LAKEVIEW TECHNOLOGY

# MIMIX® for Windows™

Managed Availability for IBM® eServer xSeries™/iSeries™ Integration

*Solution at a Glance*

HIGHLIGHTS

## INTEGRATION ADVANTAGES & LIMITATIONS

The advantages of xSeries integration are clear, and they are now easily realized: Just integrate IBM xSeries servers into your iSeries systems using IXS or IXA cards.

When you integrate xSeries servers into your iSeries environment, the proven, Intel®-based processing power of xSeries is complemented by iSeries' fast data I/O, high-speed tape backup and renowned uptime. Furthermore, since its CPU is relieved of much of the processing overhead for data storage and I/O, an integrated xSeries server may handle even more concurrent users than a similar stand-alone server.

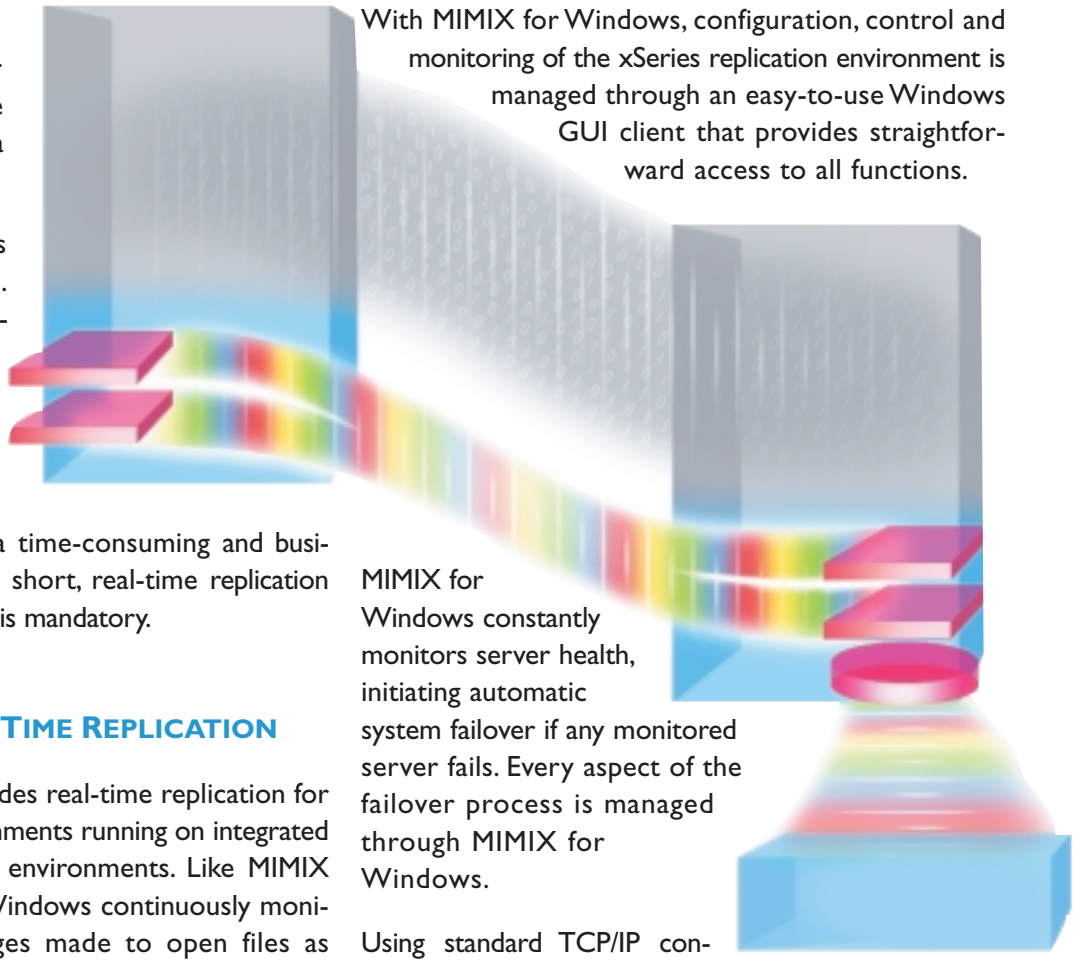
Not all downtime problems are related to hardware. Planned database maintenance and system-upgrade tasks are still roadblocks towards achieving true Continuous Availability. And restoring systems from backup data can be a time-consuming and business-weakening process. In short, real-time replication of data to a backup system is mandatory.

## GUI-MANAGED REAL-TIME REPLICATION

MIMIX for Windows provides real-time replication for Windows NT/2000 environments running on integrated xSeries servers in iSeries environments. Like MIMIX for OS/400®, MIMIX for Windows continuously monitors and replicates changes made to open files as they occur, replicating them to one or more xSeries servers over standard network connections. MIMIX for Windows can provide sequential replication, for absolute transaction integrity, or nonsequential replication for maximum system performance.

Supporting critical functions like concurrent/consolidated saves, workload balancing, and file-level saves and restores, MIMIX for Windows is the solution of choice for High Availability, Disaster Recovery and Continuous Operations on integrated xSeries servers in iSeries environments.

With MIMIX for Windows, configuration, control and monitoring of the xSeries replication environment is managed through an easy-to-use Windows GUI client that provides straightforward access to all functions.



MIMIX for Windows constantly monitors server health, initiating automatic system failover if any monitored server fails. Every aspect of the failover process is managed through MIMIX for Windows.

Using standard TCP/IP connectivity, MIMIX for Windows can maintain complete real-time replication between geographically separate systems, protecting against site-loss downtime issues.

MIMIX for Windows is the premier availability solution for larger and more-complex integrated xSeries environments running J.D. Edwards OneWorld® Deployment Server, Siebel Systems eBusiness applications, Lotus® Domino™, Microsoft SQL Server® and many others. And by implementing MIMIX for OS/400 and MIMIX for Windows together, there's no hassling with multiple vendors: Support for all aspects of your availability solution is just one phone call away.

MIMIX for Windows. Just the latest example of how Lakeview Technology is leading the way with Software, Services and Support for advanced iSeries solutions.

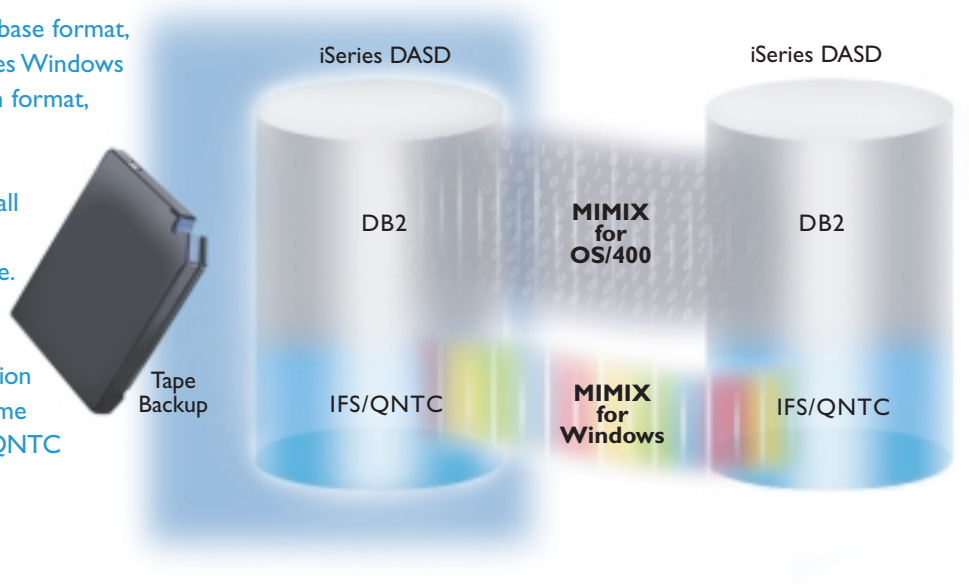
## Platform Support

- **Windows NT 4.0 Server**
- **Windows 2000 Server (for IXS cards) and Advanced Server (for IXA attached servers)**
- **Windows .Net servers (when supported by IBM xSeries)**

IBM OS/400 stores data in a database format, DB2®. Data for integrated xSeries Windows servers is stored in a byte-stream format, IFS/QNTC.

Full-system backups that include all DB2 and IFS/QNTC data can be accomplished using high-speed tape.

In between backups, MIMIX for OS/400 provides real-time replication for all DB2 data. However, real-time replication of data within the IFS/QNTC requires MIMIX for Windows.




### *MIMIX for Windows Key Features*

- *Centralized, cross-platform control of data replication and failover for Windows to support hot backups and vaulting.*
- *Simple GUI interface for control of replication, failover, failback and system restoration.*
- *Supports vaulting with flexible options for mirroring, replication, verification, scheduling and data transmission.*
- *Supports fan-in, fan-out and chained-server topologies.*

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M-CRP-0202-2109

# MIMIX® Middleware
## for IBM® eServer iSeries™

*Solution at a Glance*
**HIGHLIGHTS**

## Powering the World's Most Advanced Managed Availability Solutions

The rapid expansion of the Digital Age has driven businesses to utter dependence upon core applications and data.

Companies often spend millions or even hundreds of millions of dollars each year on technology and infrastructure to meet the information requirements of their employees, suppliers, partners and customers. But depth of information and the wonders of technology mean nothing if data and applications are not available to the users who need them, when they need them.

*Powerful Middleware for Managed Availability*

Now, more than ever, availability is a critical issue that significantly impacts every business.

Managed Availability solutions enable organizations to deliver consistent, predictable access to applications and data across an enterprise. They contribute significantly to profitability by providing near 100 percent data and application uptime, thus allowing a business to keep functioning and serving customers when its operations might otherwise be hampered.

Availability is much more than just reliability. Even if a computing system is totally reliable, it likely will be unavailable to users during upgrades, backups or other routine maintenance. And it certainly will be unavailable to create value for the business if a disaster shuts down unprotected systems or destroys the only copy of any mission-critical data.

For more than a decade, Lakeview Technology has provided leading companies around the globe with solutions that ensure data and application availability on IBM eServer iSeries platforms. MIMIX middleware provides complete protection for the full iSeries environment, including not just data, but also user profiles, device descriptions, application programs, data areas, data queues, spool files, IFS files and other system objects.

MIMIX employs advanced and innovative features to optimize both functionality and performance, including support for IFS byte stream, data-queue and data-area journaling; remote journaling, journal minimal data and large-object (LOB) support; built-in clustering support; and MIMIX Adaptive Caching™ technology. MIMIX Active Server™ technology eliminates the need to take applications or data offline for extended periods of time to perform key application and database-management tasks, such as database reorganizations, file promotions, and file synch checks and resynchronization.

## Availability for Any iSeries Architecture

MIMIX can be effectively deployed in an LPAR environment or in just about any iSeries network structure, including one-to-one, broadcast, many-to-one, cascade or mixed topologies. And MIMIX for Windows® provides real-time replication for Windows NT/2000 environments running on integrated xSeries servers in iSeries environments. MIMIX for Windows continuously monitors and replicates changes made to open files as they occur, replicating them to one or more xSeries servers over standard network connections.

But middleware is only one part of a Managed Availability solution. Contact your Lakeview representative to learn about the total MIMIX solution, which includes comprehensive Managed Availability services, support and education, as well as application-tailored MIMIX solutions for SAP® R/3® and IBM MQSeries®.

Looking for iSeries availability without exceptions? MIMIX makes it possible!

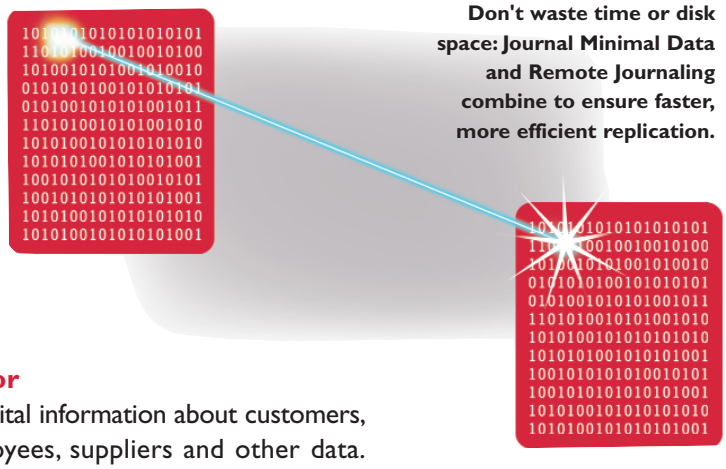
# MIMIX Replicator™

**High Performance, Continuous Synchronization of iSeries Environments**

When it comes to availability, half measures are never enough. Your hot backup system may contain current business data, but are other critical OS and application data and objects out-of-date? If so, when you switch to that hot backup, users may not be able to access the system or, if they can, applications may not function properly, rendering your data useless. In short, you need an availability solution that does a complete job of data and object replication.

You need MIMIX Replicator.

MIMIX Replicator includes MIMIX DB2® Replicator™ and MIMIX Object Replicator™, which work together to ensure that your Continuous Availability environment is always current and ready to serve your business.



**Don't waste time or disk space: Journal Minimal Data and Remote Journaling combine to ensure faster, more efficient replication.**

## MIMIX DB2 Replicator

Your databases contain vital information about customers, orders, prospects, employees, suppliers and other data. You need a reliable solution that will protect your data, assuring High Availability. You need MIMIX DB2 Replicator.

MIMIX DB2 Replicator recognizes DB2/400® database modifications and copies them to one or more target DB2/400 databases. Unique MIMIX functionality helps ensure the integrity of replicated data.

## MIMIX Object Replicator

True Continuous Availability depends on a lot more than just business data. If critical OS and application objects on your backup system — such as user profiles, device descriptions, data areas, data queues, spool files and IFS files — are missing or are not current, your applications may not run properly, or possibly not at all.

Relax. MIMIX has it covered. MIMIX Object Replicator interacts with the IBM OS/400® security audit journal, recognizing and replicating object changes to a backup system.

Cooperative processing allows MIMIX Object Replicator to coordinate tightly with MIMIX DB2 Replicator to ensure complete replication of new and redefined files. This means MIMIX Replicator can provide a higher level of data protection and greater data-management efficiency, ensuring Continuous Availability.

## Don't Sacrifice Performance for Availability: MIMIX Delivers Both.

MIMIX **Adaptive Caching**™, developed in conjunction with IBM, supports over 20 million transactions per hour. This feature heuristically predicts upcoming data requests and notifies OS/400 so that it can minimize disk bottlenecks and streamline access by caching data in memory. You can optionally select Adaptive Caching to optimize the tradeoff between memory use and throughput.

MIMIX support for **Remote Journaling** allows you to ensure real-time replication, fully protecting every transaction by forcing the operating system to update the remote journal before a transaction is committed on the primary system.

In addition, MIMIX gives you the option to handle system object replication more efficiently by exploiting OS/400's change-based Advanced Journal features for **IFS/Byte Stream Files, Data Queues and Data Areas.** MIMIX also supports the **Journal Minimal Data** function, allowing replication of only the changed fields of a database. Together, these can result in lower communications-bandwidth usage, lower replication latency and reduced disk consumption for journal receivers. The bottom line is improved performance.

## If It Isn't Active, It Isn't Available

It seems incredible, but some "availability management" offerings force you to shut systems down during certain tasks. Not MIMIX. Its unique **Active Server** technology keeps your systems active and available.

- Active Server's **Synch Check While Active** enables file-synchronization checking to be performed in parallel with normal application production and replication.
- With Active Server's **Resynch While Active**, resynchronization can run in parallel with normal application production and replication. Resynch While Active keeps you in-synch *and* online.
- Active Server's **Database File Create While Active** cuts through the hassle by building a copy of your newly created file on the backup system and starting replication, all while existing application production and replication continues, even if the new file is subject to commitment control.

- Active Server's automated **Alter Table While Active** enables database table-structure changes to be duplicated on the backup system, including repopulating the table data, all while production continues completely uninterrupted.

- Active Server's **Distributed Parallel Database** functionality lets you update your database from any system in your computing environment, and replicate those changes to all other systems simultaneously. Take it up another notch and run the same application everywhere. Now you can have true workload balancing and High Availability without ever switching, giving you powerful operations flexibility.

## Stay Informed and In Control with MIMIX

Powerful auditing commands allow automated comparison of production and backup-system file attributes and data, making it easier to be sure that your system is properly backed up and ready to switch. MIMIX also lets you compare files between systems at the data level using high-performance, CRC-based multi-thread processing that works even when files are active.

These auditing commands also feature Spool File and Outfile generation options that allow highly customized interaction with report-generation tools. MIMIX further provides utilities for automated repair of an out-of synch condition without requiring a full resynchronization of the files.

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# MIMIX Monitor™

**Advanced Monitoring, Management and Automation of Managed Availability Solutions**

Can you watch your systems 24 hours a day, standing guard against failures? Can you maximize uptime by automatically, quickly and transparently transferring users — whenever necessary — to an active backup system containing current data and system objects?

MIMIX Monitor can.

MIMIX Monitor continuously watches the MIMIX replication processes and enables transparent and automated failovers to a backup system in case of production-system failures. It also facilitates fast planned switchovers when the primary system must be taken offline for maintenance.

MIMIX Monitor can monitor most iSeries items on an interval, scheduled or continuous basis. It can also determine if your systems are running off the normal electrical grid or are receiving power from an uninterruptible power supply (UPS). When it detects that a UPS is the active power source, MIMIX Monitor can take any number of actions, such as issuing warnings to users or initiating a switchover to another system that is still on the grid. Monitor can also initiate further user-defined actions if the UPS remains the active source for longer than a predetermined time.

## Reduce Costs

MIMIX Monitor reduces administration and training costs, minimizes the time required to change the monitoring environment, and improves manageability by presenting all monitor programs on a single screen, with a uniform set of commands. Monitor reduces hands-on administration by responding automatically when auditing detects an out-of-synch condition or when a communications error occurs. The interface can also easily accommodate additional third-party or in-house tools.

## Increase Uptime

MIMIX Monitor manages both logical and physical switching for faster switchovers and failovers. The logical switch controls the IP attributes and the timing of the communications switchover. The physical switch automatically and directly communicates with a gang switch controller to actually perform the switch. Switching can be triggered by a single event or by a predetermined combination of events involving communications objects, message queues, journals or switchover schedules.

## Features

- The ability to insert user-specified routines almost anywhere in the command stream enables extensive customization.
- Message Logging ensures the visibility of critical information by sending status messages to multiple queues and logs.
- Impersonation of the production IP address on a backup system allows users to connect to the backup system transparently.
- No need for additional physical switching equipment, thereby eliminating extra possible points of failure.
- The operator interface accommodates planned maintenance by facilitating manual operation of the remote gang switch controller.
- Remote support allows you to manage switchovers from any location.
- Highly flexible connectivity using twinax, coax, RJ11, RS232, V.24, v.35, X.21, DB9, DB15 or direct attachment to an iSeries or AS/400® system.

## MIMIX Monitor also offers iSeries communication management, including:

- An automated verification loop that ensures communication objects are operating as expected.
- A facility that allows you to attempt recovery of iSeries or AS/400 line, controller and devices that have failed.
- Close interaction with Remote Journaling configurations to detect link failures and automatically recover them or re-route communications to an alternate communications path.

# MIMIX Promoter™

**Cost-Effective Continuous Operations**

MIMIX Promoter uses Active Server technology to facilitate background iSeries database file reorganization and restructuring in a live production environment, even without a second system.

Over time, data deletions and modifications can cause databases to become disorganized, which wastes valuable storage space, affects access times and increases processor usage, resulting in the need to reorganize the database. Even if the system is set to automatically reuse deleted space, mass deletions can leave behind excessive amounts of exclusively allocated disk space that is unavailable to other applications. In addition, changes to your business often necessitate adding database fields, deleting fields or making other schema changes. In the past, reorganization and file promotion typically required shutting down your system for several hours. Not with MIMIX Promoter. It delivers almost 100 percent uptime during database reorganization and file-promotion operations.

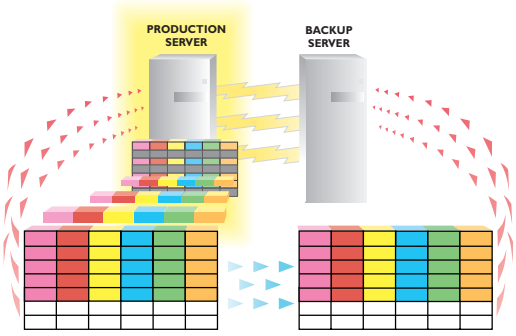
MIMIX Promoter's **Reorganize While Active** lets you reorganize for space saving or performance improvement without taking your files offline. All the work is done on a shadow copy in the background. Only a few minutes of downtime are required to put the reorganized database into production, a task that can be highly automated and nearly transparent to users.

**File Promotion While Active** facilitates promotion of existing data into a new database format, including handling common data transforms like field truncations and extensions, all while maintaining normal production. Only a few minutes of downtime are needed to put the upgrade into production.

MIMIX Promoter can be used independently or in conjunction with other MIMIX Middleware solutions to help maximize iSeries uptime.

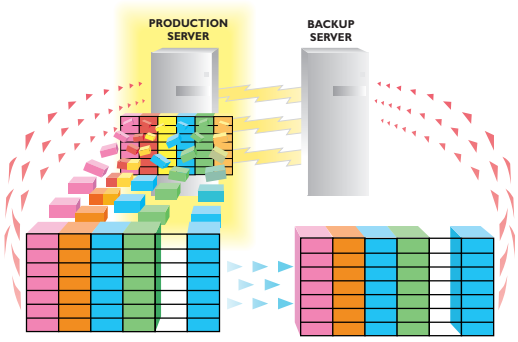
## Reorganize While Active

**Reorganize for performance gains without taking production offline.**




## File Promotion While Active

**Modify and move data to a new file structure in the background, while normal processing continues.**

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LAKEVIEW TECHNOLOGY

# You always wanted to be the company Hero...

*You're looking for an HA/DR/Storage solution that can make your life easier – and be an easy sell to the guys upstairs.*

# MIMIX® makes it possible.

**Introducing the MIMIX V4R4 solution for IBM® eServer iSeries™.**

*With the power to keep your business strong and the execs happy.*

*You can protect against unplanned outages, eliminate planned downtime, and point to immediate and substantial ROI. Because MIMIX lets you maintain systems and backup files without interrupting enterprise continuity and revenue streams.*

## New MIMIX Software Version V4R4 Offers:

- *Journal Minimal Data support for lower replication overhead.*
- *Data Area and Data Queue Journaling to keep target systems fully current and switch ready.*
- *Remote Journaling for absolute real-time replication.*
- *Change-based IFS/Byte Stream File replication for faster, more efficient replication of non-DB2 data.*
- *Enhanced management and replication of Triggers and Constraints, ensuring your backup systems are as well-regulated as the primary.*
- *Fully Integrated MIMIX Clustering that's ready to move up when you are.*
- *New and expanded Auditing and Reporting features that give you greater knowledge and control over your systems.*
- *User Interface improvements that deliver the greater ease-of-use you've been asking for.*
- *Support for IBM OS/400® V5R1 and MQSeries® V5.2, allowing you to leverage all the latest iSeries innovations.*
- *Support for Microsoft® Windows® on iSeries.*

**Get everything you need and want. And make a name for yourself to boot.**

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IBM Business Partner

# MIMIX® Software Version V4R4

## Advancing the Art and Science of Managed Availability

Business and technology never stand still. Lakeview Technology's intensive, customer-focused Research and Development efforts ensure that MIMIX remains the industry-leading Managed Availability solution. MIMIX V4R4 introduces innovative features and functionality, as well as support for the most up-to-date IBM® eServer iSeries™ features.

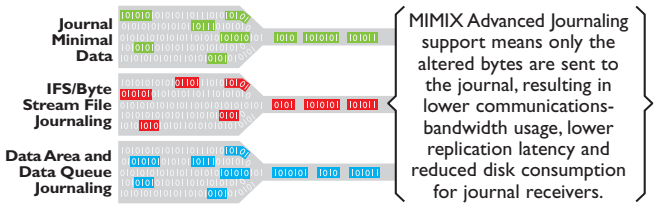
## What's New in V4R4

### Accelerate Performance and Reduce Bandwidth Usage with Advanced Journaling Support

V4R4 enhances the already exceptional performance, low bandwidth and Continuous Availability attributes of MIMIX by exploiting advanced IBM OS/400® journaling features.

Support for **Remote Journaling** ensures real-time replication, fully protecting every transaction by forcing the operating system to update the remote journal before a transaction is committed on the primary system.

MIMIX V4R4 also introduces support for OS/400's new **Journal Minimal Data** feature, which captures only changed fields in a database record rather than the entire changed record. Use of this feature can shrink the disk requirements for journal receivers and reduces the bandwidth needed to transmit changes to the backup system.




### Further IBM Advance Journal Function™ Support Options

Using IBM OS/400 **IFS/Byte Stream File Journaling,** MIMIX can now replicate only the changed bytes of data rather than complete IFS Byte Stream Files. The result is significantly higher replication performance and considerably lower bandwidth requirements.

With **Data Area and Data Queue Journaling,** MIMIX can now replicate only the changed portions of a data area or queue, improving performance and bandwidth usage.

MIMIX can even support **Large Object (LOB) Replication.** If you run ERP or other applications that utilize LOBs, such as image files, graphics or large character-based objects, MIMIX V4R4's LOB support ensures that these critical objects are replicated to your backup systems.

### Auditing and Reporting Enhancements

Powerful auditing commands allow automated comparison of system-file attributes and data, making it easier to be sure that your system is properly backed up and ready to switch. MIMIX also lets you compare files between systems at the data level using high-performance, CRC-based multi-thread processing that works even when files are active.

These auditing commands also feature Spool File and Outfile generation options that allow highly customized interaction with report generation tools. MIMIX further provides utilities for automated repair of an out-of-synch condition without requiring a full resynchronization of the files.

### User Interface Enhancements

V4R4 launches a number of improvements to the MIMIX user interface, including new and revised work and display panels, as well as new commands for synchronizing Data Group Activity Entries, DLOs and IFS objects. Together, they increase standardization across the interface, delivering even greater ease-of-use and reduced administration requirements.

### Trigger a Higher Level of Database Protection

V4R4 expands MIMIX support for DB2/400® triggers and constraints. The new features ensure the integrity of trigger and constraint processing during replication operations. MIMIX can also automatically replicate additions, deletions and changes to triggers and constraints so that your primary and backup systems remain fully synchronized.

### Clustering: Integrated and Ready When You Are

With MIMIX V4R4, OS/400 clustering support is built-in. When you are ready for clustering, you will find a common user interface that provides a standardized view of your replication and clustering environments, resulting in greater ease-of-use and a reduced learning curve.

### Manage the Availability of the Latest Messaging Environments

MIMIX for IBM MQSeries® V4R4 adds support for the latest releases of IBM MQSeries, V5.1 and V5.2, including support for IFS Journaling.

For more information about MIMIX solutions, please contact Lakeview Technology at the location nearest you or visit our Web site: **www.MIMIX.com**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SUCCESS PROFILE No: 108

IN A SERIES

# A Word to the Wise: MIMIX® for SAP® R/3® Means Big ROI

In the 1967 film, THE GRADUATE, a guest at a welcome-home party for Dustin Hoffman's character, recent graduate Benjamin Braddock, gives Benjamin a memorable piece of advice: ***"I just want to say one word to you. . .just one word. . .'plastics'."***

Founded in 1967, Plymouth, Michigan-based Plastipak must have taken that advice to heart. Plastipak's 11 plants now turn out rigid plastic containers 24 hours a day, seven days a week, to hold many products that are probably in your home right now. As an industry leader, with facilities operating round-the-clock, it cannot afford to let its business computing systems go down at any time. It is so dependent on its systems that, if they go down, the company simply can't ship its products, which not only impacts profitability but also harms its reputation as a reliable supplier.

Yet, unplanned system downtime is inevitable, and it's not just the things associated with disastrous events, such as power failures, lightning strikes, earthquakes, floods and fire. Unplanned downtime also includes hardware failures, such as disk crashes and operating system hang-ups. Nonetheless, because Plastipak uses a business-computing system that almost never crashes – IBM® eServer iSeries™ – it does not worry much about hardware reliability. The company does, however, recognize that reliability is not the same thing as availability.

The real challenge is how to deal with necessary planned downtime. Systems must be up and running 24x7, but somehow databases must be reorganized to improve performance and free up unused space; restructured to add, delete or modify fields and tables; and saved to protect against critical data loss. Applications and operating systems occasionally need to be upgraded to add new features or accommodate new technologies.

*As an industry leader, with facilities operating round-the-clock, Plastipak cannot afford to let its business computing systems go down at any time.*

**Plastipak Packaging Inc.**
***Mini Profile***

- *Core Business: Innovative plastic containers for food, beverage and consumer products*
- *Headquarters: Plymouth, Michigan*
- *Annual Revenues: Nearly $1billion*
- *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*

Sometimes, hardware has to be upgraded to accommodate business growth. The list of unavoidable planned-downtime events is long, presenting a real threat to companies like Plastipak.

How do you solve this downtime paradox – the need to avoid all downtime versus the inevitability of it? Plastipak knows how. It employs MIMIX to eliminate both planned and unplanned downtime.

## Success Brings Change...and New Challenges

Plastipak Packaging Inc. is now the third-largest manufacturer of rigid plastic containers in North America, earning revenues in excess of $800 million per year. Its more than 3,500 employees at nine plants in seven states, as well as two in Brazil, serve some of the largest names in consumer goods, including Procter and Gamble, Pepsi and Kraft.

*SAP R/3, like most Enterprise Resource Planning solutions, does not include any inherent functionality that provides High Availability or Continuous Operations. Accordingly, Plastipak needed a solution that would ensure the availability of the new application platform upon which its plants depended.*

While the company had already trusted MIMIX to safeguard its iSeries systems for several years, Plastipak adopted SAP R/3 as its enterprise-computing software to meet its growing needs for integrated information management. SAP R/3, like most Enterprise Resource Planning solutions, does not include any inherent functionality that provides High Availability or Continuous Operations. Accordingly, Plastipak needed a solution that would ensure the availability of the new application platform upon which its plants depended. However, because of SAP R/3's unique data structures, Plastipak found that most availability solutions couldn't offer full protection.

So the company went with a proven solution: MIMIX for SAP R/3, from Lakeview Technology, the worldwide leader in providing Managed Availability for SAP R/3 on eServer iSeries and AS/400® platforms.

At the heart of Plastipak's computer operations are three iSeries systems. A model 830 runs the production SAP environment. A model 720 system supports the development environment for both SAP and the company's other legacy applications, as well as providing hot-backup facilities for the production SAP environment. Morever, a model 510 in a separate facility serves as a hot backup for Plastipak's legacy applications.

*MIMIX provides Plastipak with tangible and measurable savings on the order of at least $250,000 each month, or $3 million per year.*

MIMIX for SAP R/3 is specifically designed to manage availability in SAP R/3 environments. At Plastipak, MIMIX maintains a real-time copy of the production SAP system, replicating critical data and system objects from the primary system to the hot backup. MIMIX does the same for Plastipak's legacy applications.

MIMIX for SAP R/3 offers the flexibility to provide High Availability and Continuous Operations for a variety of R/3 configurations. It supports multiple system IDs in both two- and three-tier configurations. A three-tier environment can have up to 32 machines connected to the R/3 network. And, because MIMIX employs the flexible MIMIX Model Switch Framework™, if evolving business and technical needs require a change to the environment, such as upgrading from two- to three-tier, MIMIX can be adapted quickly to the new configuration.

## Top Performance and Outstanding ROI

Plastipak knows MIMIX works because it has thoroughly verified the solution. It has successfully test-switched users to the backup system and then back

again to the production system a number of times in both its SAP and legacy environments. During a planned switch, Plastipak has found it is able to switch users to the backup system in 15 minutes and then back to the production system in five minutes.

How does Plastipak justify its investment in MIMIX for SAP R/3? Through a proven high return on investment, that's how!


Plastipak incurs costs of $125,000, including lost revenue and other costs, for every hour of downtime it experiences, according to **David Daugherty, CIO for Plastipak.** An analysis of Plastipak's downtime showed that MIMIX reduces planned and unplanned downtime by at least two hours per month, a conservative estimate because of the difficulty in forecasting unplanned downtime.

The numbers underscore the true power of MIMIX, which provides Plastipak with tangible and measurable savings on the order of at least $250,000 each month, or $3 million per year. After one deducts the amortized cost of MIMIX and the backup AS/400 system, MIMIX delivers a rate of return of several hundred percent.

In addition to these measurable benefits, MIMIX also affords Plastipak the ability to easily undertake system maintenance that it might otherwise find difficult.

"MIMIX gives me a free ticket to do whatever type of upgrade or maintenance that I need to do," explained **Bill Peedle, SAP basis manager for Plastipak.** "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.

"MIMIX is also a great help if the system goes down. Normally, I would have to spend a lot of time dealing with people who want to know when the system will be back online, which takes up my time and delays the resolution of the problem. With MIMIX, we just switch users to the backup and it's business as usual."

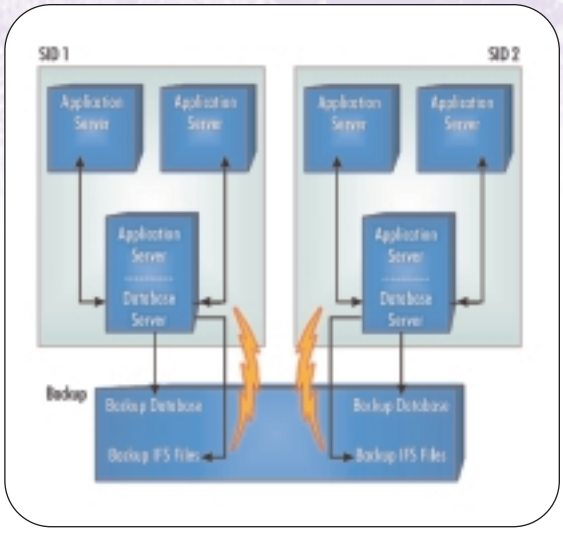
## MIMIX and Multiple R/3 SIDs

*MIMIX can be implemented across multiple R/3 System IDs (SIDs) in a two- or three-tiered network architecture.*

*In the example depicted in this diagram, there are two separate R/3 networks, each with its own SID – possibly one for production and another for development, or possibly different SIDs for different corporate subsidiaries. Both of these networks use the same hot standby computer. MIMIX replicates database and IFS file changes made to either SID to separate database and IFS file structures on the hot standby system.*

*The hot standby computer can be switched onto either network should its primary database server become unavailable.*

*In the unlikely event that both database computers fail simultaneously, the hot standby computer could technically be switched into both networks. However, the hardware resources needed on the hot standby in such a situation must be carefully considered to achieve an acceptable level of performance.*



Business as usual. That's what every manufacturer should expect from its systems and its Continuous Availability solution – a big-ROI solution that allows it to receive materials, produce and ship products, and serve customers nonstop without fretting about downtime, planned or unplanned.

Plastipak has one word, just one, that sums up Managed Availability: MIMIX.

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LAKEVIEW TECHNOLOGY

# Dave Hogan

Director, Information Technology

*Guardian Building Products Group*

# Guardian Building Products Group

- Umbrella group of independent distributors serving residential and light commercial construction industry supply chains.
- Based in Greer, South Carolina.
- $3.3 billion annual sales.
- 2,000 employees.
- 100 locations.
- 3,000 customers.

# Current System Environment

- 2 iSeries Model 830 8-way processors.
- 2 partitions on each system.
  - Partition 1:
    - Full JD Edwards ERP application suite
    - Vertex (automated tax compliance software)
  - Partition 2:
    - Homegrown RPG billing applications
    - Gentran (EDI translator) from Sterling Commerce
    - Modified version of legacy Lawson software

LAKEVIEW TECHNOLOGY

## Requirement: **Server Consolidation**

- Created partition on head office system to accommodate acquired company's systems.
- Used MIMIX to copy data, applications and system objects.
- Intentionally failed over acquired company's systems to head office partition.

## Requirement: **Office Move**

- Installed a new iSeries system in the new head office.
- Used MIMIX to copy data, applications and system objects.
- Intentionally failed the old head office systems over to the new head office.

# Requirement: **High Availability and Continuous Operations**

- Moved the iSeries system from the old office to sit beside the new system at the new office.
- MIMIX synchronized the two systems.
- MIMIX keeps both systems continuously synchronized.
- Users can be switched quickly and easily to the backup system, when necessary.
- Future:
  - Move one system off-site as a Disaster Recovery solution.

# Business Advantages

- Easy and Non-disruptive Facilities Moves.
- Continuous Operations.
  - Perform database saves on the backup system
    - Business operations continue without interruption
  - Switch users to backup for O/S upgrades or PTF application
    - Business operations continue without interruption
- Resource Optimization.
  - One production partition and one backup partition on each system.
    - V5R1 LPAR features can optimize allocation of resources to production and backup partitions.

LAKEVIEW TECHNOLOGY

# Bill Peedle

SAP Basis Manager

*Plastipak Packaging Inc.*

# Plastipak Packaging Inc.

- Founded 1967.
- Based in Plymouth, Michigan.
- Fifth largest manufacturer of rigid plastic containers in North America.
- 11 plants, mostly in North America, one in Brazil.
- $800 million annual revenue.
- 3,500 employees.
- Customers include the largest names in consumer goods, such as Procter and Gamble, Pepsi and Kraft.

# Current System Environment

- Applications
  - SAP
  - Legacy applications
- iSeries Hardware
  - 1 Model 830
    - Production SAP.
  - 1 Model 720
    - Development environment for SAP, PRMS, and hot-backup.
  - 1 Model 510
    - Hot backup for PRMS at different facility for Disaster Recovery.

# Requirement: **Continuous Operations**

- 24 x 7 operation.
- Downtime costs of at least $125,000 per hour.
  - True cost is likely higher due to potential for customer dissatisfaction.
- Continuous Operations solution eliminates at least two hours of downtime each month.
  - True uptime improvement is likely higher due to the difficulty in predicting unplanned downtime.
- Total benefit to be derived from implementing a Continuous Operations solution: **at least $3 million per year**.
- Result: A substantial return on the investment in Continuous Operations.

# Solution

- MIMIX
  - Replicates legacy data, applications and other system objects to a backup system.
- MIMIX for SAP
  - Customized for the unique SAP environment.
- Switch to/from backup as required.
  - Switch manually to the backup in less than 20 minutes and back to primary in less than 10 minutes.
  - Proof of solution: Performed more than 10 successful switches.

# Business Advantages

- Protects 24x7 operations from any system related outages.
- Improves customer satisfaction by preventing business and customer service interruptions.
- Delivers a very large return on investment.
  - The business keeps running during database saves and reorganizations, hardware and software upgrades, etc., which would otherwise stop operations.