

Introduction to Business Continuity

Upon completion of this module, you will be able to:

- Explain the concept of Business Continuity
- List the benefits of Business Continuity regarding expenses incurred as a result of downtime
- Explain how EMC uses Local and Remote mirroring in its storage methodologies to maintain data protection

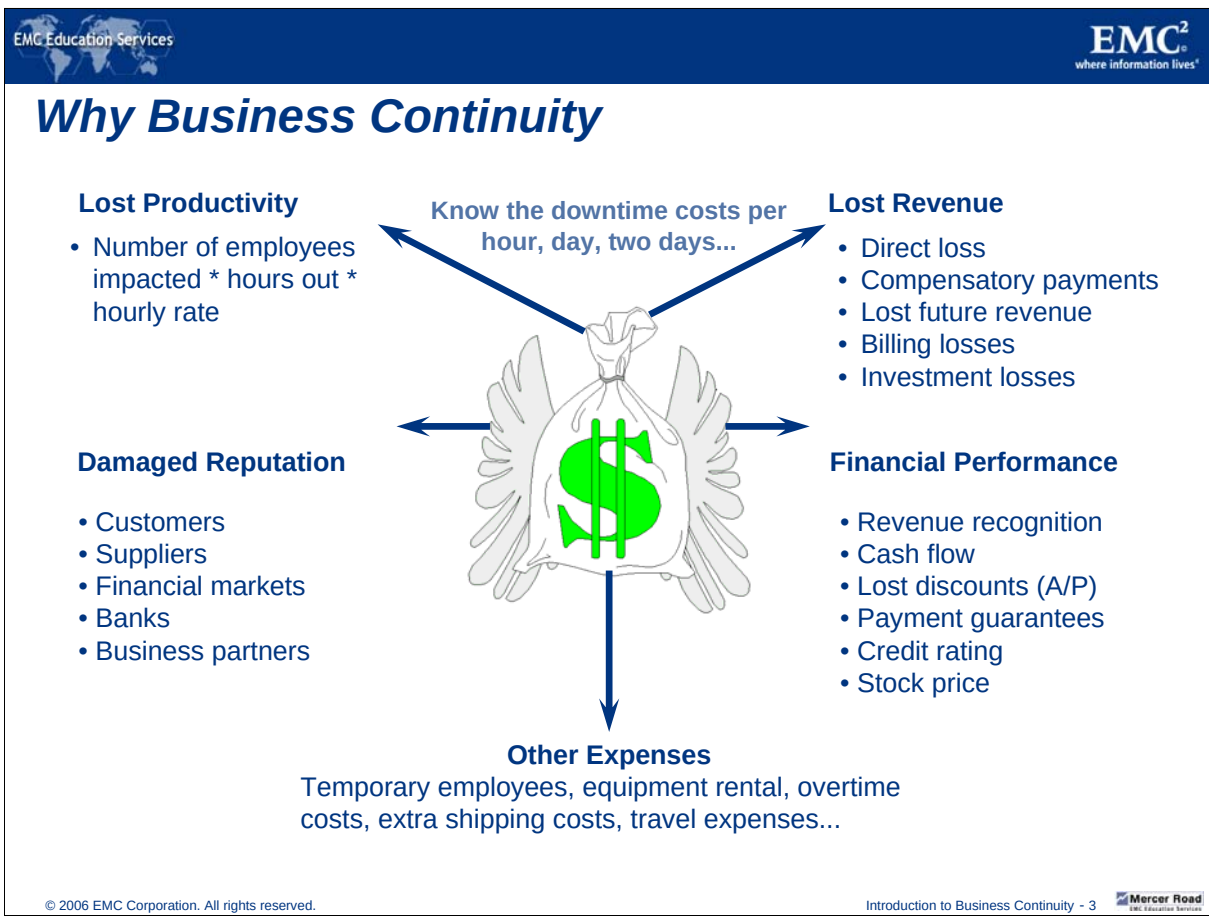
This module introduces Business Continuity Solutions. It starts with a basic definition, then shows the business requirements for Business Continuity, followed by the history of Data Protection as a key component to Business Continuity.

The objectives for this module are shown here. Please take a moment to read them.

What is Business Continuity

- Business Continuity is the preparation for, response to, and recovery from an application outage that adversely affects business operations
- Business Continuity Solutions addresses systems unavailability, degraded application performance, or unacceptable recovery strategies

Business Continuity remains at the top of every executive's priority list. Yet executives find themselves in a financial tug-of-war between business continuity solutions and other projects, competing for limited resources. Fundamental to business continuity is the need to understand an organization's practices relative to the protection, availability, and usability of data.

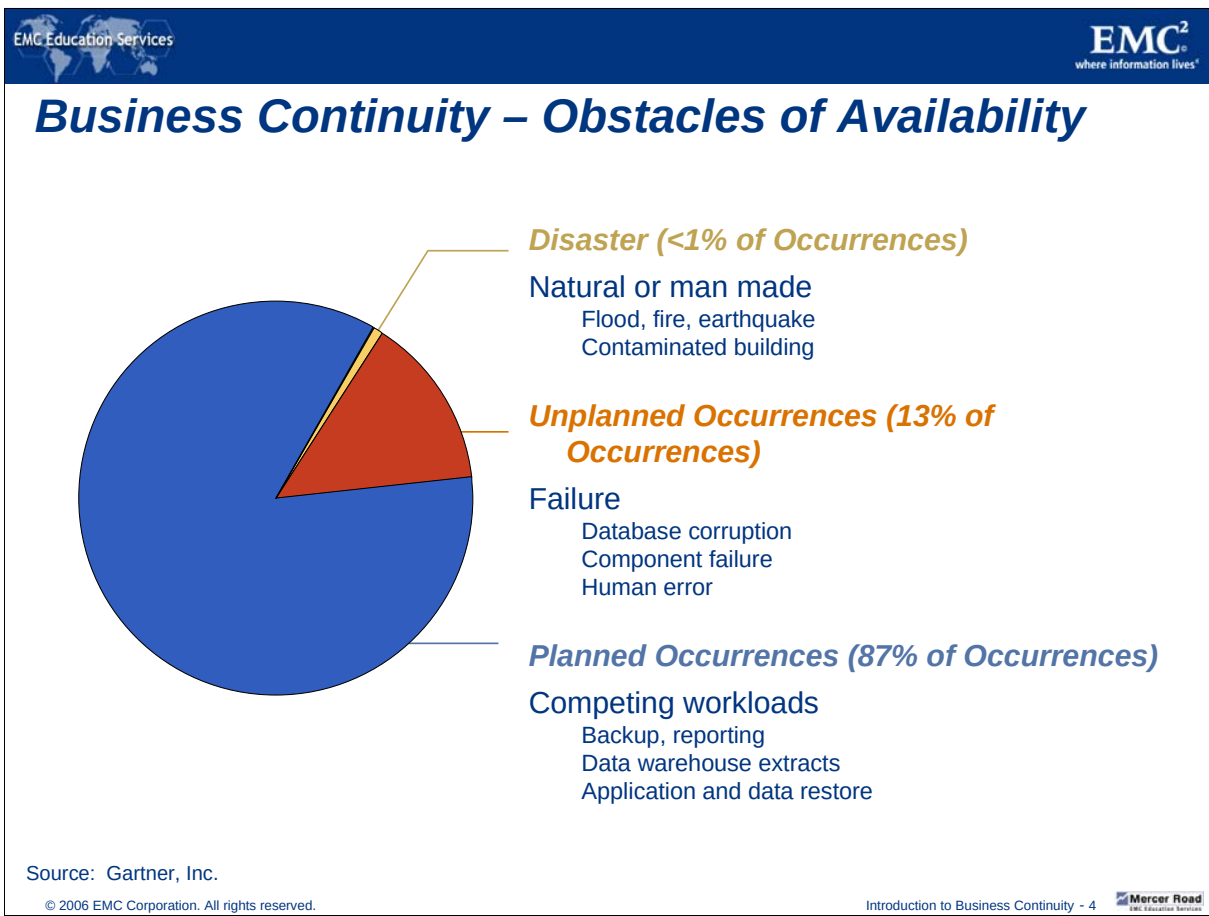


There are many factors that need to be considered when calculating the cost of downtime. A formula to calculate the costs of the outage should capture both the cost of lost productivity of employees and the cost of lost income from missed sales.

The Estimated average cost of 1 hour of downtime = (Employee costs per hour) * (Number of employees affected by outage) + (Average Income per hour).

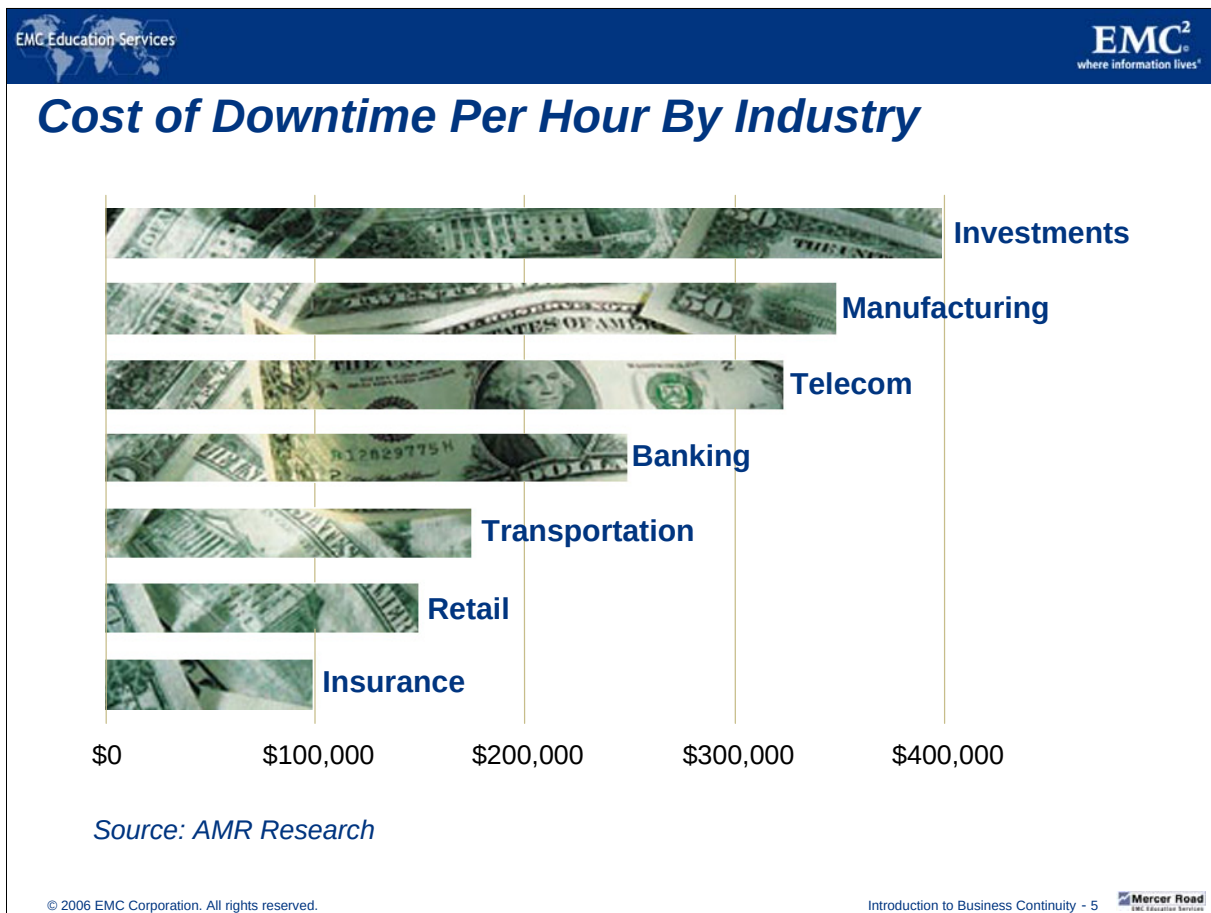
Employee costs per hour is simply the total salaries and benefits of all employees per week, divided by the average number of working hours per week.

Average income per hour is just the total income of an institution per week, divided by average number of hours per week that an institution is open for business.



Elevated demand for increased application availability confirms the need to ensure business continuity practices are consistent with business needs.

Interruptions are classified as either planned or unplanned. Failure to address these specific outage categories seriously compromises a company's ability to meet business goals.



The selection of a business continuance solution includes many factors, but the most important factor is typically the cost to invest in the solution. This cost can encompass hardware, software, floor space, people, time, etc.

To put into perspective the cost to invest in a business continuance solution, it is important to understand the loss of revenue for downtime. AMR Research put together a chart based on category of industry (see slide) to demonstrate the dollars of revenue lost per hour of system downtime. A business continuance solution is an insurance policy for the protection of your data. Is losing or compromising the integrity of your company's critical information a risk you are willing to take?

EMC's Technology Solutions (TS) organization is made up of experts who understand 24x7x365 continuous availability, and the use of EMC systems and software to achieve it. They address information storage needs from a strategic perspective, and focus on the business requirements and the application of storage technology to address those requirements. EMC's consultants use a framework of proven processes and industry-leading best practices and methodologies. This framework addresses all phases of an enterprise solution, and ensures a consistent and effective process for creating an information-centric infrastructure.

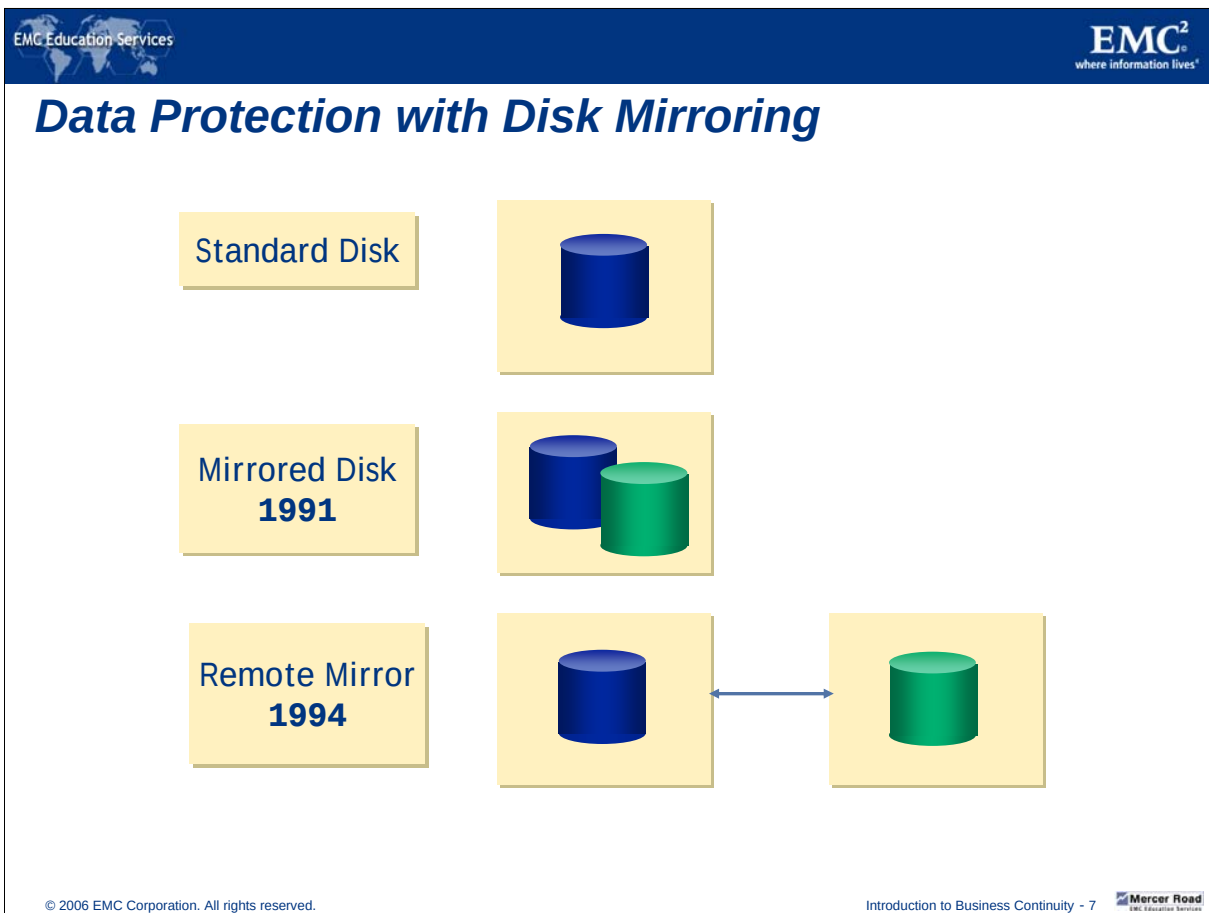
Business Continuity Starts with Data Protection

- Local Mirroring is a method for protecting data by maintaining the data on two mirrored volumes within the same storage unit
- Remote Mirroring is a method for protecting data by maintaining the data on two mirrored volumes, with the volumes residing in different storage units

Without the Data there is no Recovery!

The technique that EMC has embraced for data protection is to use multiple copies of data. This is not a new idea. What EMC has brought to the table is new and unique, intelligent storage methodologies that:

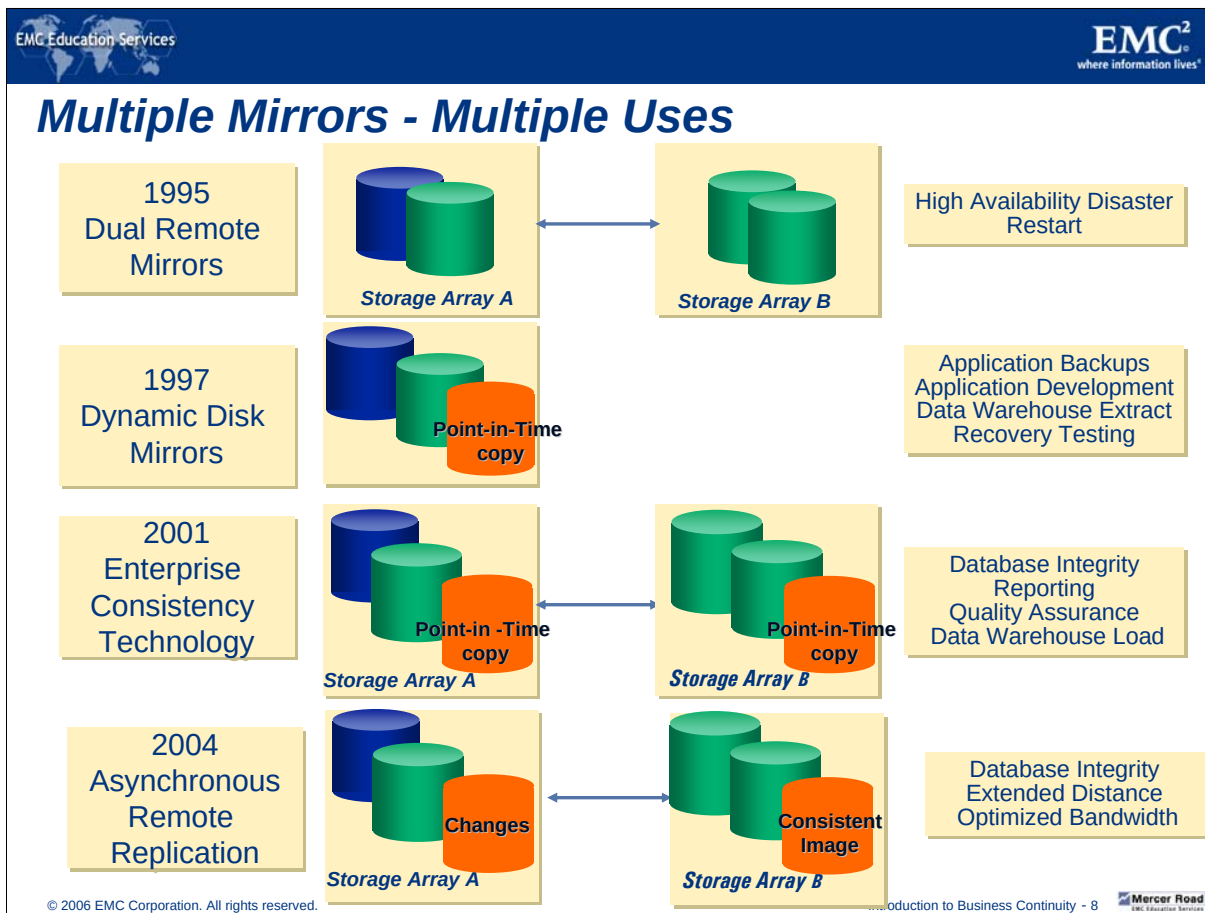
- Replicate data internally within storage arrays, or externally across distances between storage arrays
- Facilitate and enable parallel access to data instances
- Allow users to perform various workloads without conflict
- Dramatically change the time, effort, risk, and complexity of remote business resumption



Before Mirroring, the entire drive would be allocated for data and, used by the operating system or application, and be unprotected in the event of a failure.

Disk Mirroring introduced a technique in which data is simultaneously written to duplicate disks. If one of the disks fails, the system or application can continue without any loss of data or disruption in service.

First introduced by EMC, Remote Mirroring extended the Data Protection across Storage Subsystems protecting against a drive and subsystem failure. If a drive failed, access was only available on the secondary storage subsystem.

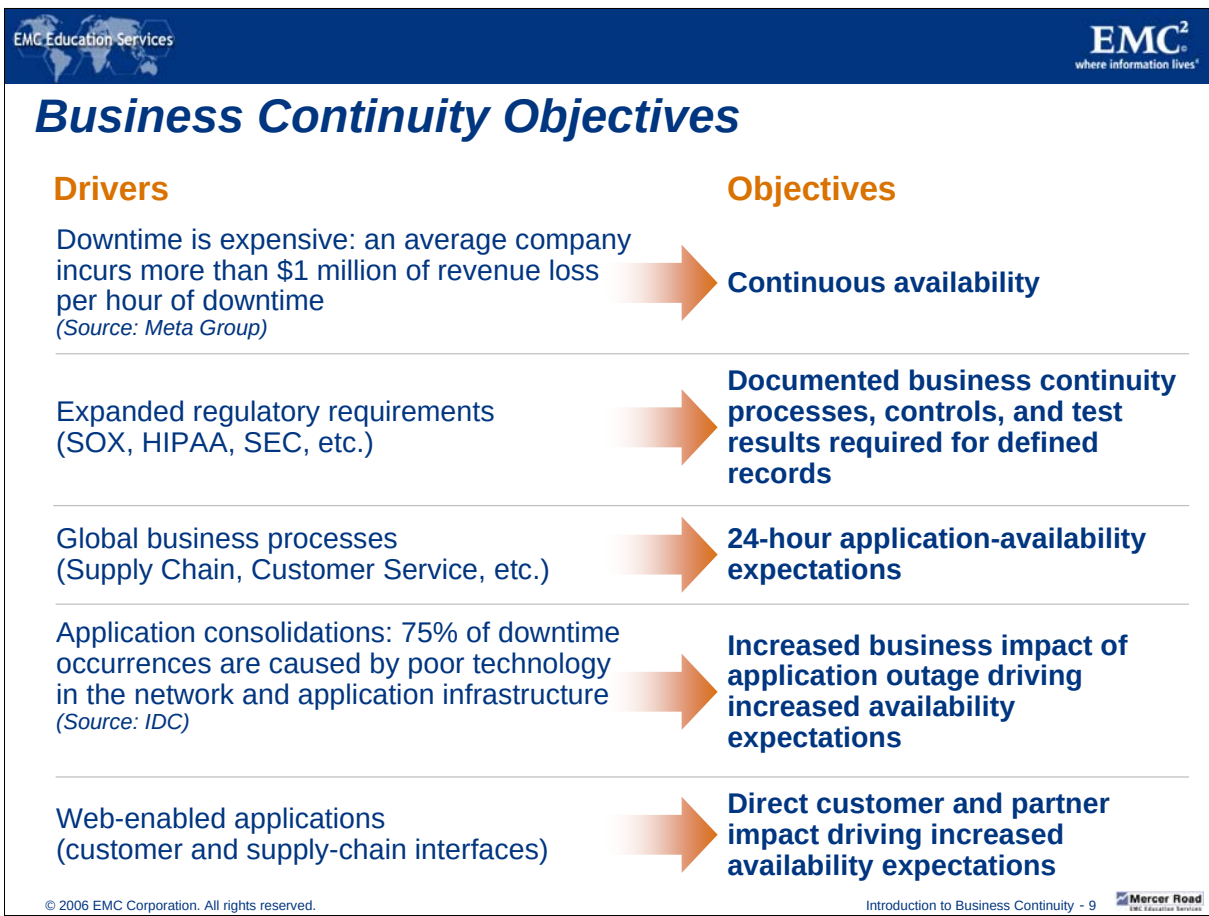


Dual Remote Mirroring offered local protection, as well as the extended protection across storage subsystems. This offered local protection against a drive failure, so access to data was not required to span the secondary storage subsystem.

Dynamic Disk Mirroring introduced a technique in which a special disk device is dynamically mirrored to a mirrored disk pair and split for business operations.

Enterprise Consistency Groups introduced the ability to have a restartable point of consistency image across platforms.

Asynchronous Remote Replication introduced a method of ensuring a consistent, recoverable, and restartable remote copy of production data at all times, over extended distances, with no host application impact.



Strong recovery programs must be built upon careful analysis of business processes and all supporting components, from the hardware, software, network, data center, and other facilities that comprise the IT environment.

Organizations must first establish a comprehensive Business Continuity Plan, which supports the Business Continuity Objectives. The plan should address the issues customers are facing, some of which are:

- Increasing regulatory pressure for improved Business Continuity capabilities required by standards and government organizations.
- Understanding complexity of application interdependencies and determining information flows.
- Leveraging new technologies that promise higher levels of protection.
- Maintaining the plan to accommodate changes in IT infrastructure and new business requirements.



No matter what level of availability a business demands, EMC can help meet that demand with a range of solutions. EMC's wide range of solutions allow you to align the technology to business needs, as follows:

- Platform solutions ensure that repairs can be made with minimal disruption to the business.
- Backup/recovery solutions offer streamlined backup processes and technologies mapped to business needs, including Legato NetWorker, backup to disk, CLARiiON Disk Library, ADIC, other tape solutions, assessments, and data classifications.
- Remote information solutions allow replication of critical data to secondary sites
- Remote protection solutions enable nearly instant restart capabilities, even if a site is lost.
- Multi-site processing solutions provide not only instant restart capability, but continuous mirroring at multiple locations (for three or more sites at longer distances).

Business Continuity is a Core EMC Competency

- In-depth knowledge and experience
 - Information management
 - Mission critical environments
 - BC planning and technology
- Disciplined and proven methodology
- Ability to provide objective site & platform roadmaps and recommendations
- Commitment to customer satisfaction
- Strategic alliances and partnerships

EMC has been, and is, the recognized industry leader providing the highest level of recovery capabilities and business continuance solutions in the world today.

Module Summary

Key points covered in this module:

- The concept of Business Continuity
- Benefits of Business Continuity regarding expenses incurred as a result of downtime
- How EMC uses Local and Remote mirroring in its storage methodologies to maintain data protection

These are the key points covered in this training. Please take a moment to review them.