



Business Unit or Product Name

IBM server™ & TotalStorage™  
UNIVERSITY 2003

**TWENTY FOUR SEVEN**  
**"e-business on demand."**

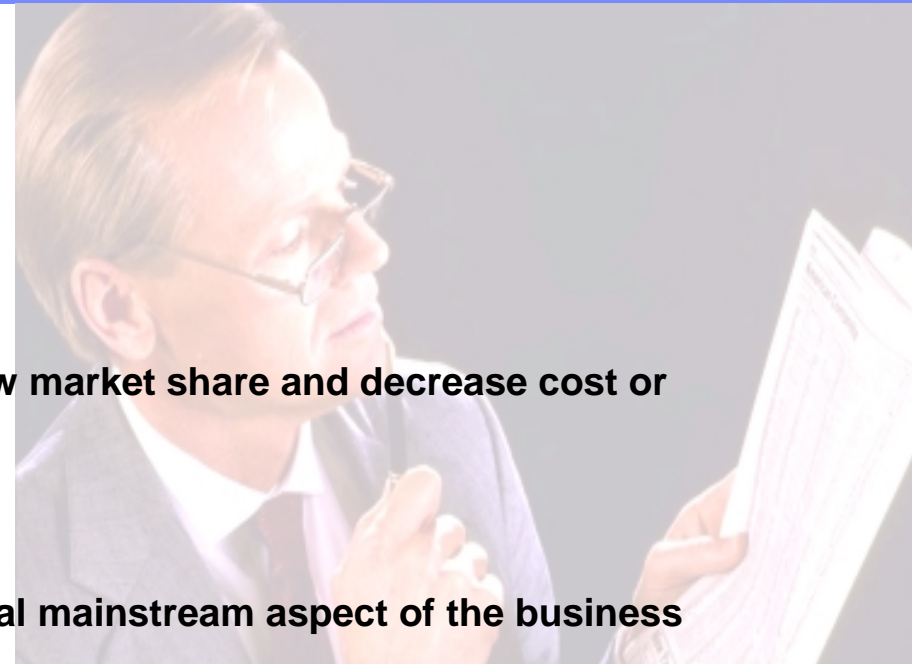
**Steven Finnes**  
**[finnes@us.ibm.com](mailto:finnes@us.ibm.com)**  
**[www.ibm/eserver/iserries/ha](http://www.ibm/eserver/iserries/ha)**

# Agenda

- The availability market defined
- What are the availability issues
- Help you customer justify HA with an ROI analysis
- What are the solutions
- What is new in 2003

# Business Environment

- ◆ **Return to profitability with revenue growth**
  - ◆ on wall street and in the board room
  - ◆ business will deploy technology only if it can both grow market share and decrease cost or increase margin
- ◆ **The mainstreaming of the "web" operations**
  - ◆ normal operations from an IT perspective
  - ◆ growth and dependence on this deployment as a normal mainstream aspect of the business
- ◆ **Continued consolidation of application packages and platforms to drive down cost, increase economies of scale**
- ◆ **A continued focus on business continuity as a natural extension of the integration of "ebusiness" into the foundation of business strategy... augmented by the 9/11 event**
- ◆ **What is the impact?**
  - ◆ **The IT resource will be utilized 24x7 (statement of ROI)**
  - ◆ **The IT infrastructure must be available twenty four seven (statement of revenue stream)**
    - The ebusiness movement means that all IT infrastructure will be in production at all times



# The HA Market

## Business Consequences of Outages



Source: IMEX Research.com Jan 2002  
 @ <http://www.highavailabilitycenter.com/index.shtml>

### Market:

- Top business issue for IT executives
- Demand for HA solutions has been growing at 20% CGR for the past three years
- e Infrastructure is driving the demand for 24x365 operations

### Customer:

- Server Consolidation
- Banking Srvcs, Financial Srvcs, Telecom, Manufacturing, e-Commerce, Health Systems,
- Distribution/Retail, Insurance, Health, Transportation

### Value:

- Eliminate planned down time = **asset utilization**
  - back-up window + maintenance = \$\$
- Minimize unplanned down time = **business continuity**
  - Local unplanned scenarios
  - Disaster recovery scenarios



# Start by defining the outage types

- **Scheduled outages**
  - The majority of all downtime is planned
    - Backups
    - PTF and OS installs
    - Application maintenance
    - Upgrades
- **Unscheduled outages**
  - **Locally Recoverable Outage**
    - Application failure
    - Operator error
    - Power outages
    - Network failure
    - Hardware failure
- **Disaster**
  - Loss of the IT facilities



*iSeries offers a variety of solutions to meet specific customer availability needs*

# What is the business problem that we are trying to solve?

## Business Impact Analysis

Disruption impact to specific functions

## Risk Analysis

Probability of disruption critical function

## SLAs

Service Level Agreements

## RPO

Recovery Point Objective

24hrs, 1hr, immediate ?

## RTO

Recovery Time Objective

6hrs, 1hr, 10 min ?

Scheduled Downtime

Unscheduled Downtime

Disaster Recovery

# Translate to business metrics

## example

Outage Type	Current Duration	Cost to Business	Objective
Planned	50hrs	\$200K	0 hrs
Unplanned	6hrs	\$500K	1/2 hrs
Disaster	48hrs	\$2M	12 hrs

Total the annual Planned Outage time  
Estimate an Unplanned Outage Risk  
Estimate Cost/Value to the Business  
Recommend Appropriate Solutions  
Consider Using an ROI tool (see backup material)

## Solution strategies

# Replication Based Solutions Switchable Storage Pools (IASPs) Clustering



# Data Center vs. Disaster Center



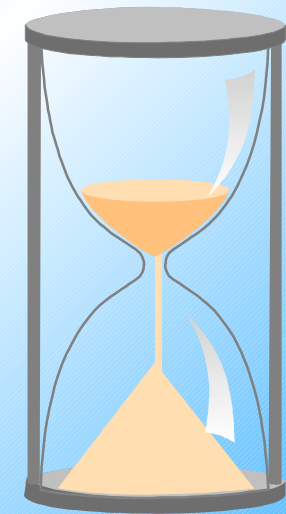
## Data Center

- Local HA Solutions (close proximity)
- Service Level Agreements
- Scheduled Outage Management
- Unscheduled Outage Management
- HSL, Remote Journaling, IASPs



## Disaster Center

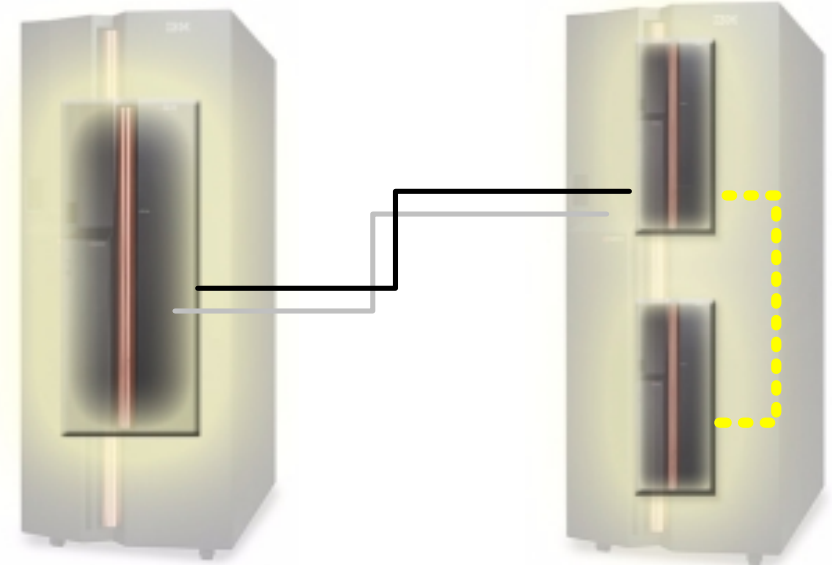
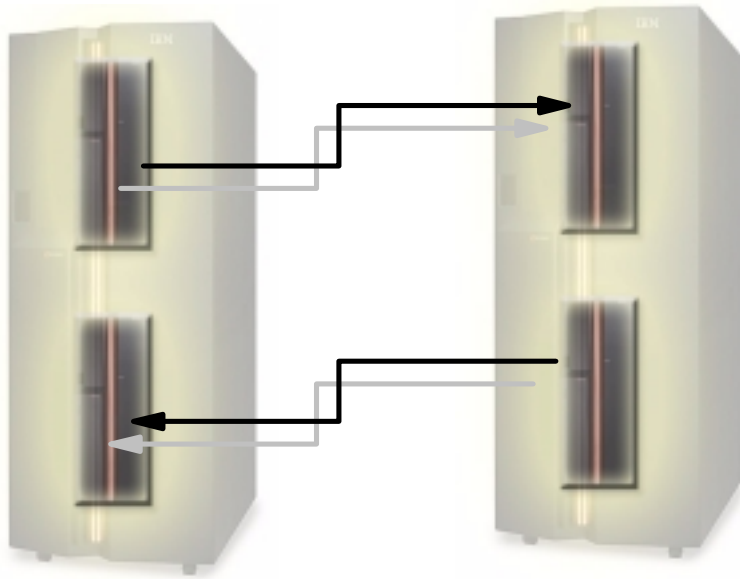
- Remote Recovery Operations
- Archive Store/Retrieval



# Basic Approach to High Availability

## Replication Based Data Resiliency

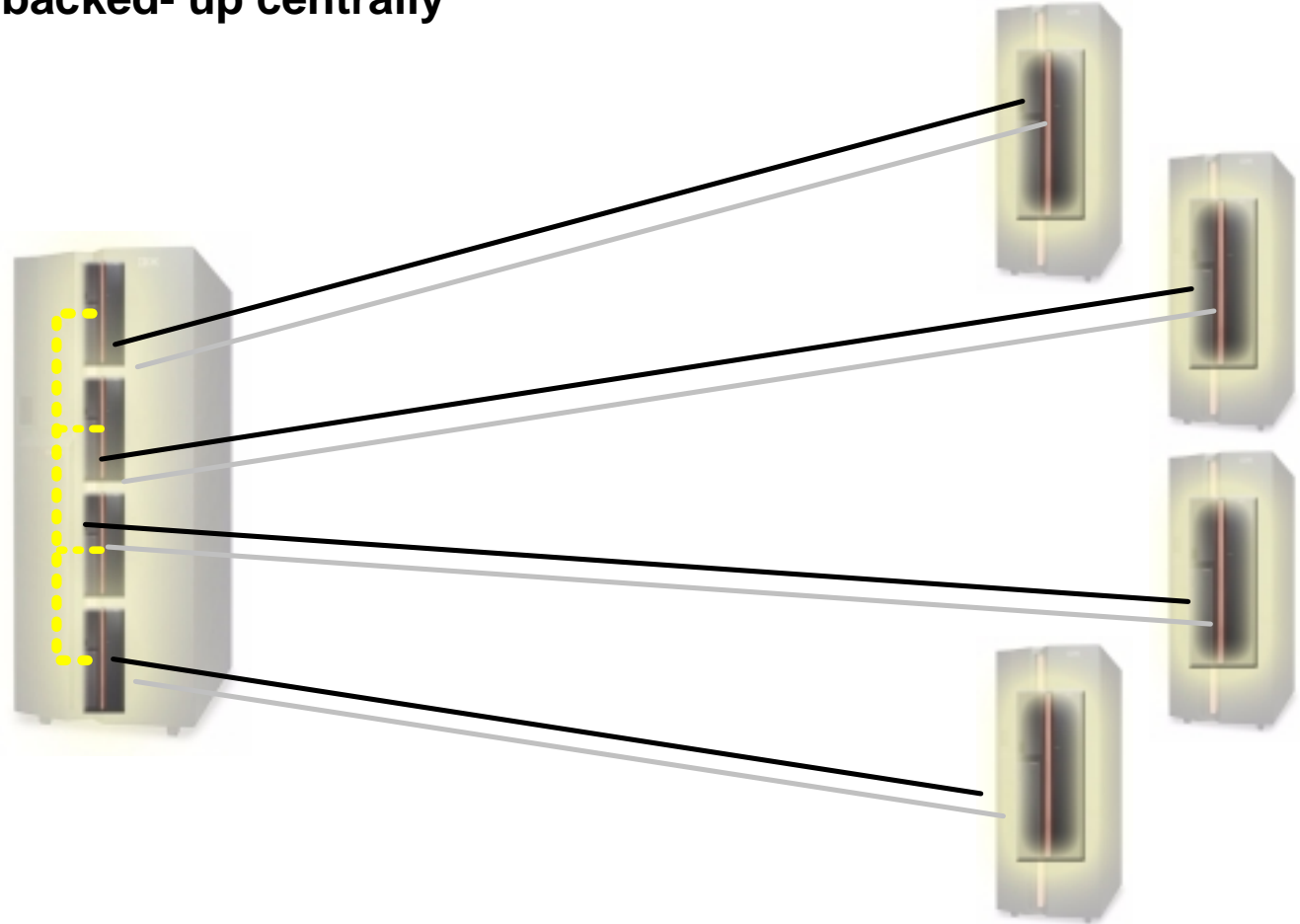
- HA best case RTO/RPO
  - ▶ Sync Remote Journaling should be considered
  - ▶ Switched disks may play a role
  - ▶ HSL/LAN/WAN Connectivity



- Determine solution objectives
- Use LPAR to help gain maximum ROI
- Use Clustering to help gain maximum availability

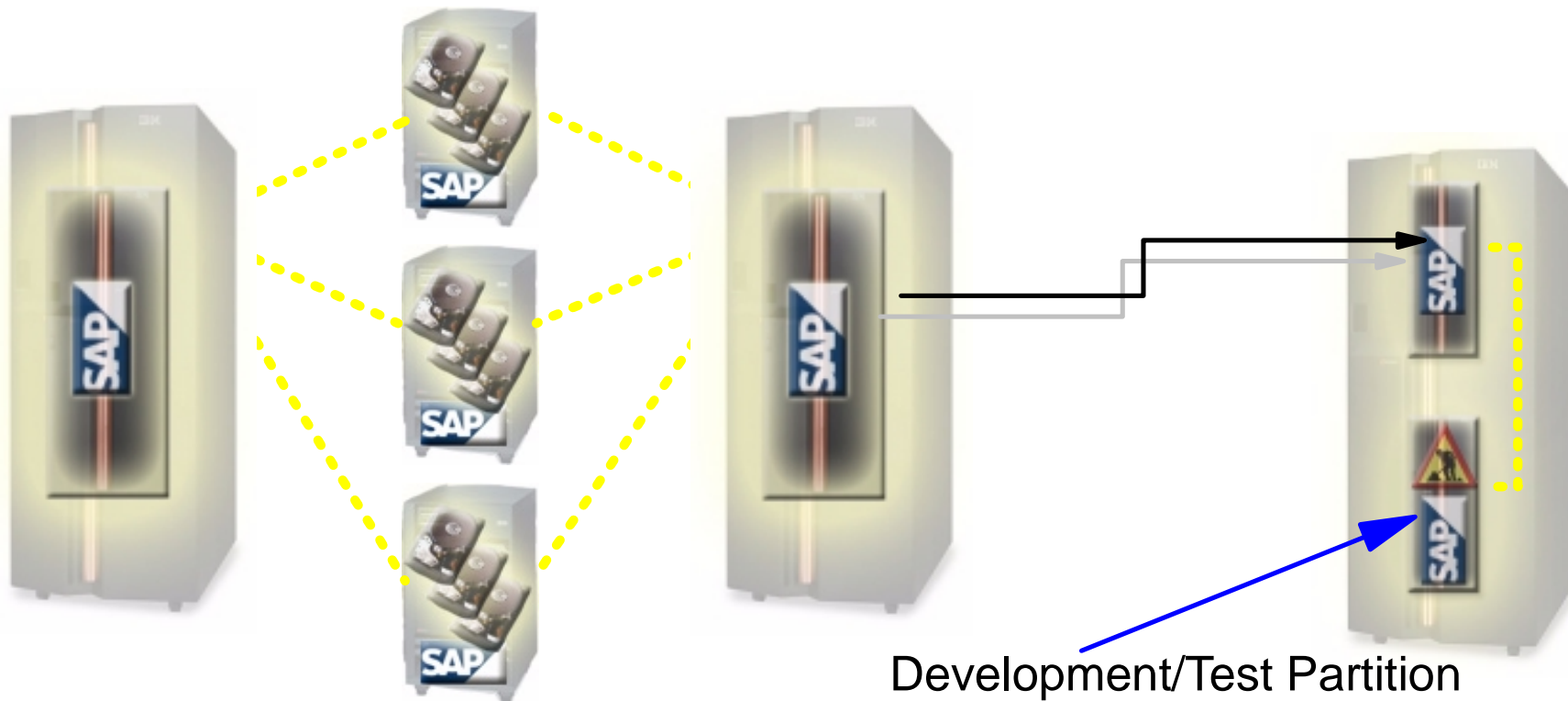
# The Service Bureau Approach

- HA or DR strategy
  - ▶ Distributed sites backed- up centrally



# Server Consolidation & High Availability with Independent ASP's & Replication Hybrid Topology

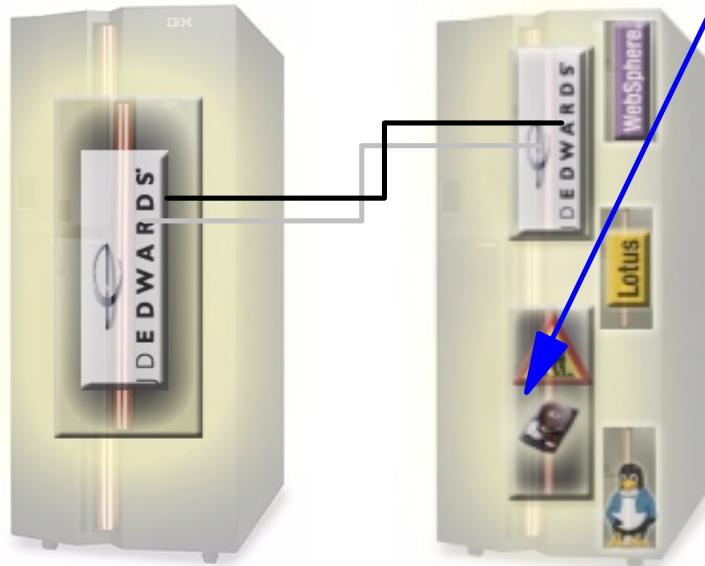
- Data Center/Disaster Center Topology
  - ▶ IASPs for multiple DB images
  - ▶ Switchable IASPs and replication for availability



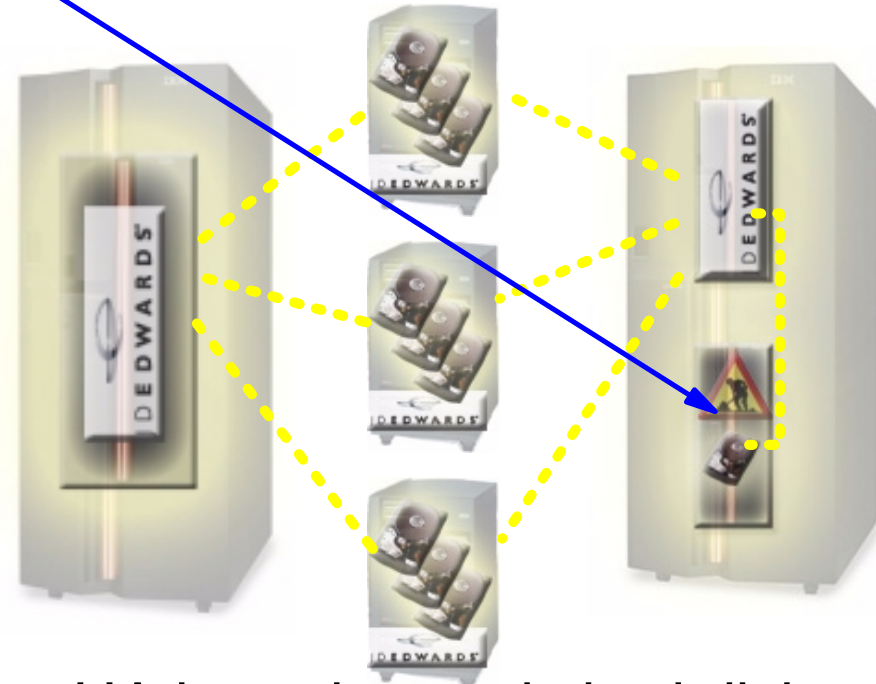


# Server Consolidation & High Availability Replication vs IASP topologies

Shrink Development Partition  
at switch-over time



- HA based on replication
- second copy "live"
- back-up & data access



- HA based on switched disk
- no second copy
- no data access until switch



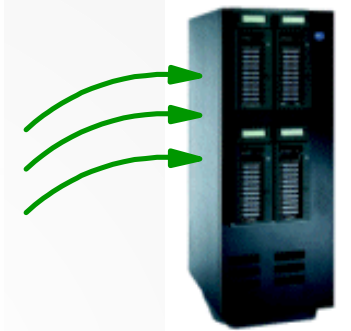
Primary Server



**iCluster** DatMirror™

Backup Server - active copy  
accessible in real-time

Data & CPU  
concurrently useable on  
backup server



Tape

customer accounts around the world

- Can provide the most resilient availability solution
- Scheduled Outages: Concurrent Saves & Maintenance Procedures
- Unscheduled Outages: Failover support for primary server failure
- Workload balancing (Queries, Batch, Web etc.) on Backup server
- No IPL required for switchover

## Assess solution attributes....

- Understand the solution **usability** - check references
- Replication validation tools and functionality (ready to switch)
- ClusterProven application support
- MQ support, Websphere support
- Application level granularity for availability management
- Can it replicate ALL object types
- Out of sequence events in journal entries
- Automated Object Replication management (creates, deletes, moves, renames)
- Integrated Remote Journaling
- Journal Minimal Changes
- Journal Standby Mode
- Large Object Support
- IFS, Data Areas, Data Queues
- IASP integration and support
- Centralized availability solutions for heterogeneous environments
- Reorganize while active
- Provides both switch over and switch back capability

# Assess solution provider attributes and track record

- WW presence - large install base
- WW language support - indication of company capability, strength and experience
- Reference accounts: what are they doing, how did they implement, how are they using it
- End to end implementation plans
- Strong local partner practice
- 24X7 live support
- International and local service & support infrastructure
- Diverse service offerings
- Support Publications
- Strategic development relationship with IBM
- Industry solution provider relationships
- Full spectrum of offerings
- Solutions spanning simple DR to continuous availability
- Ease of Use/Systems management capabilities
- *Usability: day to day and in times of crisis*
- *Usability: Check references*
- *Select a solution designed for frequent switching*
- Advanced auditing and verification function
- Integrated Clustering Middleware
- Can demonstrate ClusterProven application support
- Recovery Automation
- Heterogeneous HA/Clustering support
- OS/400/Linux/Windows integrated solution



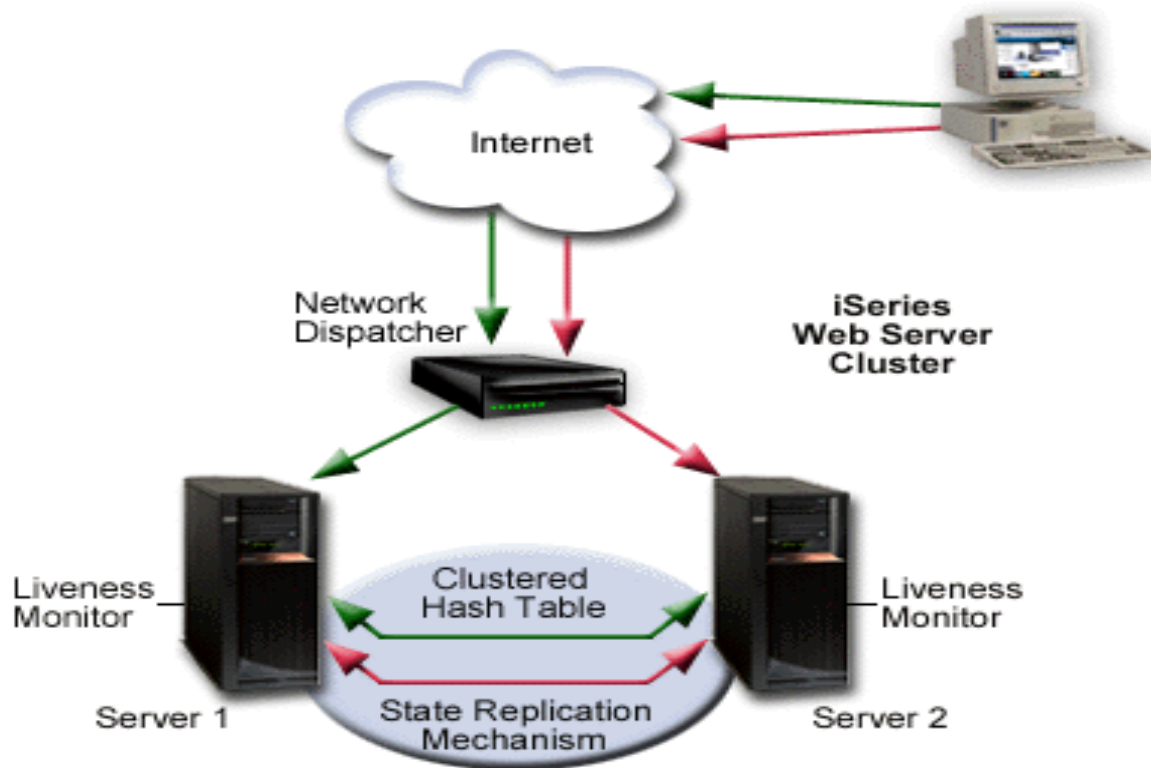
# ClusterProven Applications



DL Consultant



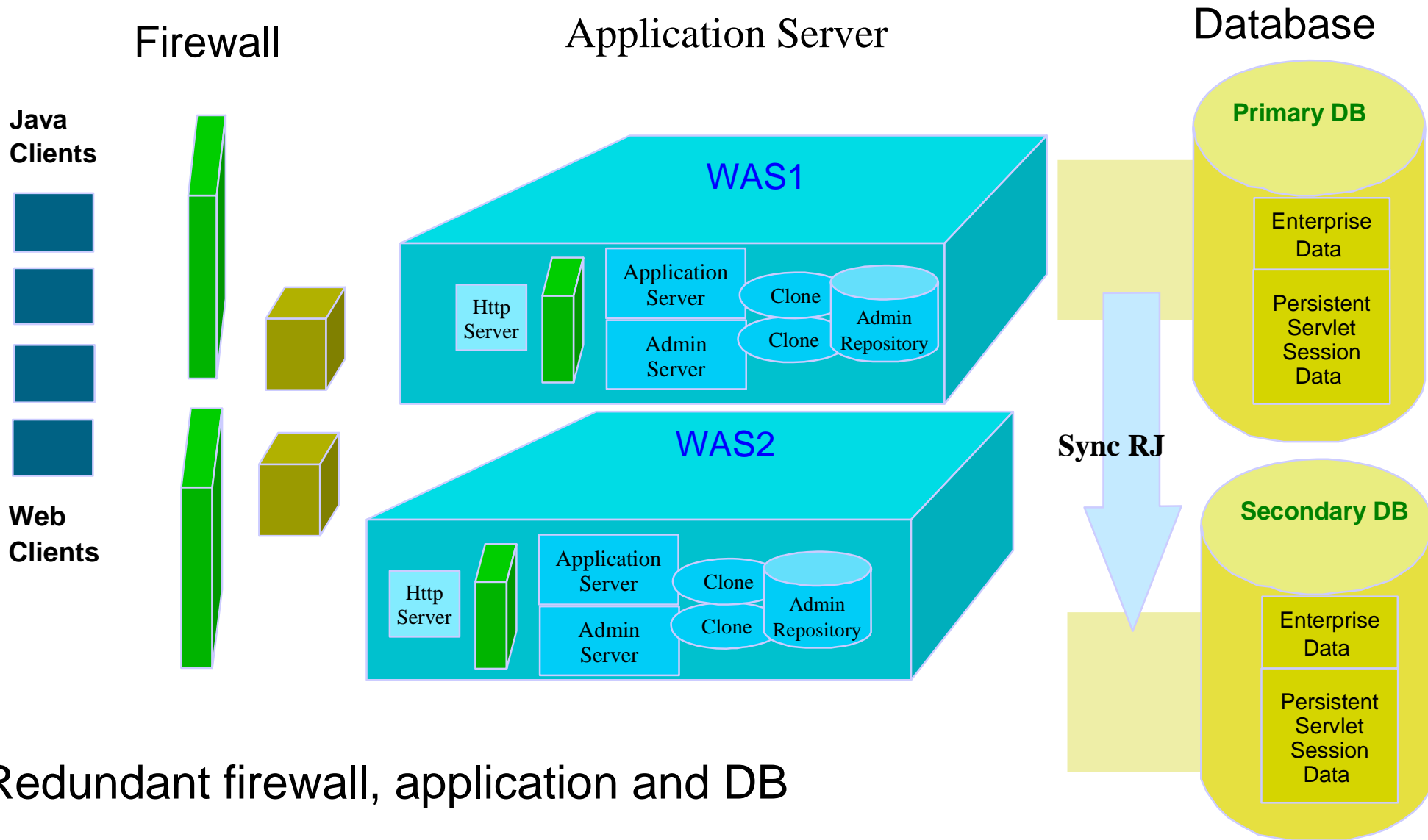
# iSeries Websphere High Availability



# WebSphere Resilient HA Cluster Solution

- **Firewall failure**
- **Network dispatcher failover**
- **HTTP server not responding**
- **WebSphere node crashes**
- **Application server fails to respond**
- **WebSphere administrative server failure**
- **Persistent session data not available (shopping cart)**
- **Enterprise database outage (planned or unplanned)**
- **Power outage of system -- multiple node failures**
- **Disk subsystem failure**
- **Network failure**
- **System upgrade**

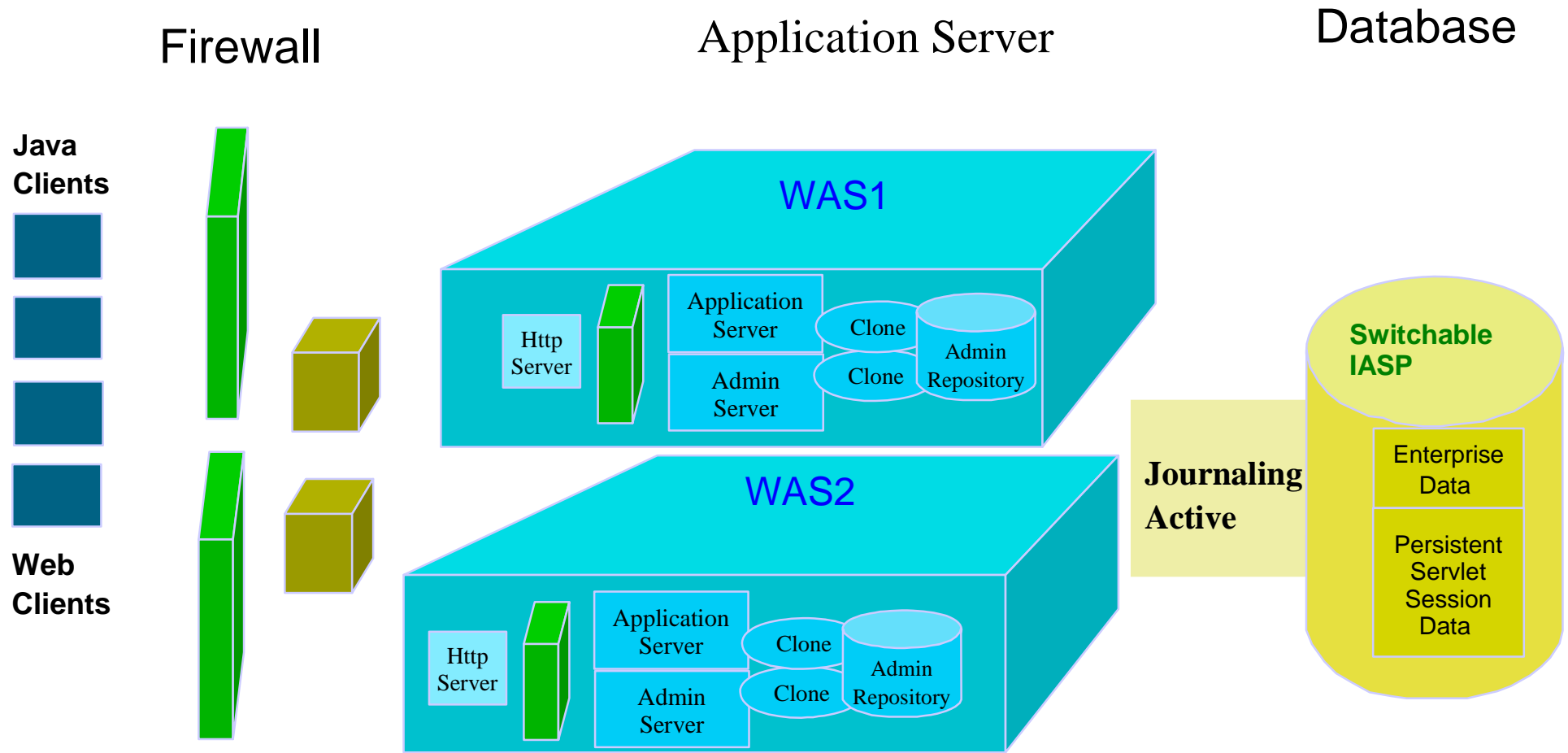
# HA/Clustering Solution for Websphere



Redundant firewall, application and DB



# HABP Switchable IASP Cluster for Websphere



Redundant firewall, application, Switchable Disk Pool

# iSeries HABP Solutions

# *Lakeview Technology* Solutions Designed for the Real World

- **MIMIX dr1 for iSeries**
- **MIMIX for Windows**
- **MIMIX ha1 for iSeries**



*Infrastructure Software for  
the Information Enterprise*

POWERED BY:  LAKEVIEW TECHNOLOGY

[www.MIMIX.com](http://www.MIMIX.com)

# MIMIX from Lakeview Technology

- **World's First IBM® eServer iSeries™ ClusterProven Install**
- **More Reference Accounts...**
  - ▶ **In All Geography's...**
  - ▶ **Across Multiple Industries...**
  - ▶ **For a Wide Variety Of Applications...**

## Leverage Great MIMIX References

Geography	Industry	Customer Name	HA Application	Specific Country
Americas	Distribution	Plastipak Packaging Inc.	SAP R/3	USA
Americas	Distribution	Sunkist	Infinium / LPAR	USA
Americas	Distribution	Time Warner Cable	Customer Care / Billing	USA
Americas	Finance	Kingland	Financial Network System	USA
Americas	Finance	Republic Bank	Jack Henry/Silverlake	USA
Americas		Guardian		USA
Americas		OTC		USA
Asia Pacific	Finance	OCBC Bank	Core & Retail Banking	Malaysia
Asia Pacific	Finance	TransAction Solutions	Fiserv	Australia
Asia Pacific	Travel	ANA World / All Nippon Airways	Reservation	Japan
Asia Pacific	Transportation	Seino	(server consolidation)	Japan
Asia Pacific	Insurance	UAL	IMAS	Sri Lanka
Asia Pacific	Distribution	Jupiter Shop Channel	Backoffice/inventory	Japan
Asia Pacific	Finance	GDBB	Banking	China
Asia Pacific	Telcom	Philippine Long Distance Telephone		Phillippines
EMEA	Distribution	Casino	Reflex, WCSS	France
EMEA	Distribution	Ciba Specialty Chemicals	BPCS	Switzerland
EMEA	Distribution	Domo	SAP R/3	Belgium
EMEA	Distribution	Portnet	COSMOS	South Africa
EMEA	Distribution	Wagner Pizza	SAP	Germany
EMEA	Distribution	Winkhaus	JD Edwards	Poland
EMEA	Entertainment	Wimbledon	JBA Accounting	UK
EMEA	Finance	KBC Securities	Core Banking	Belgium
EMEA	Manufacturing	Volkswagen Elektro-Systemy	BRAIN and SAP R/3 ERP Systems	Poland
EMEA	Pharmaceuticals	Mediscor	RxClaim	South Africa
EMEA	Travel	Reka	Custom Application	Switzerland
EMEA	Pharmaceuticals	Mallinkrodt	Movex	Nederlands
EMEA	Transportation	São Geraldo de Viação	eCommerce and Sale	Brazil
EMEA	Distribution	I'Erp della Marr di Rimini	Proj (distribution)	Italy
EMEA	Finance	Novabank	Fiserv, Euronet	Greece
EMEA	JBA	Tradeteam		UK

[www.MIMIX.com](http://www.MIMIX.com)



## Lakeview's World-Class Technology

# MIMIX Disaster Recovery for SMB

- **Achieve Multiple Images Per Day**
  - ▶ Policy Driven Back-ups all day long
  - ▶ Non Disruptive Back-ups
  - ▶ Known Recovery Points
  
- **High Performance**
  - ▶ Minimal Impact on Resources
  - ▶ No Journaling Required
  
- **Low-Cost / Easy to Use**
  - ▶ Installation without Certification
  - ▶ Policy-Driven Replication
  - ▶ Point-and-Click Interface
  - ▶ Automatic Configuration



*Introducing Disaster Recovery you can afford.*

MIMIX® dr1™ for iSeries™

POWERED BY:  LAKEVIEW TECHNOLOGY

[www.MIMIX.com](http://www.MIMIX.com)

## Lakeview's World-Class Technology Integrate xSeries Availability for SMB

- **Achieve While-Active Support**
  - ▶ For Tape Backups on xSeries? / iSeries? (IXS/IXA)
  - ▶ Single system, Single card
  - ▶ Single/Dual system, Dual card
  
- **Simplify Windows Server Management**
  - ▶ Benefit from server consolidation
  - ▶ Consolidate enterprise tape backups
  - ▶ Integrate Non- IBM Windows servers
  - ▶ Leverage iSeries skill assets



*Availability for Today's Complex  
Application Environments.*

MIMIX® for Windows®

POWERED BY:  LAKEVIEW TECHNOLOGY

[www.MIMIX.com](http://www.MIMIX.com)

# Lakeview's World-Class Technology

## High Availability for Large Accounts

- **MIMIX ha1**
  - ▶ Continuous Availability on iSeries
- **Leverage Advanced OS/400 Technology**
  - ▶ Integrated Remote Journaling
  - ▶ Integrated Clustering Support
  - ▶ Advanced Journaling Support
  - ▶ Integrated LOB Support
  - ▶ Advanced SQL
- **Leverage MIMIX Technology**
  - ▶ Switch-Ready Status
  - ▶ Enterprise System Control Center
  - ▶ Keyed Replication, Collision Detection
  - ▶ Reorg-While-Active
  - ▶ xSeries Integration
  - ▶ Compare/Repair
  - ▶ Adaptive Cache



*The Power of  
Information Availability*

**MIMIX<sup>®</sup> for iSeries<sup>™</sup>**

POWERED BY:  LAKEVIEW TECHNOLOGY

**www.MIMIX.com**

# Vision Solutions, Inc.



*Entry Level Managed Availability  
for the IBM iSeries*



*Managed Availability  
for the IBM iSeries*



*Managed Availability  
across multiple platforms  
across the enterprise*

*Managing Availability since 1990*



# A World of Customers



## The Americas

Apria HealthCare  
Chase Bank  
Enterprise Rent-a Car  
Kraft Foods  
Sharper Image

Blue Cross  
Countrywide Funding  
IBM  
Park Place Entertainment  
Sysco Foods

## EMEA

ABN Amro	Baxter
Credit Suisse	Pfizer
Lufthansa	UBS
Mercedes Benz	
Nestle	

## Asia Pacific

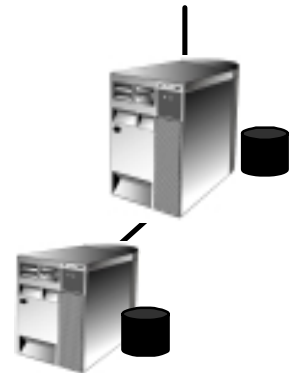
Bausch and Lomb	Sanyo
HSBC – Worldwide	Honda
Stellenbosch Farmers Winery	
Dairy Farmers – Australia	
Mitsubishi	

**Over 8500 Licenses in 1800+ Customers World Wide**

# Entry and SMB Market

## Target Solutions

Vaulting / Disaster Recovery / High Availability



## Features

Two iSeries Systems

Full Data and Object Replication

All object types including IFS

Standard and Remote Journaling

Manual Switch

Fully Upgradeable



# Enterprise Solutions

## Target Market

iSeries

Disaster Recovery, Managed Site , High Availability / Application Clustering



## Features

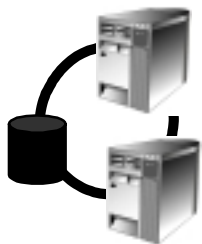
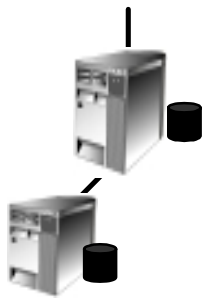
Full replication – data and objects

CRC Synch Check – Data Integrity

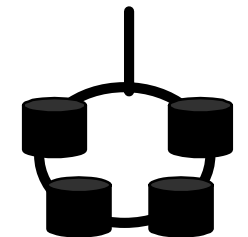
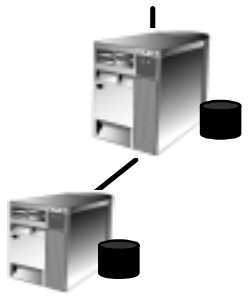
Manual or automatic switching

Switched Disk

Application clustering



# Integrated Enterprise Solutions



## Target Markets

iSeries Integrated Sites / Cross Platform

Data Integration / Disaster Recovery / High Availability / Application Clustering

## Features

Uniform, Java/XML Interface

iSeries / pSeries / xSeries / Windows / Linux

Data Integration

Full Data and Object Replication

Application Clustering / Multiple Clusters

Switched Disk

*Multi-Platform, Coordinated Fail-Over*



## DataMirror HA For SMB Offering

- Single low price
- Full package includes:
  - ▶ Full high availability functionality
  - ▶ Primary and Recovery License of iCluster
  - ▶ Implementation and Training
  - ▶ Maintenance & Support
  - ▶ Cost of Downtime Call
  - ▶ 2 Transcend User Group Registrations
- Selected Models under 1100 CPW
- All 150s, partial 270s, 720s, 730s, 820s and some older models



## DataMirror LiveResiliency - iCluster V2

**iCluster** <sup>DataMirror®</sup>™

- **Single Integrated Product**
- **Graphical Clustering Interface**
- **Integrated IBM Cluster Resource Services**
- **Integrated Real-time IFS Journal & QDLS/DLO Non Journal Support**
- **Fully Integrated Remote Journaling**
- **Integrated BLOB, MQ Series 5.2, OS/400 V5R2, Data Area/Data Queue journal support**
- **Auto registration**
- **Enhanced Trigger Support**

## Some DataMirror LiveResiliency Customers

Abitibi Consolidated	Country Home Bakers	Household International
ADP	Danfoss	Inovis
BASF	Dean Foods	JD Edwards QA Lab
Bausch & Lomb	De Lijn	MAPEI
Bemis	Debenhams	Pfizer
Buhrmann	EMI	Sky Courier
Bunzl	Eurobell	Slim Fast
Chamberlain Group	French Navy	Taiga Forest Products
Chester Telephone	Harley Davidson	VEKA AG

\* DataMirror has received marketing permissions from the companies listed

# HA sales support information customer quotes & ROI tools

[www.ibm/eserver/iserries/ha](http://www.ibm/eserver/iserries/ha)

Check the website for presentation, technology  
update.....and....information regarding offers/promotions



# Customer Quotes - Lakeview Technology

## North America

**"We wouldn't be able to provide the level of Business Continuity that we offer without a means to do data replication. Part of our revenue stream just wouldn't exist without the capabilities of MIMIX. And, given the importance of availability in our industry, it would be difficult to attract customers without it. When it comes right down to it, when we purchased MIMIX, we purchased Business Continuity."** Jef Gorball senior vice president of operations Kingland Systems.

**"We looked at the technical infrastructure of each product, but we also took a hard look at the people who represent and support the product. We thought that Lakeview was much stronger in that area. Our instincts have proven to be true."** Sharon Gunia CIO Ball Horticultural

**"MIMIX gives me a free ticket to do whatever type of upgrade or maintenance that I need to do. We just switch users to the backup system during maintenance operations. If necessary, we can even leave them there for a day or two while we do whatever needs to be done."**

**"For us, enterprise continuity is black and white: prosper or perish. We've run the numbers. Continuous Availability saves us \$3 million annually. And MIMIX makes it possible." Bill Peedle SAP basis manager Plastipak.**

**"I was very impressed with how easy it was to install. The whole process went very smoothly. Ongoing maintenance is also simple. We just leave a single screen running in two or three locations. From that one screen, we can monitor everything on both the primary and backup systems." Don LaFontaine Administrative vice president Granite Bank.**

**"Hardware maintenance and full system saves used to interrupt ATM activity, telephone banking and Internet banking for hours. But, with MIMIX, system maintenance is done in the background, with virtually no service disruptions." Rich Roty Vice President and CIO Republic Bank.**

**"MIMIX was up and running in a week. I was pleasantly surprised that it was so simple to implement." Robert Taulty Manager Save the Children**

# Customer Quotes - Lakeview Technology

## EMEA

**"Without question, MIMIX is in place to guarantee the highest level of operation. Lakeview's support has been excellent from start to finish and MIMIX, in addition to its added value in operations, gave us a competitive edge that set us apart from the other banks in Greece".**

**Socrates Chimonidis IT Production Manager NovaBank, Greece**

**"We cannot keep ships waiting. By the nature of our industry, we need 24/7 service, all 362 operating days a year. The smooth flow of cargo is crucial to the business environment and the country as a whole. MIMIX keeps the two IBM iSeries eServers at each port within a second of real-time data values. Without MIMIX, this would not be achievable.**

**Selwyn Bosch IT Manager Portnet**

**"Mediscor processes in the region of 80,000 transactions per day through a network of more than 3,000 pharmacies and doctors and 20 medical insurers. In terms of a competitive advantage... the running of the entire service for pharmacists and medical insurers would not be viable without MIMIX providing 100% availability. It is a must."**

**Francois Venter IT Director Mediscor**

**The most obvious benefit of MIMIX is the increased confidence of having a proven High Availability solution in place. Now we are able to clearly demonstrate to existing and potential customers our commitment to continuous service."**

**Nick Osborne Senior IT Manager Tradeteam**

**MIMIX is very easy to manage. The menu structure and the interface used to define object replication are very user friendly."**

**Gerd Müller IT department leader Wagner Frozen Foods**

## Latin America

**"We chose MIMIX because of its performance, the degree of assurance it offers and its cost-benefit ratio. It's the best in the industry... The solution was very easy to implement and it required minimal modifications to our systems"**

**Rodrigo Otávio Salles Technology Coordinator Sao Geraldo**

# Customer Quotes - Lakeview Technology

## Asia Pacific

**"The MIMIX solution has definitely helped reduce downtime and has improved our response to branches and customers. MIMIX has helped us maximize customer satisfaction by ensuring the continuous availability of systems accepting their transactions."**

**Destine Lim Head of Information Technology OCBC Bank Malaysia**

**"Since we implemented MIMIX, we have been using our backup server to apply the latest PTFs. Because of this capability, we can detect trouble with the system before it happens. I am also grateful that we no longer have to work throughout the weekends now that we do these projects during regular working hours."**

**Mr. Hiroshi Kawai Manager of Network Technology Seino Information Systems Services**

**"We've had the MIMIX replication system for just about one year now. We've had no problems so far. It's given us not only the peace of mind to attend to our customers but also the confidence to assure our customers that we mean business when we say that 'we will care for you for life'." Mr. Sarath Wikramanayake CEO Union Assurance Limited**

**One hour of network downtime is catastrophic, according to TAS General Manager, Mr. Guy Light. "If our network goes down for an hour, it can cost our member credit unions as much as \$130,000." TransAction Solution chose MIMIX to protect data and ICBS availability for 11 Credit Unions in Australia. MIMIX Managed Availability solution ensures that transactions are replicated on the back up machine in near real time. Mr. Guy Light General Manager TransAction Solutions**

# Customer Quotes - DataMirror

## North America

**“We generate 30GB of journal receivers per day. Our web site must be up and running 24/7. However, due to a communications problem, our site was once down for 14 days. Once the site came back up, we caught up in just 2 days!” - Diane Imhoff, Team Leader AS/400 for Abitibi Consolidated**

**“We are very pleased with the product's performance and ease of use, as well as the level of clustering expertise and support DataMirror has been able to provide.” - Bryan Lindquist, General Manager, Information Systems at Taiga Forest Products**

**“DataMirror iCluster has been implemented in J.D. Edwards' Quality Assurance Lab for testing purposes. We utilize the iCluster solution while performing regression tests against new versions of J.D. Edwards enterprise software, as well as operational failover and failback testing. DataMirror iCluster helped J.D. Edwards attain IBM ClusterProven status for our enterprise software on IBM iSeries, ensuring that customers worldwide benefit from the highest levels of continuous availability.” - Martha Priser, Director of Technical Software Quality at J.D. Edwards**

**“With the centralization of data from across the company, we realized that if we were going to put all our eggs in one basket, we needed an effective high availability solution in place quickly. We wanted more than just a disaster recovery mechanism. We also wanted the solution to enable us to have a productive environment where we could continue to run other applications 24/7.” - Ken Aull, Executive Vice President, Information Technology for Bunzl Distribution, Inc.**



## Customer Qoutes - DataMirror

**“We could never have written a product with the scope and reliability of High Availability Suite. If we had designed our own similar product, it would have required a minimum of \$200,000 in staff investment plus \$50,000 a year in maintenance. The DataMirror purchase price and maintenance fees have come in well under those numbers.” - Kell Achenbach, Director of Information Systems for Sky Courier.**

**“We have experienced many benefits as a result of continuous availability across the enterprise,” As soon as it was installed, High Availability Suite ran itself. Since then, it has managed itself efficiently and effectively without requiring constant monitoring. This has improved productivity greatly by allowing us to focus on our jobs and not on the technology that enables the mirroring process.” - Dave Augustin, Manager of Corporate IS Infrastructure for Bemis Manufacturing.**

**“Transformation Server and High Availability Suite have empowered us with a proven end-to-end solution that enhances our service levels and ensures the overall protection and accuracy of our data transactions. Both solutions are key to our day-to-day business operations. This is evidenced in the number of daily transactions that are replicated with the aid of the solutions. Transformation Server integrates over 27,000,000 transactions daily on 64 tables ranging from 7 records to over 6,000,000. Over 24,000,000 transactions are mirrored each day using High Availability Suite.” - David Gillhouse, Vice President of Information Technology, The Chamberlain Group, Inc.**

## Customer Quotes - DataMirror

### EMEA

**“Our end users can maintain their activities at any time without the interference of our IT department for backups. As well, our application for our envelope manufacturing factory can be moved to our backup system for workload balancing while keeping interfaces with our other applications active. Since we are now also able to run our queries on the backup system, we have achieved better overall performance on our production system.” – Marian van Goor, IT Manager for Bührmann Ubbens.**

**“The DataMirror solution continues to run regardless of any downtime, so that customers are not aware of any issues with our operations. This is vital for the success of our 24/7 service.” - Bill Maginn, e-Commerce Production and Development Controller - Debenhams**

**"A data warehousing tool would allow our employees to share so much data, so to lose it would be a disaster. While looking for a replication tool, we looked for a supplier that could offer a backup solution in addition to a data warehousing tool. It was therefore a natural choice to go with DataMirror High Availability Suite. Now that our users can confidently access the information they want, when they want it, De Lijn as an organization can truly run 24/7. Plus, we can run fewer backups of data, which diminishes the workload on all the other AS/400s.” - Ferre Cools, Systems Engineer for De Lijn**

**“High Availability Suite is ideal for businesses like ours, where continuous availability is required. We found it unique in its ability to provide high performance transaction throughput and continuous availability regardless of planned or unplanned downtime. We have all found there to be major benefits following the implementation of High Availability Suite. First, systems availability is now a reality instead of an abstract theory. As well, our sales representatives use High Availability Suite as a selling advantage to ensure our customers that, even if a hurricane wipes out or closes down our corporate facility, MAPEI can still service their needs. These benefits alone more than justify the cost of the DataMirror solution.” - Daniel Wuest, IT Technical Operations Manager, MAPEI Corporation**

# Customer Quotes - Vision Solutions

**“More than 1.2 million patients rely on Apria to provide full-service home healthcare solutions. To ensure that we’re always there with the right information at the right time, we use Vision Suite™. ”George Suda,EVP of Information Services**

**Because of the delicate and important nature of what we are doing –tracking the manufacturing of semiconductors – it exceeds all our expectations. Vision Suite is keeping our systems’ information available to all our factories around the world.”Gene Frey Manager of Systems Operations**

**We’ve been extremely impressed with the products’ capabilities, the outstanding results obtained, the technical support provided by Vision Solutions and its partners, and look forward to further extending the capabilities and usage of the product.” Daniel Smith, Director of Technology and New Business**

**“I sleep better at night knowing that I have a reliable High Availability solution watching the network, making sure the casino is open for those who aren’t sleeping.” Steve Vollmer, Director of Information Technology**

**The consolidation of all systems into a single integrated ERP system means the company, as a 24 x 365 operation, would be seriously impacted in the event of a systems failure. Of the solutions available on the Australian market, only Vision Solutions was able to demonstrate compliance with these key criteria satisfactorily.” Tony Talbot Group Information Services Manager Australia Dairy Farmers Association**

# Tools for HA ROI Calculations

For help in calculating how much downtime costs you can use the IT Cost of Downtime Calculator:  
<http://www.ibm.com/services/its/us/dtw03.html>

An in-depth workbook for determining cost of downtime and the value IT brings to the business:

So you want to estimate the value of availability?

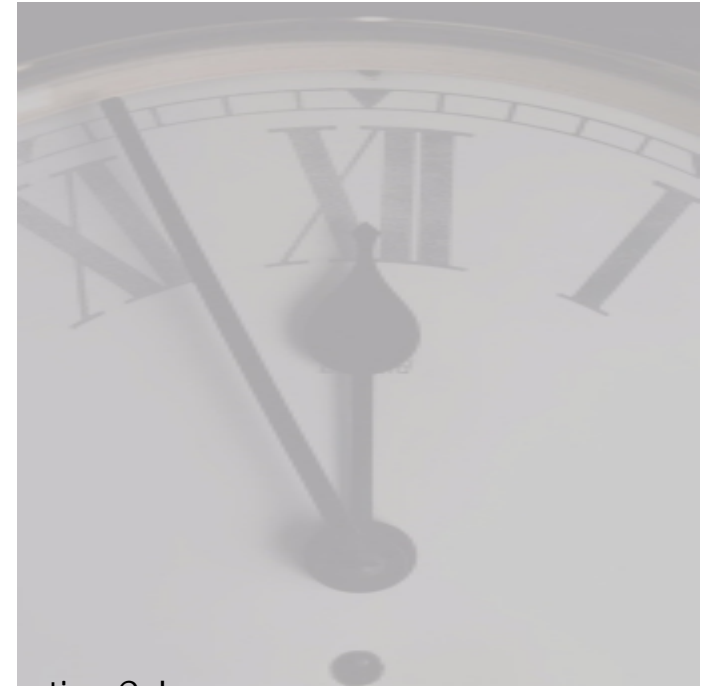
(GG22-9318) \$20, which can be ordered through IBM publications

<http://www.elink.ibm.com/public/applications/publications/cgibin/pbi.cgi>

Lakeview Technology downtime Calculator: <http://www.mimix.com/solutions/DowntimeCalc.asp>

DataMirror down time Calculator: <http://www.datamirror.com/resource/downtimecalculator/calc.aspx>

VisionSolutions Downtime Calculator - <http://www.visionsolutions.com/downtimecalculator>





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