS and NFS environments.

For Centera

- **EMC CentraStar** enables bi-directional replication between two Centera systems over a wide area network (WAN). Combined with Centera's single-instance content-addressing capability, it ensures the object (document, file, or record) is not only protected in two locations, but also allows end users to access each copy simultaneously.

For Windows Server environments

- **EMC FullTime RepliStor** software provides server-based, asynchronous data replication over an IP network to protect a Windows server environment from a server failure or site outage.

Heterogeneous Replication and Continuous Data Protection

EMC RecoverPoint products offer Continuous Remote Replication (CRR) and Continuous Data Protection (CDP) for heterogeneous server and storage environments. RecoverPoint provides enhanced local and remote replication with realtime recovery and instant information access to any point in time. Network bandwidth is reduced by 3x to 15x utilizing integrated WAN acceleration and compression. This is ideal for asynchronous remote replication across low-bandwidth or long-distance networks.

Data Mobility and Migration

These choices deliver the ability to move volumes of information between heterogeneous storage arrays without using a server to perform the movement. Data Migration tools enable transparent technology refresh capabilities with minimal interruption to application availability. Data Movement tools facilitate the movement of point-in-time images to more cost-effective storage for use as a vault for recovery purposes. These tools also facilitate the movement of information for the uses of testing and development without impacting the production environment.

- **EMC Open Replicator for Symmetrix** enables high-speed data mobility, migration, and remote data vaulting between Symmetrix DMX and any qualified storage system. It allows you to leverage a tiered storage environment by providing a simple, fast, and open way to copy, move, or migrate point-in-time data between Symmetrix, CLARiiON, and qualified third-party storage systems over existing SAN infrastructures. (See Figure 3)
- **EMC SAN Copy for CLARiiON** enables high-speed data mobility between storage systems that allows you to leverage a tiered storage environment by providing a simple, fast, and open way to copy, move, or migrate data. SAN Copy rapidly copies data between CLARiiON and Symmetrix systems—and even between EMC and HP, IBM, and Sun storage arrays.

For Open Systems:

- **Open Migrator/LM** provides host-based non-disruptive data mobility at the volume level which is transparent to online applications. It supports Windows and major UNIX platforms.

For Mainframes:

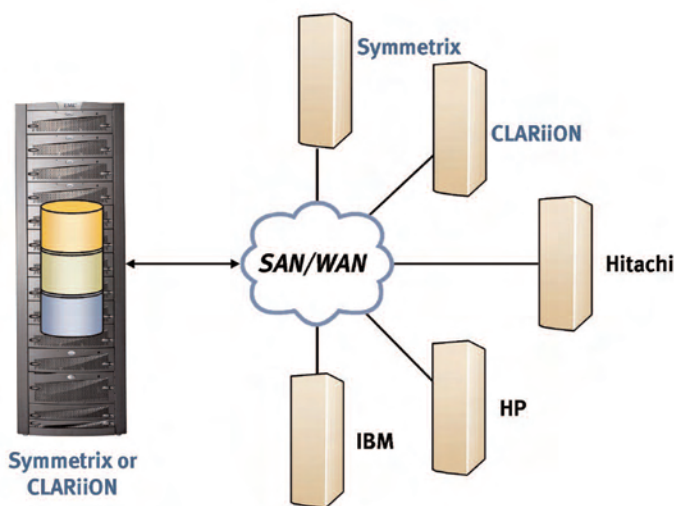
- **EMC/Softek Logical Data Migration Facility (LDMF)** provides host-based non-disruptive data mobility at the dataset level. Catalogs are automatically updated while applications remain available.

File Distribution:

- **EMC OnCourse** replaces manual and scripted file distribution with open, reliable, and easily managed automated processes. OnCourse's open architecture enables it to perform file transfers across both EMC and non-EMC environments. This product is also able to perform any required pre- and post-processing among different server platforms. OnCourse eliminates the repetitious and error-prone file movement tasks while enabling centralized information distribution and file backup.

Figure 3 — Data Mobility and Migration

There is a wide range of replication technology choices to facilitate data migration and mobility. Today you can transparently move volumes over a SAN using either a CLARiiON or Symmetrix DMX system as a source or a target to other heterogeneous arrays in the same SAN.



EMC OpenReplicator migrates point-in-time copies either to or from Symmetrix DMX to or from any other storage array.

Scalable Backup, Recovery, and Archiving

A range of solutions to meet any service level requirement for backup, recovery and archive. EMC's approach includes the software and services to automate backup, recovery, and archive processes across the full spectrum of media: from tape and low-cost high-capacity disks, to purpose-built appliances optimized for backup, and specialized arrays to manage fixed content. (See Figure 4)

Backup and Recovery Software Choices

- **EMC Legato NetWorker** software helps you backup your critical enterprise applications at record speed. It includes a policy engine and intuitive user interface to automate management and simplify the entire backup and recovery process. Snapshot management tools provide instant data protection and rapid recovery by giving you complete control of third-party snapshot tools.

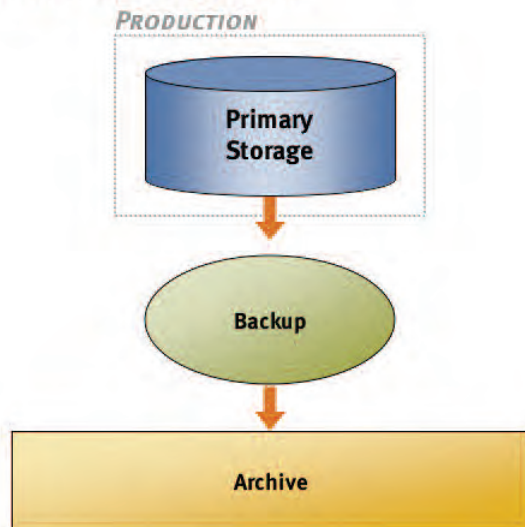
Backup and Recovery Platform Choices

Backup-to-Disk SAN and LAN:

- **EMC CLARiiON CX3, CLARiiON AX, and Celerra NS** are storage arrays with ATA disk that can be used as backup targets for open systems that connect to either a SAN or IP network. They are good choices if you need faster recovery times, regardless of how you do your backups today, and want to use a disk array for both production and backup.

Figure 4 — Backup, Recovery, and Archive

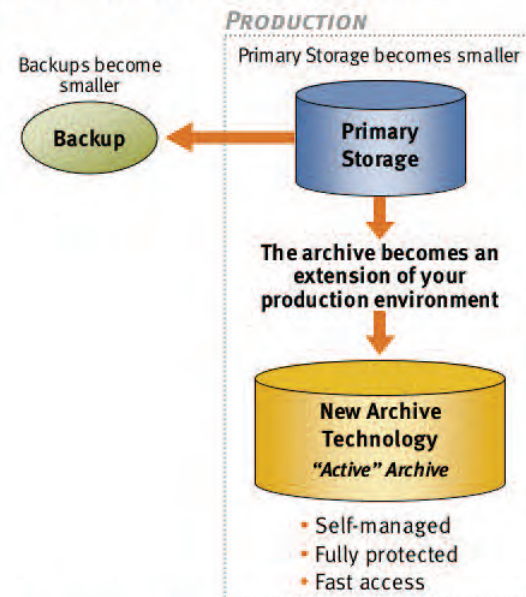
Traditional Approach



In the traditional approach, growth in the production application environment is absorbed by expensive, primary storage.

As primary storage requirements grow, so do backup, recovery, and archival requirements, and staff spend more reactive time tuning performance to keep pace with growth.

EMC: The Value of the Archive



A self-managed, fully protected archive with fast access enables production data to be archived earlier. Primary storage and backup become smaller and more manageable. Restores are easier, and service levels are improved for the archive.

Tape Emulation:

- **EMC CLARiiON Disk Library** enables a storage array to emulate open systems tape libraries, drives, and cartridges. Tape emulation provides performance and availability benefits you can't get with tape. It integrates into the existing tape environment, including vaulting and management procedures, so that no process change is required. Tape emulation is a good choice if you want the advantages of disk, without changing your existing environment. (See Figure 5)
- **ADIC Tape Solutions** provide tape-based solutions for open systems backup/restore storage requirements for environments that do not have aggressive service levels for recovery-time objectives and are looking for the lowest possible acquisition cost.

Archive Software and Solution Choices

- **EMC EmailXtender** consolidates archival and management for e-mail content from Exchange and Lotus e-mail environments. It enables self-managed storage of e-mail with seamless and automated migration of archival content to secondary storage. Consolidation via tiered storage is a critical enabler of this solution, allowing selection of the right hardware platform to address the unique cost and compliance objectives.
- **EMC DatabaseXtender** software helps you efficiently migrate inactive Oracle database transactions onto more cost-effective storage to reduce costs and improve critical application and database performance.
- **EMC DiskXtender** provides intelligent data management to optimize storage resource utilization and reduce primary storage costs. It provides a policy engine that automatically

moves data from primary storage to the most appropriate secondary storage based on migration policies set by administrators.

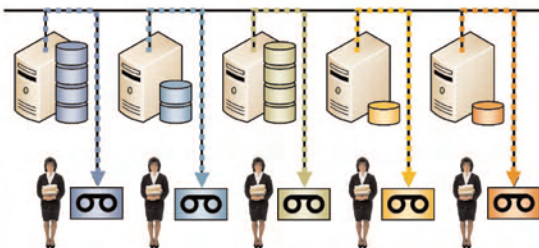
- **EMC Documentum Content Storage Services** adds metadata intelligence to content to facilitate data movement between tiered storage platforms, ensuring that the right information resides on the right storage platform to deliver the required service level required as the value of the information changes.
- **Content Archiving and Retrieval Solution (CARS)** is a collaborative service between EMC and EMC partners to develop compliance programs that utilize EMC's tiered storage platforms as the storage infrastructure to their solutions.

Figure 5 — Tape Emulation (Backup-to-Disk)

Before

Backups Ran to Tape Only

Local Area Network

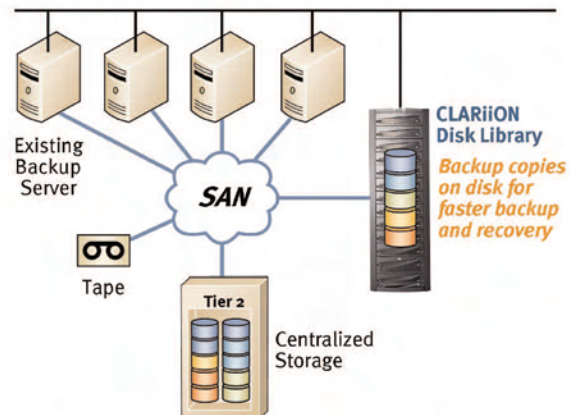


Backups were made only to tape. Applications were backed up individually over the LAN with multiple backups being taken in case there were errors on one copy. When a restore was needed, the entire backup file had to be read back. The restore from tape could take more time than the backup process.

After

Backup-to-Tape, or Backup-to-Disk for Faster Backup and Restore

Local Area Network



Now there is a wider range of choices for backup. Tape libraries can be replaced with the CLARiiON Disk Library, providing the benefits of backing up to disk without having to change scripts or processes. The restore process is done at disk speed rather than tape speed. Using NAS gateway appliances, enterprises are able to tie all of their backup environments together in a single, unified backup environment.

Archival Platform Choices

- **EMC Centera Content-Addressed Storage** is an infrastructure-class solution that addresses active-archive regulatory governance for digital information in its final form and that should never be altered, such as legal documents, medical x-rays, and check images.
- **EMC Centera Governance Edition** delivers faster performance and robust manageability for active archiving. Options include two distinct levels of data protection, with advanced compliance features such as audited delete, retention classes, and configurable default retention period. (See Figure 6)
- **EMC CLARiiON CX3, CLARiiON AX, and Celerra NS** active archiving solutions for SAN and NAS environments are storage arrays with ATA disk that can be used as archive targets that connect to either a SAN or IP network. They are good choices if you need faster access times than tape or optical can deliver, and want to use a disk array for both production and archiving.
- **ADIC Tape Solutions** provide passive offsite long-term archiving for environments that do not have high-performance service-level requirements and are looking for the lowest acquisition cost.

Replication Management

Replication Management allows storage and applications administrators to fully leverage the functionality of tiered replication and vastly simplifies their management.

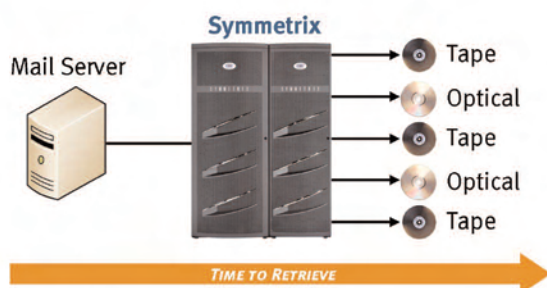
The need for automated replication management has never been greater. Storage administrators are responsible for keeping the business going, no matter what. With the volume of information growing, and environments becoming increasingly complex, it's all too easy to make costly mistakes.

Replication management tools for storage operations automate user-defined tasks, placing administrators firmly in control while reducing risk and eliminating the need for deep understanding of underlying technologies. They provide efficient and accurate data replicas for business continuity, automate deployment and management of replicas in multi-vendor environments, and enable new clustering capabilities.

- **EMC Replication Manager/SE** provides rapid deployment and simplified, GUI-based management for intra-array replicas. Designed for CLARiiON/Windows, it is used with Exchange and/or SQL.
- **EMC Replication Manager** (a superset of Replication Manager/SE) EMC Replication Manager provides application-centric replication management and automation of local and remote replication technologies for Symmetrix, CLARiiON, and Invista environments. Full support is provided for UNIX, Linux, and Microsoft Windows environments as well as Oracle, UDB, and Microsoft SQL Server databases, Microsoft Exchange and filesystems. Replication Manager coordinates the entire replication process—from configuration to automated mounting, dismounting, scheduling, and expiration of replicas.
- **CLI** (command line interface) provides end-user flexibility and control over replication automation.

Figure 6 — E-Mail Archiving Compliance

Before



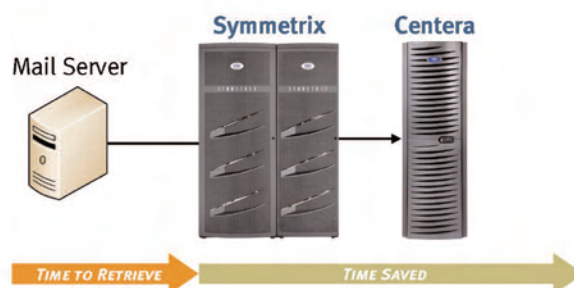
Actions:

1. Monitor mailbox limits
2. Move e-mail
3. Choose tape or optical
4. Rewrite tapes over time
5. Test e-mail availability
6. Monitor retention limits

*No integrity
No authenticity
No assured retention
No assured disposal*

There is no assured content authenticity or integrity. User mailboxes are subject to size limits. Choices are limited, with the alternative often only either tape or optical; slower and less reliable mediums with more limited performance than disk.

After



Actions:

1. Set policy: e-mail is moved

*Integrity
Authenticity
Compliant Retention
Compliant Disposal*

Utilizing a unique WORM-like online media, satisfying regulatory compliance on information retention is much easier. ISVs and EMC Centera provide for infinitely scalable user mailboxes with much faster retrieval times than traditional HSM, optical, or tape solutions.

Application Integration

Application Integration Modules protect business-critical applications by enabling administrators to easily create and maintain a business continuity environment. These tools provide the ability to complete backup operations without degrading the performance or availability of production applications, while also facilitating high-speed, efficient restores.

Choices for Microsoft environments

- **EMC TimeFinder/Exchange Integration Module and EMC TimeFinder/SQL Integration Module** produce copies of Exchange/SQL Server with no performance impact, enabling administrators to perform full and incremental backups/restores. These Microsoft-supported tools are used with Symmetrix to provide high service levels with improved backup, recovery-time-objectives (RTOs), recovery-point-objectives (RPOs), and performance.
- **EMC Replication Manager/SE** provides application-centric replication management for SQL or Exchange. This Microsoft-supported tool is used with CLARiiON/Windows to provide high service levels with improved backup, RTOs, RPOs, and performance.

Choices for Database and ERP environments

- **EMC Replication Manager** (a superset of Replication Manager/SE) EMC Replication Manager provides application-centric replication management and automation of local and remote replication technologies for Symmetrix and CLARiiON environments. Full support is provided for UNIX, Linux, and Microsoft Windows, as well as Oracle, UDB, and Microsoft SQL Server databases and filesystems.
- **EMC Replication Accelerator for Oracle E-Business Suite.** Creating Oracle E-Business Suite 11i clones can be complex and difficult, but this solution from EMC and Oracle eliminates risks by enabling customers to clone a point-in-time mirror copy while production systems remain online. It's the first and only Oracle-validated and supported solution for use with Oracle RapidClone for creating clean clones of Oracle11i application environments.
- **Replication Accelerator for SAP Productivity** streamlines generation of database replicas. This tool enables Basis administrators to make copies of the SAP environment for testing, development, or for recovery purposes due to corruption or equipment failure.

Advanced Business Consistency

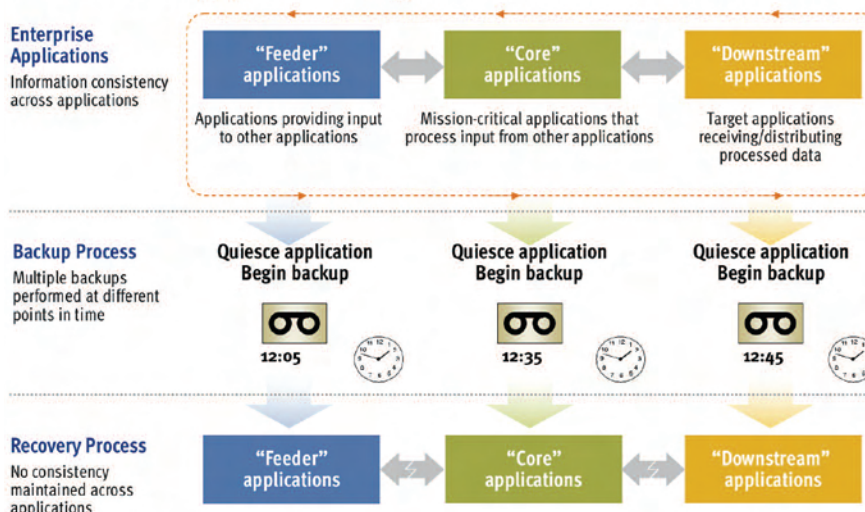
In many complex IT environments, information access extends across multiple control units, operating systems, databases, and applications. For instance order entry, inventory, Web-based commerce, and service records all may share common databases and therefore need to be consistent with each other at the transaction level. In order to restart a portfolio of applications that span multiple servers, operating systems, databases, and applications, all data must be consistent across the enterprise, at a single point in time. (See Figure 7)

- **EMC SRDF Enterprise Consistency Groups** (for Symmetrix) manage data propagation from source volumes to corresponding target volumes for disaster recovery and continuance.
- **EMC TimeFinder Enterprise Consistency Groups** (for Symmetrix) provides point-in-time local replication with cross-volume and storage-system consistency.
- **EMC AutoSwap** transparently moves application workloads from disks in one Symmetrix system to disks in another, or within the same Symmetrix, with no disruption to operations for z/OS (OS/390 et al) environments.
- **EMC AutoStart** for open systems manages automated application restart on an alternate server, either local or remote, in the event of a planned or unplanned service disruption or disaster. Upon request, AutoStart automates fail-back of your services, application, and data to ensure business continuity quickly and efficiently. AutoStart works in conjunction with SRDF Synchronous and Asynchronous to manage the storage replication restart process. AutoStart seamlessly transfers control of storage resources to a remote facility in the event of remote host application restart.
- **Multi-Hop (SRDF/S+SRDF/AR)** is an implementation of SRDF that provides synchronous replication to a separate local Symmetrix, plus an asynchronous replica to a second remote Symmetrix. This allows point-in-time copies with no data loss and no distance constraints.

Figure 7 — Advanced Business Consistency

Before

Based on Backing Up Individual Applications

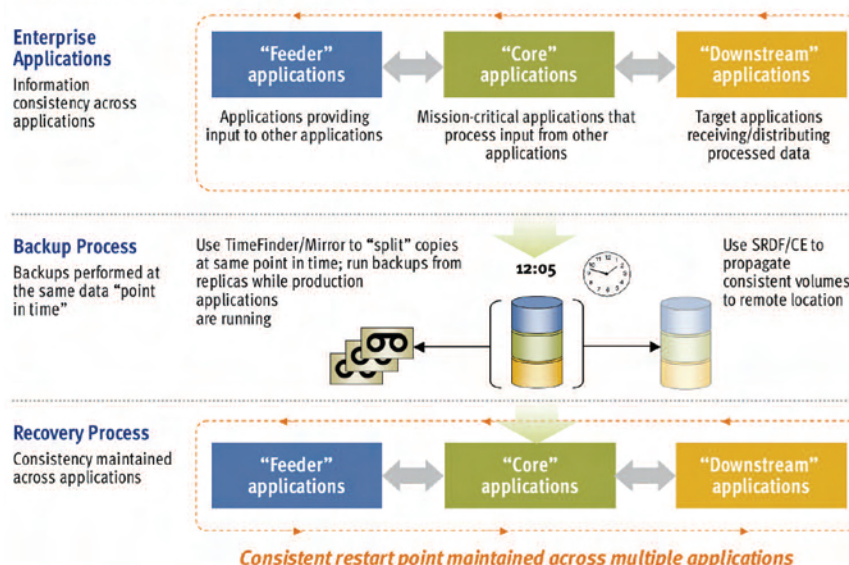


No consistent restart point across multiple applications

Backup and restore historically did not take into account the growing interdependency of application data. Restarting a business from individually backed up applications means restoring the data from whatever point in time those applications were backed up, and manually resynchronizing the applications with each other to resolve the differences. This process could take days.

After

Consistent Point-in-Time Backup



Consistent restart point maintained across multiple applications

Backing up all application data at a single point in time means having the ability to restart the business more quickly and efficiently, without having to manually resolve inconsistencies between applications. Today you can define a portfolio of applications where the data is interrelated, and backup or restore the data from those applications from a single, consistent point in time.

Multi-site Recovery with Continuous Protection

A powerful new way to conduct multi-site business recovery with resumption of protected operations. By combining the power of SRDF synchronous and asynchronous remote replication, you can deploy the most advanced three-site business continuance solution available today.

EMC SRDF/Star is a combination of:

- Powerful EMC Symmetrix DMX-3 High-end Storage delivering the performance, availability, and intelligent software to support the most aggressive service level requirements.

- Concurrent SRDF/S and SRDF/A to simultaneously run SRDF/S synchronous operations and SRDF/A asynchronous operations from the same volume to two separate systems in two different geographies. This combination of technologies gives you the best of both worlds, high availability with zero data loss within metropolitan distance, and cost-effective replication at any distance with minimal data exposure.

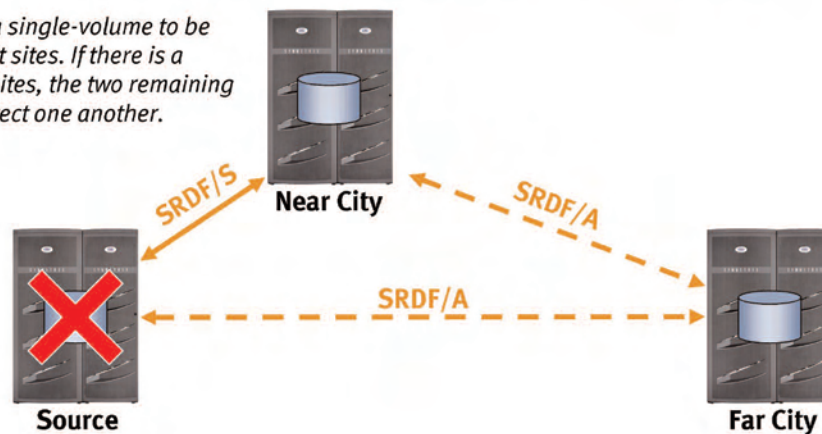
- And intelligent automation to switch operations to any designated site and still retain remote protection.

(See Figure 8)

Figure 8 — Multi-Site Recovery with Continuous Protection

Three Data Center Recovery and Failover/Failback Using SRDF/S and SRDF/A

EMC SRDF/Star enables a single-volume to be replicated to two different sites. If there is a failure at any one of the sites, the two remaining sites will continue to protect one another.



Manage the value of information.

Maximize the value to business.

Information lifecycle management (ILM) is a strategy for aligning IT infrastructure with the business based on the changing value of information.

EMC Corporation offers you today's best choices for implementing an ILM strategy for your enterprise so you can:

- **Improve total cost of ownership**
- **Raise service levels**
- **Simplify your infrastructure**

EMC is the only company offering a complete range of technology, service, and solution choices to bring information lifecycle management to life for your business.

To discover how these choices can impact your business, please review the contents of this brochure and also download EMC's other ILM Choices brochures from our website at www.EMC.com/ILM/choices.

Your local EMC representative is available to discuss these choices with you in more detail. Or call EMC directly at 1-866-464-7381.

EMC Choices for:

Backup, Recovery, and Archiving

- Business Continuity

Compliance

Consolidation

Content Management

Improving Total Cost of Ownership

Mainframe

Optimizing the Microsoft Technology Platform

Oracle Applications and Databases

SAP

Simplifying Information Infrastructure

Take the Next Step

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EMC Corporation

Hopkinton
Massachusetts
01748-9103
1-508-435-1000
In North America 1-866-464-7381

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