

Benefit from Disaster Recovery. . . Without a Disaster



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Startling Facts

- **87%** of businesses experience computer failure each year
- **50%** of businesses experience up to five failures each year
- The average number of days per failure is two days
- **25%** of businesses suffer bankruptcy immediately after a failure
- ***90% of businesses go bankrupt within two years of a significant failure***
 - “Financial and Functional Impact of Computer Outages on Businesses,” University of Texas



The Big Questions:

How much does downtime cost you?

What is the risk?

Is it in your budget?

Can you afford it?



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Topics of Discussion

- Why is Availability Important?
- Reliability vs. Availability
- What is Managed Availability?
- Benefit from Disaster Recovery
- Summary



Why is Availability Important?

- New IT Initiatives require availability:
 - Data warehouse/data marts/business intelligence
 - Bet-your-business ERP applications
 - (SAP® R/3®, J. D. Edwards etc)
 - 24x7 e-business/e-Commerce
- Distributed organisations
- Increasing importance of data
- Need to share information with users on other systems:
 - Mainframe, UNIX, Windows NT
 - Different Databases:
 - DB2®, Oracle®, SQL Server®, Sybase®, Informix®

Why is Availability Important?

24x7 availability is not a luxury,
it is a **necessity**

- Revenue loss and legal risk of downtime
- Supply chain - if one system goes down, others are affected
- Global users, remote workers

eBay stock suffers \$4 billion decline
as officials try to boost firm's image

By George Anders
[THE WALL STREET JOURNAL](#)

June 15 — As eBay Inc.'s stock continued to fall, officials of the online-auction company scrambled to rebuild the concern's image in the wake of its computer crash last week. At first glance, the company's predicament keeps getting worse. Investors slashed \$4 billion from its market value Monday, betting the company has done lasting damage to its reputation with its 3.8 million users.

Business units and customers increasingly have zero tolerance for downtime.



Managed Availability Defined

- Managed Availability is a methodology incorporating tools and skills applied across an entire computing enterprise, providing predictable, consistent access to any data or applications whenever or wherever required.



Managed Availability - Definitions

- **Disaster Recovery**
 - In event of an unplanned site loss – recovery is made possible .. Data and objects are stored offsite.
- **High Availability**
 - Applications and data are available and protected against downtime due to unplanned events during operating hours
- **Continuous Operations**
 - Applications and data are available and protected against downtime due to planned events during operating hours
- **Continuous Availability**
 - Applications and data are available and protected against downtime due to planned and unplanned events during operating hours .. often 24x7.

Signs You Need Managed Availability

- Shrinking Back-Up Windows
 - Shrinking by 66% per year (Gartner Group)
- Expanded Internet Dependence
 - e-Commerce/Web Enabled Information
- Global Computing/Mobile/Remote Workers
 - New Classes of Users/Driving 24x7 Requirements
- Integrated Applications for Efficiency
 - ERP/CRM/EAS – Exposes Entire Enterprise
- Server Consolidation
 - All Your Eggs in One Basket!



Reliability vs. Availability

- **Reliability:**
 - “Mean time between failure” measurement of a component or system
- **Availability:**
 - Data and applications *available* to users
 - Providing predictable access to data and applications
 - The management of planned and unplanned downtime

Example:

Taking a system down for backup does not impact “reliability” but it does impact “availability!”

Reliability - Some Realities

5 Component System

- CPU	99.0%
- DASD	99.0%
- Network	99.0%
- Monitor/Terminal	99.0%
- Peripheral Device	99.0%

System Reliability **95.0%**

Core Hours Impact	130 Hours Annually
24x7 Impact	438 Hours Annually



Managed Availability

High Availability

Fault Tolerance

Data Integrity

Disaster Recovery

UNPLANNED DOWNTIME

Continuous Operations

File Promotions
Database Reorgs

Workload Balancing

Application Performance Management

Hardware & Operating System Maintenance

PLANNED DOWNTIME



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High Availability is the Elimination of Unplanned Downtime

- **Fault Tolerance**
 - Human error
 - Machine error
- **Disaster Recovery**
 - Rapid recovery
- **Data Integrity**
 - Eliminate transaction re-entry
 - Reduce paper trail



Continuous Operations is the Elimination of Planned Downtime

- **Access to applications and data during**
 - Daily, weekly and monthly backups
 - Large batch processing jobs
 - Application upgrades
 - Database reorganisations
 - Routine hardware maintenance/upgrades

Elimination of Planned and Unplanned Downtime

Industry Trends

- Hardware failure accounts for 3% of all downtime
- Application and data availability issues make up the other 97%
 - 5% software related
 - 10% human error
 - 82% planned downtime

On the iSeries 95%+ of all downtime is planned.

How much does downtime cost you?

What is the risk?



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*Benefit from Disaster
Recovery. . .
Without a Disaster*



Benefit From Disaster Recovery *Without a Disaster!*

- Disasters are exceptionally rare.
- A Disaster Recovery solution is like an insurance policy.
- While you will rarely, if ever, face a disaster, you still need protection.



Benefit From Disaster Recovery

Without a Disaster!

- Events other than disasters disrupt availability much more frequently.
 - Hardware failures, localised power failures and so on are still rare but more frequent than disasters.
 - Maintenance may halt applications daily:
 - Database saves.
 - Database reorganisations.
 - Software upgrades.
 - Hardware upgrades.
 - General system maintenance.



Minimal Solution: Off-Site Tape

- Backup tape sent offsite nightly.
- Advantage: low hardware and software costs.
- Disadvantages:

–Protects data availability, not application availability.

–Requires long recovery times.

–Leaves “Orphan Data” unprotected.

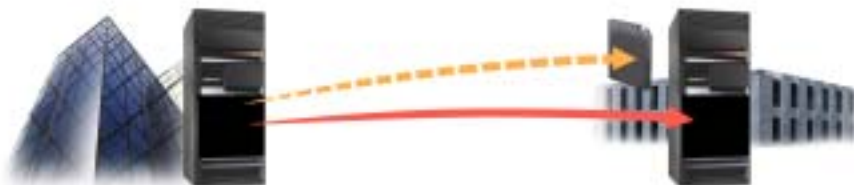
–Requires disruptions during saves.

–Provides value only during a disaster.



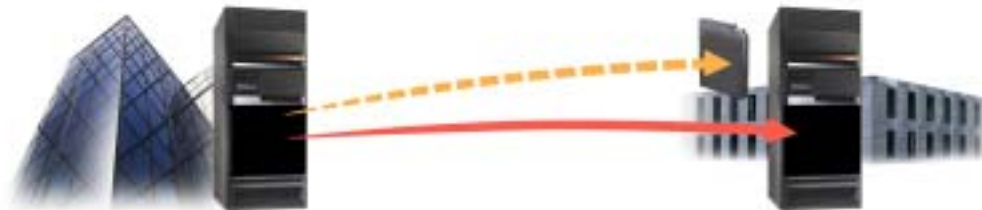
Better Solution: Data Vaulting

- Send backup tape offsite nightly.
- Continuously replicate updates, but don't apply them.
- Discard yesterday's updates when new tape arrives.
- When a disaster strikes:
 - Load the newest backup tape.
 - Apply the updates



Better Solution: Data Vaulting

- Advantages:
 - Can share facilities in third-party Disaster Recovery site.
 - Avoids “orphan data” problem.
- Disadvantages:
 - Still takes a long time to recover.
 - Only provides value in the event of a disaster.



Best Solution: Remote redundancy (1)

- Replicate databases offsite in near real-time.
- Maintain a fully redundant copy of data and objects on a hot-standby remote system.
- Perform database saves at the remote site.
- If disaster strikes, switch users to the remote site.



Best Solution: Remote redundancy (1)

- Advantages:
 - Near instant recovery.
 - Recover right to the point of failure.
 - Provides robust Continuous Operations and High Availability
- Disadvantage:
 - Must maintain two fully operational sites.



Best Solution: Remote redundancy (2)

- Same as remote redundancy (1) except:
 - Split each physical system into 2 logical systems using LPAR.
 - Production.
 - Backup.
 - Split the application load between two systems.
 - Use the backup partition on one system to back up the production partition on the other.



Best Solution: Remote redundancy (2)

- Advantages:
 - All of the advantages of remote redundancy (1).
 - Provides higher performance by splitting the application load between two systems.
- Caveat:
 - You must either accept less performance when one system is offline, or size both machines to handle the full load.



Benefit From Disaster Recovery *Without a Disaster!*

- Eliminate virtually all downtime from:
 - Planned maintenance.
 - Hardware failures.
 - Disasters.
- Thereby:
 - Increase revenue.
 - Improve productivity.
 - Enhance customer satisfaction and service.
 - Reduce recovery costs.
 - Reduce other expenses.



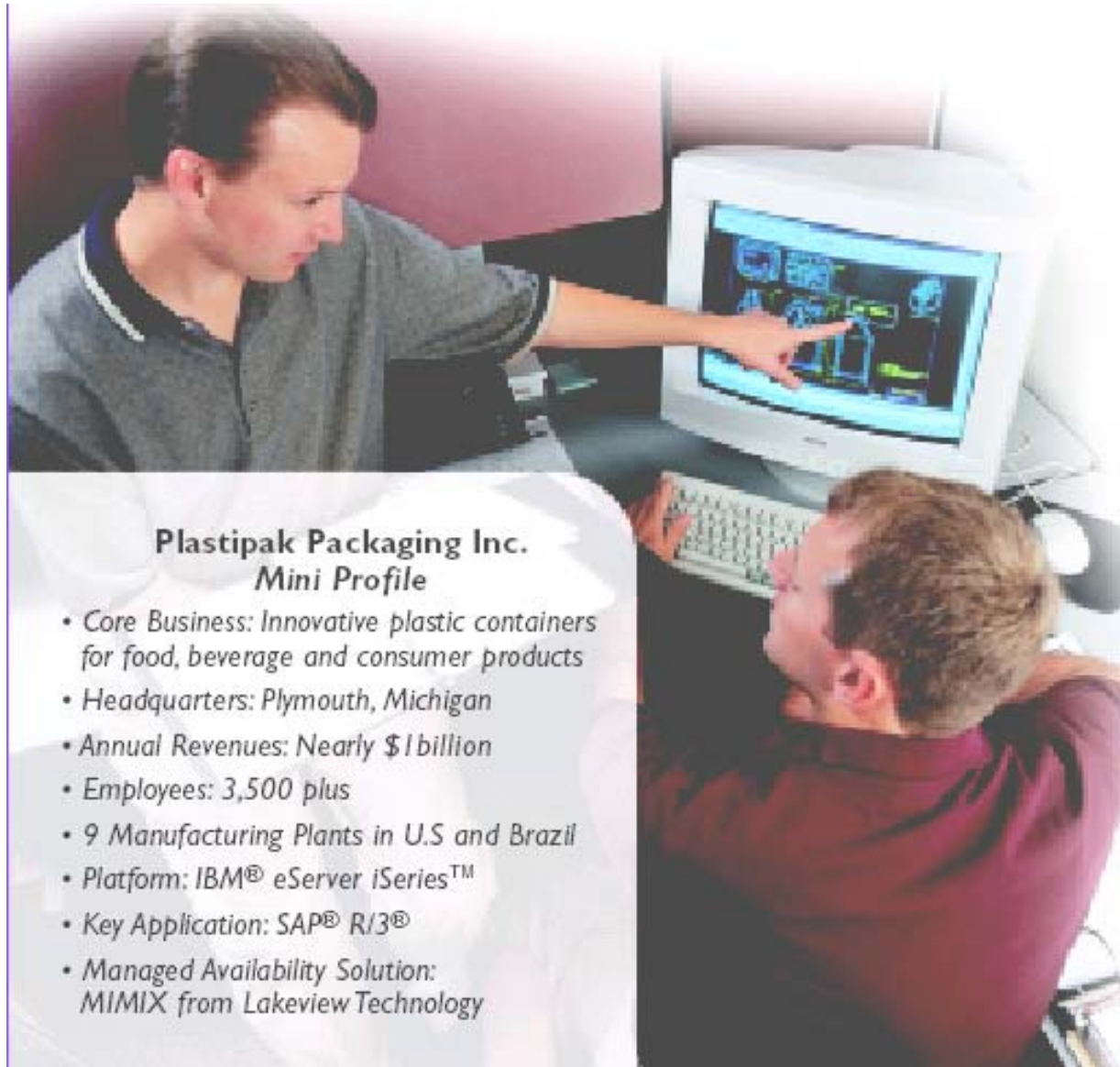


MIMIX™ Makes it Possible!

- High-performance, continuous replication over any TCP/IP network.
 - Enables data vaulting and redundant-remote solutions.
- Monitors primary system availability.
- Automatically switches users (failover) to the remote site when the primary system becomes unavailable due to a hardware failure or disaster.
- Manually switches users to the remote site during maintenance activities.



Case Study



Plastipak Packaging Inc. Mini Profile

- *Core Business: Innovative plastic containers for food, beverage and consumer products*
- *Headquarters: Plymouth, Michigan*
- *Annual Revenues: Nearly \$1 billion*
- *Employees: 3,500 plus*
- *9 Manufacturing Plants in U.S and Brazil*
- *Platform: IBM® eServer iSeries™*
- *Key Application: SAP® R/3®*
- *Managed Availability Solution: MIMIX from Lakeview Technology*



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Case Study:

- Requirements:
 - Continuous Operations.
 - High Availability.

= **Reliable 24x7 operations.**
- MIMIX for SAP/R3 return on investment:
 - Each hour of downtime costs at least £85,000.
 - Eliminates at least two hours per month of downtime.
 - Bottom line: MIMIX for SAP reduces downtime costs by more than £170,000 per month or over **£2 million per year.**



LABVIEW TECHNOLOGY

“Very little worry, very big ROI...”

MIMIX
makes it possible.

“The world’s most complex (and) integrated SAP R/3 SAP R/3 maintenance, automatically applied system configuration or which all critical data and applications reside. In the face of any emergency, MIMIX safeguards our precious assets.”

“But we don’t worry about system downtime because MIMIX for SAP R/3 maintains, automatically applied system configuration or which all critical data and applications reside. In the face of any emergency, MIMIX safeguards our precious assets.”

5x7 Flexible
SAP R/3 changes
in minutes

Plastipak

MIMIX
SAP R/3
SAP R/3
SAP R/3

www.MIMIX.com

Summary

- A MIMIX Disaster Recovery solution ensures:
 - Faster recovery.
 - Less lost data.
- In addition, it simultaneously provides robust High Availability and Continuous Operations.
- Thus, MIMIX provides a significant Return on your Disaster Recovery Investment, even if you *never* experience a disaster!



Conclusion

You CAN have your cake and eat it!



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REAL Solution iSeries Announcement
Table Discussion.

Stratford Room

11.25 - 11.45am

13:00 – 15.00pm



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Thank you for your time



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