



IBM Systems and Technology Group University 2005

# Selling HA on iSeries

Course #: I20

Steven Finnes  
iSeries HA Product Manager



v 1.0

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Thanks to our  
Business Partners  
and IBMers for a  
Great 2004!



## Objectives:

1. Understand the Business Continuity Marketplace
2. Position IBM and Business Partner High Availability Solutions
3. Exploit IBM and BP Resources to Sell High Availability

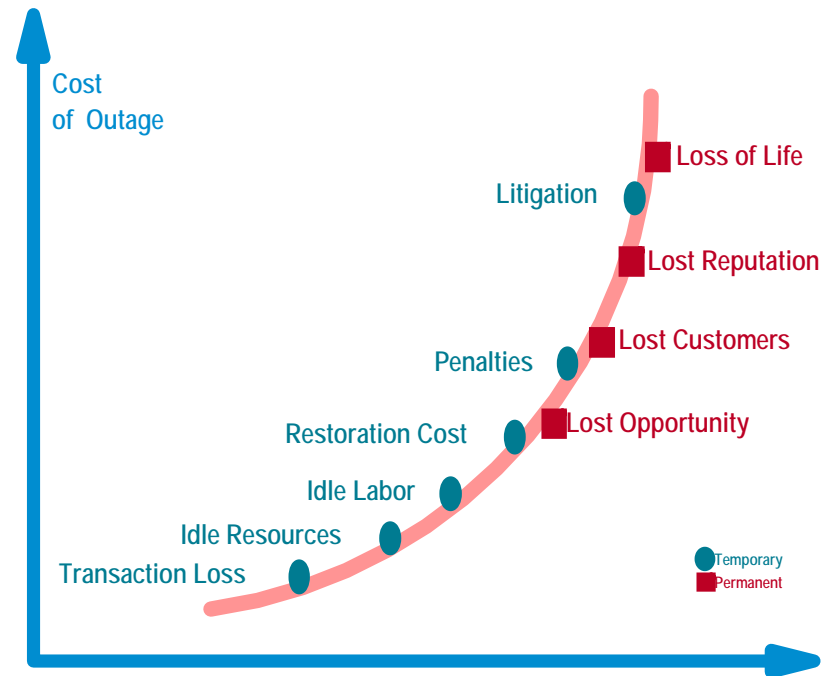




# The HA Marketplace

# On Demand Business Drives Business Continuity

1. Internet – competition is just a click away
2. Just in time and real time operations
3. Asset Utilization – 24x7 operations
4. Consolidation (data centers, servers, operations...)
5. Global operations



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

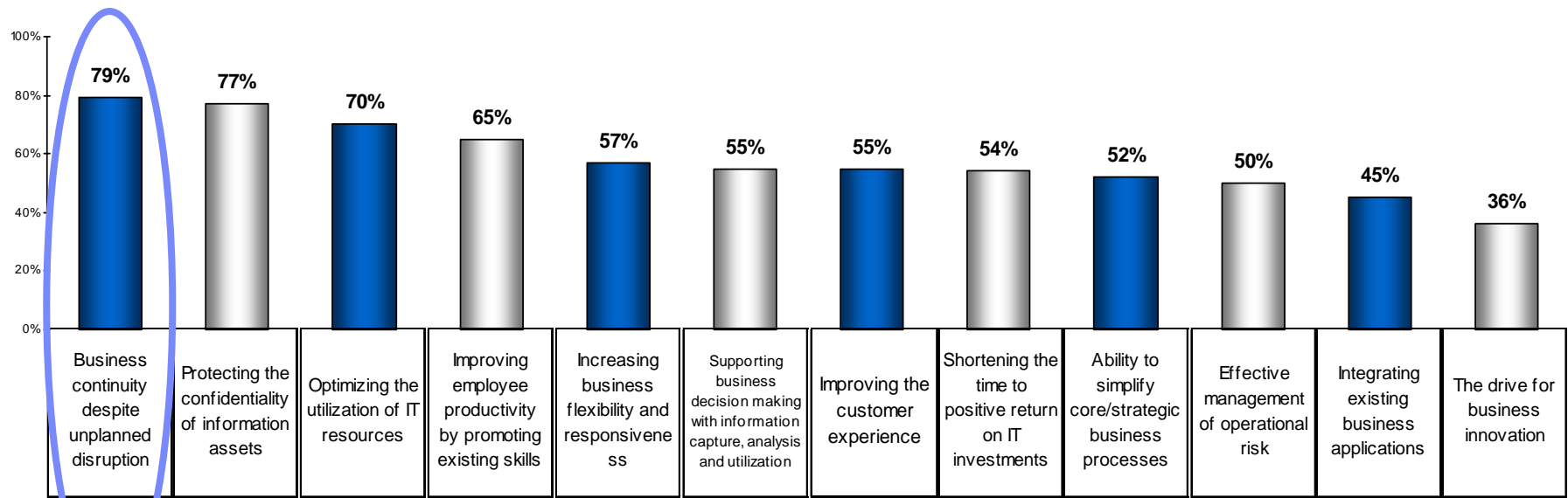


**Spending for HA is growing faster than spending on the server market as a whole**

(Source: Sept 2003 IDC # 3008)

# Business Continuity is the #1 Priority for IT Managers

Over 200M WW in 2004 ...did you get your share ?



% of 4/5 responses (important /extremely important)

Source: IBM IT Trends 1H 04

## Opportunity Profile

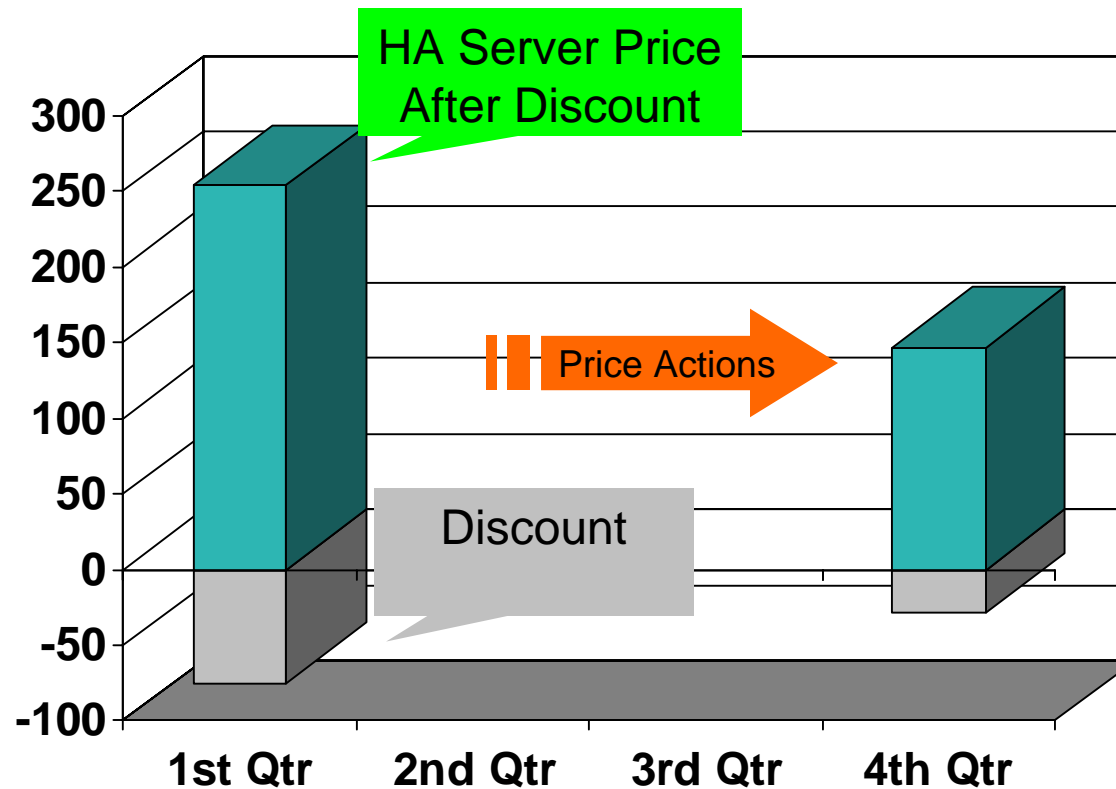
- **Business Continuity is an install base play across all industry segments**
  - Financial Industry (Banks, Insurance, Brokerage...)
  - Distribution, especially Retail
  - Any client involved in web enabled business
  - Clients consolidating are prime candidates
  - Clients with a real-time business model are most likely to deploy HA
  - A customer that has recently had an outage
  
- **Once a large enterprise play, now 90% of new opportunity is in Midrange and Smaller**
  - 90% of HA/CBU iSeries sales were in SMB accounts in 2004
  - However is substantial opportunity remaining in large accounts
  
- **New iSeries and BP offerings have changed the economics of HA**
  - New SMB-focused HA Business Partners entering the market
  - HA/CBU iSeries offerings have dramatically changed second server pricing

## Top Ten Critical Success Factors For Closing A Deal

- **Clearly Established Requirements**
- **Executive Sponsorship**
- **Available Budget**
- **Financial Justification (ROI)**
- **Local Certified Business Partner Support**
- **Satisfactory Service and Support Capabilities**
- **Customer's Doing Regular & Sustained Roll Swapping**
- **Established Solution Practice for Packages (SAP, JDE etc)**
- **Usability & Autonomics**
- **Capability to Support Mixed Resiliency Topologies**
- **Capability to Support Heterogeneous OS Environments**



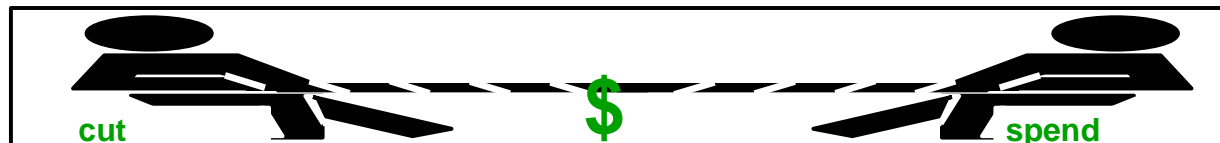
## HA IS More Affordable Than Its Ever Been



**Plus Don't Forget ROI: HA can Pay For Itself**

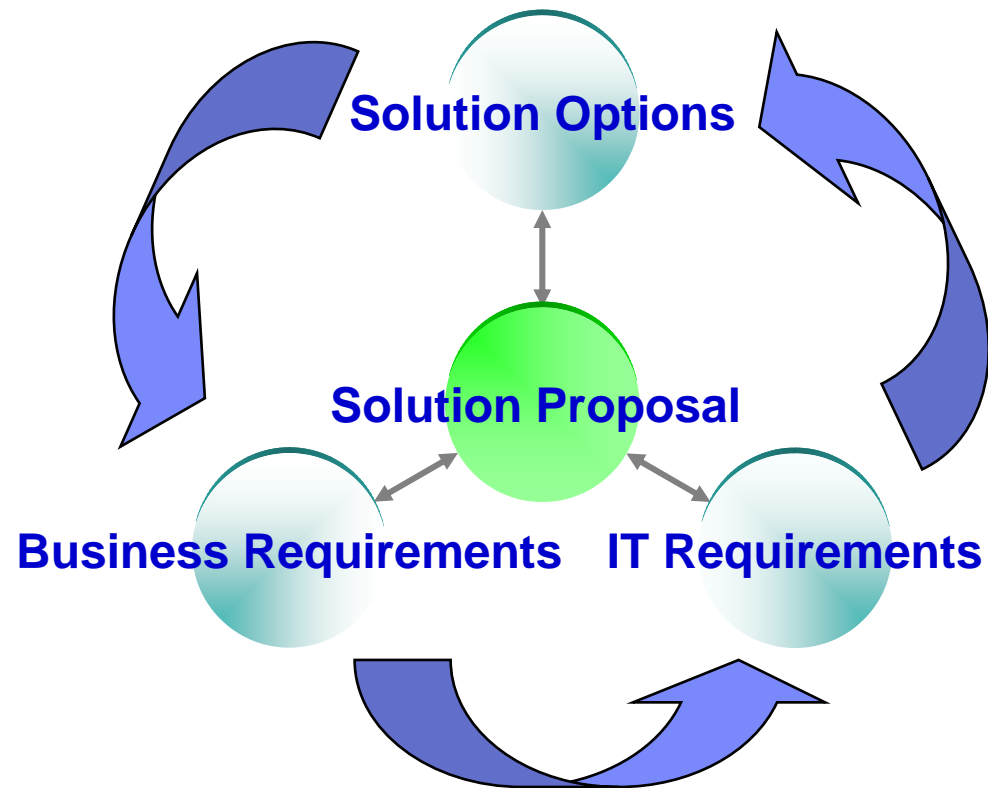
## Customer Sample: Preliminary Availability Justification

| Questions  |                  | Downtime (DT) Factors & Costs                   |                  |
|--|------------------|---|------------------|
| Company Annual Revenue   | \$750M           | Annual Revenue Per Hour                         | \$86K            |
| Company Annual Profit  | \$50M            | Annual Profit Per Hour                          | \$5,700          |
| Planned Annual Downtime  | 32 hrs           | Planned Downtime Cost (Profit)                  | <b>\$182,000</b> |
| Prior Year Unplanned Downtime  | 76 hrs           | Prior Year Unplanned Downtime Cost (Profit)     | <b>\$433,000</b> |
| Average concurrent users supported?  | 400              | Outage Costs Based On Revenue                   | <b>\$9.3M</b>    |
| Average User Annual Compensation (\$25/hr)                                     | \$50,000         | Unplanned DT Salary Costs (400 x \$12.5 x 76)   | <b>\$380,000</b> |
| Estimated employee DT productivity (%)?  | 50%              | Agreed Upon HA Costs                            | \$963,000        |
| Calculated profit loss during DT (per hour)                                    | \$5700           | - Unplanned (\$150K + \$433K + \$380K)          |                  |
| Hours of Operation per day?  | 24               | Additional Justification (Business Initiatives) | \$600,000        |
| Days of Operation per year?  | 365              | - Business Intelligence Project (\$400K)        |                  |
| Hours of work per employee per week?   | 40               | - Developer Server Partition (\$200K)           |                  |
| Weeks of work per employee per year?   | 50               | <b>TOTAL JUSTIFICATION:</b>                     | <b>\$1.6M</b>    |
| Prior Year UPDT Additional Costs   | <b>\$150,000</b> |   |                  |
| - Overtime (\$15K/hr) , Penalties, External Support, Emergency Plan Activation |                  |   |                  |



**How Far Can You Stretch Your Service Levels Without Planned Availability!**

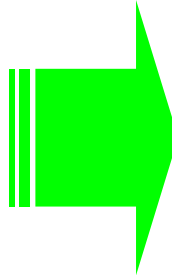
# Selling HA is A Consultative Process



# Connecting Business and IT Requirements

## BUSINESS REQUIREMENTS

- **Business Impact Analysis**
  - Establish Existing Planned Outage Profile
    - Asset utilization (planned outage unavailability)
    - Customer Impacts
  - Develop Worst Case Outage Profile's
    - Financial and Customer Impacts
    - What-If Scenarios
  - Business Benefit Analysis
    - Establish a Financial cost/benefit assessment
    - **HA can pay for itself !**
- **Risk Assessment**
  - Probability Versus Risk Aversion



## IT REQUIREMENTS

- **DR Solution, HA Solution, Combination**
  - Planned Outage Transparency
    - Backups & Maintenance Procedures
  - Role Swap Objectives (for an HA Solution)
  - Workload Balancing Objectives
- **RPO, RTO**
  - Recovery Point Objective (last transaction or greater)
  - Recovery Time Objective (minutes, hours..)
- **Data Center, Disaster Center, Combination**
  - Solution topology will be driven by requirements and cost
- **Offer an IT Resiliency Assessment As Needed**

## Top Ten IT Resiliency Requirements For HA

- **Solution Objectives (DR, HA, Combination)**
- **RTO & RPO**
- **Backup Window Elimination**
- **ROI**
- **Capability to Execute Regular & Sustained Roll Swaps**
- **Local Certified BP Support**
- **BP Overall Capability (consulting, project management etc)**
- **Solution Autonomics (e.g. roll swap automation, GUI)**
- **Integrated Solution Support for Heterogeneous Environments**
- **Integrated Solution Support for Mixed Resiliency Environments**

## Who Does What When?

- **Do I do this entire process for every opportunity ?**
  - **NO** you use this as a guide and as needed !
- **Who should conduct this process ?**
  - Business Partners are our greatest asset in HA sales
  - This is a good way to gage the capability of a given partner
  - Manage the opportunity using the consultative process as a guide
- **Exploit additional IBM resources as needed**
  - **CTC**
    - > In depth consulting from business requirements through solution deployment
    - > **iSeries Check** - IT Resiliency Profile
  - **ITC** – Advice and deployment of IBM hardware solutions
  - **ATS** – Pre-sales advanced technical support
  - **IGS** – Business Recovery Services & Rapid Recovery Offerings

## IT Resiliency Profile Analysis

- **Achievability of current SLA**

Both formal and implied

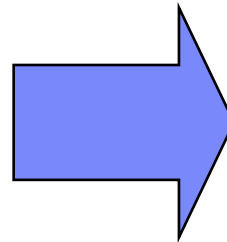
- **Availability Coverage**

- **Single Points of failure**

- **Interdependencies**

- **Ownership and Process**

- **Skills and Staffing**



- **Develop a Resiliency Baseline**

- **Resiliency Gap Analysis**

- **Plan of Action**

**CTC (for fee HA consulting)**

<http://www-1.ibm.com/servers/eserver/services/havail.html>



# IBM and BP High Availability Solutions



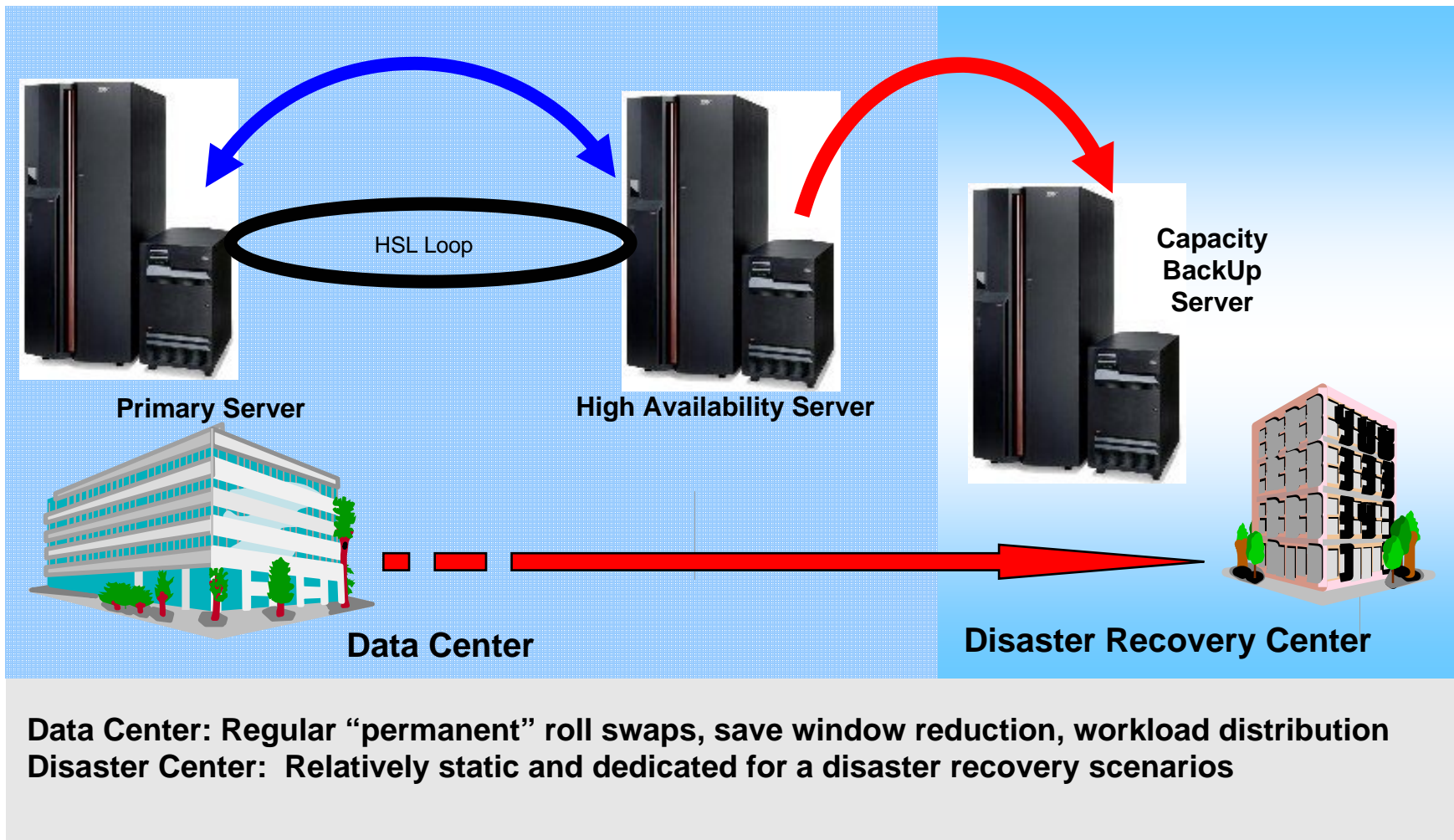
## High Availability ... A Refresher

- **Capability to withstand outages**
  - Planned or unplanned
  - Uninterrupted mission critical service
  - Pre-defined service level agreements
  
- **Primary Solutions**
  1. High Availability (HA)
  2. Disaster Recovery (DR)

**24x7x365=\$\$\$\$**

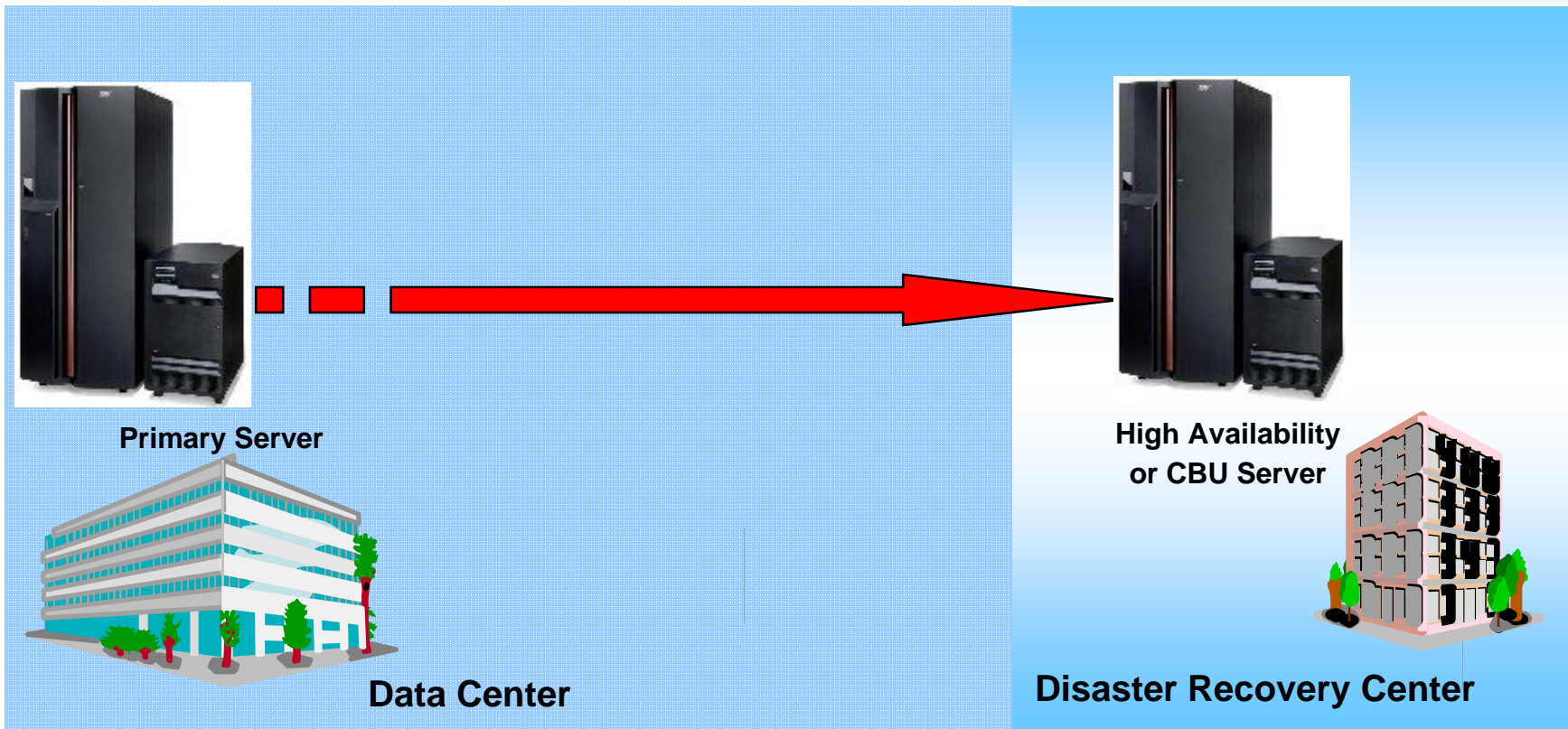
*Both can be achieved with a variety of technologies*

# Deploying Both HA & DR Solutions – The Ultimate Practice



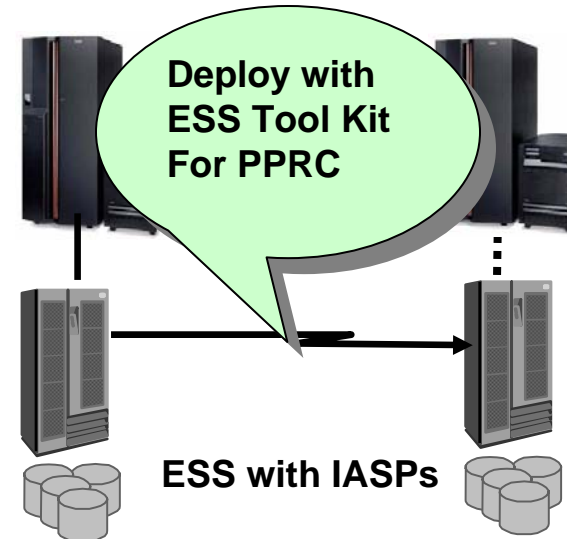
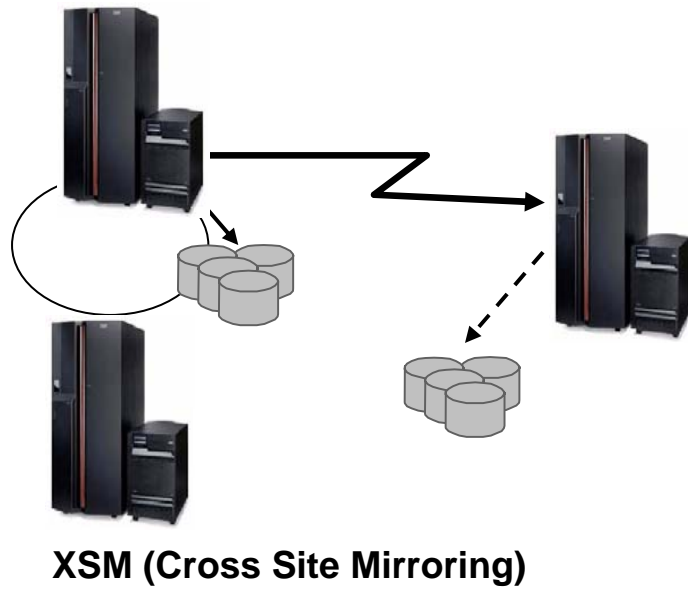
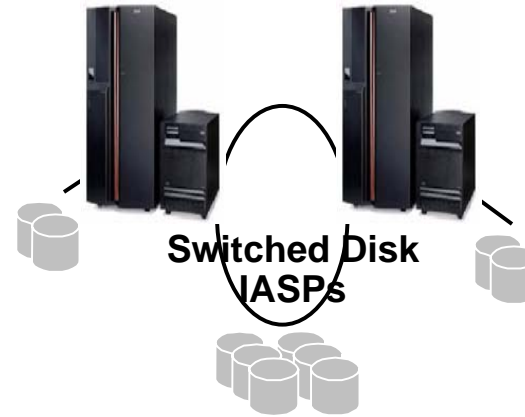
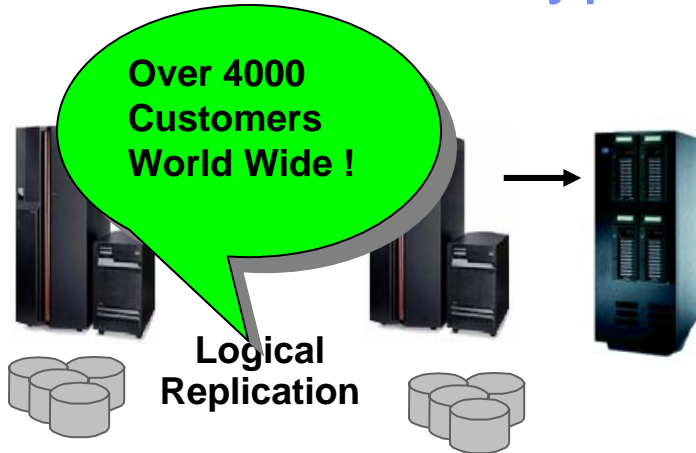
## Deploying DR – A More Common Deployment

*Requirements & Feasibility of Approach Dictate Deployment Approach*



**Remote recovery outage support topology for relatively static environments:  
Temporary roll-swapping done periodically, Save window reduction rarely done,  
Work load distribution rarely done.**

# Available Solution Types

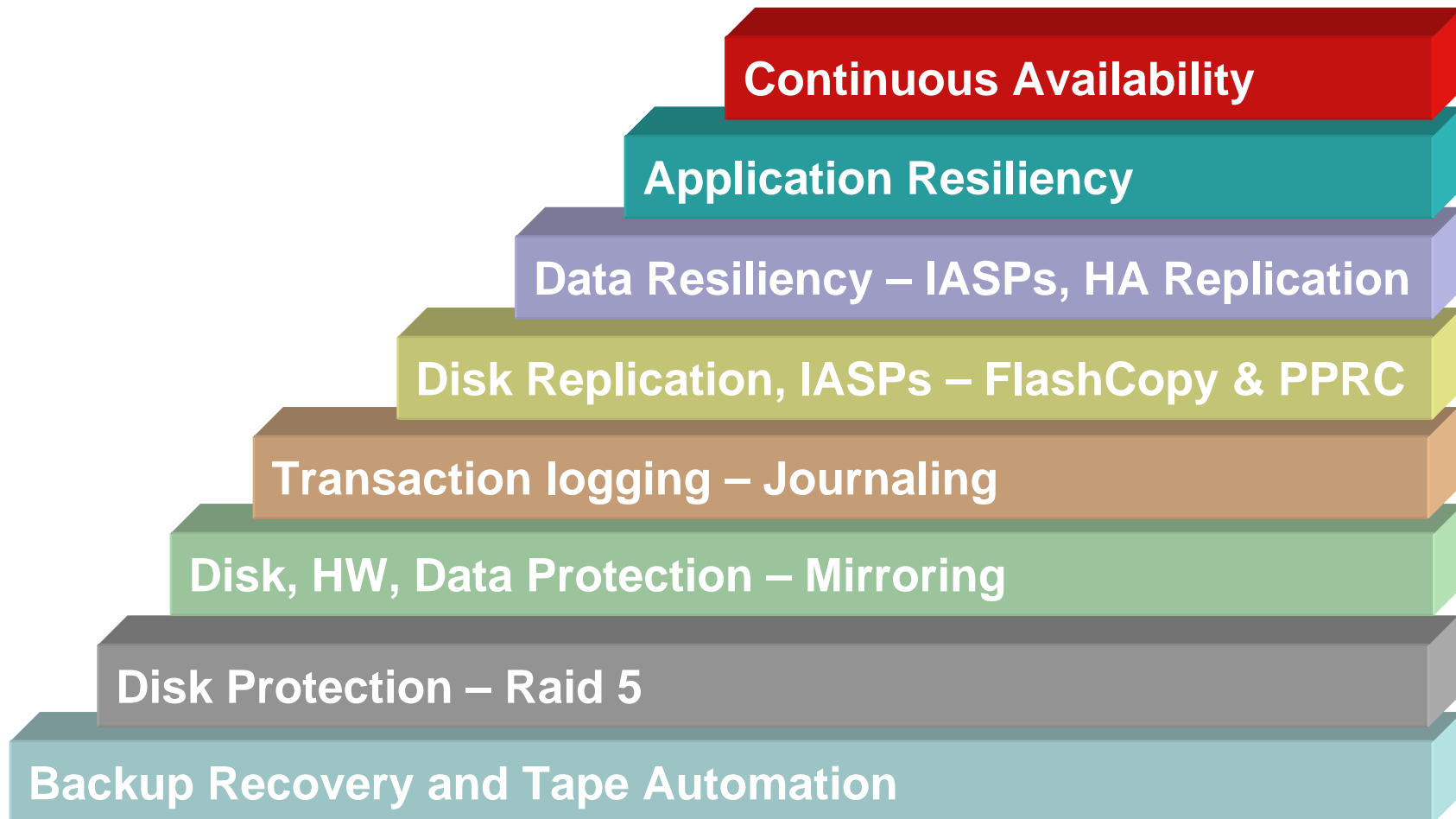


## Solution Mapping

| Business Continuity Requirement                      | Data Resilience Technologies |               |     |                      |
|--|------------------------------|---------------|-----|----------------------|
|  | Logical Replication          | Switched disk | XSM | ESS toolkit for PPRC |
| <b>Backup Window Reduction</b><br><small>[1]</small> | Y                            | n/a           | n/a | n/a                  |
| <b>Scheduled Maintenance</b>                         | Y                            | Y             | Y   | Y                    |
| <b>Disaster Recovery</b>                             | Y                            | n/a           | Y   | Y                    |
| <b>High Availability</b>                             | Y                            | Y             | Y   | n/a                  |
| <b>Workload Balancing</b>                            | Y                            | Y             | Y   | n/a                  |

[1] Although the technologies marked “n/a” in this row when used alone cannot provide backup window reduction, they can be augmented by other technologies to achieve these results. For example, you could combine ESS FlashCopy with the PPRC function and then use the additional data copy on another system to reduce backup time.

## Technology Building Blocks





# Data Resiliency – Logical Replication Solutions

## iSeries High Availability Server Offerings



### IBM HA Express Portfolio on iSeries

- **Models 520, 810 & 825**
- **Support mission critical 24x7 environments**
- **Minimize planned and unplanned downtime**
- **Minimize save window**
- **Lower complexity and cost**

<http://www-1.ibm.com/servers/eserver/iseries/hardware/is4ha/>



### iSeries for High Availability Offering

- **Models 570, 870 & 890**
- **Support mission critical 24X7 environments**
- **Role swapping and workload distribution**
- **Minimize planned & unplanned downtime**
- **Support Heterogeneous Environments**



# IBM HA Express Portfolio on iSeries



**Validation of specific high availability SW licensing required prior to system being shipped**

|               | Standard | High Availability | Enterprise |
|---------------|----------|-------------------|------------|
| 810 1-way P10 | \$11     | \$35              | \$50       |
| 810 1-way P10 | \$12     | \$40              | \$60       |
| 810 1-way P10 | \$18     | \$60              | \$80       |
| 810 2-way P20 | \$35     | \$110             | \$150      |
| 825 3/6-w P30 | \$80     | \$255             | \$330      |
| 520 1-way P10 | \$12     | \$38              | \$48       |
| 520 1-way P10 | \$33     | \$93              | \$103      |
| 520 1-way P20 | \$50     | \$129             | \$149      |
| 520 2-way P30 | \$59     | \$155             | \$175      |

- HA Express Portfolio on iSeries**
- Support mission critical 24X7 environments
  - Role swapping and workload distribution
  - Minimize planned downtime
  - Minimize unplanned downtime

\* USA planned list prices in k\$ of CEC (server feature code plus edition feature code)



- Outsourced data centre services for brokerage and auditing firms
- Approaching 9,000 brokers
- 65,000 audit firm partners and accounting professionals, & 1 million individual investors

**“When it comes right down to it, when we purchased MIMIX, we purchased Business Continuity.”**

Jeff Gorbail, Sr.

VP of Operations, Kingland Systems

#### **Customer Needs:**

- 24x7 Data and applications availability
- Satisfy SEC Regulators / Auditors and Clients
- Kingland Systems offers a "guarantee," or SLA
- An outage resulting in data loss or downtime could cost Kingland Systems up to \$160,000 per client



#### **Critical success factors:**

- Regular switching ensures customers can be up and running in 8 minutes on the backup – well within Kingland’s promised SLAs
- Geographic distance between production and backup data centers
- Separate power grids and communications
- Automated switchover & failover capabilities



## TNT Logistics North America

TNT is the market leader in providing express, logistics and mail delivery services.... delivering documents, parcels, freight and mail using highly sophisticated, real-time technology infrastructure and an integrated air and road network.

\$14 Bn in annual revenues / 175,000 employees

### Customer Need:

TNT customer mandated requirement for HA - mission critical apps must be available for shipments with less than one hour of downtime

Consolidate 21 iSeries systems into 2 with LPARs

Hurricane belt – must maintain strict disaster recovery plan .. centralized Data Center - Jacksonville, Florida / DR site - South Carolina



JD Edwards & Custom Software Package

**ORION** Enterprise for OS/400

**ORION** Integrator



### Critical Success Factors:

Partnership between customers & IT

Strong executive sponsorship

Strong local support

Regular / Repeated role swaps - 7 documented role swaps in 2004 with 2 unplanned - complete system role swaps completed in 25 minutes.

*Vision saves us money and inspires customer confidence by enabling us to avoid downtime. without Vision ...it would take over 3 days to recover and we would be out of business .. that's how critical Vision is to us.*

### Customer profile; CU\*Answers

- Application service provider (ASP) for 125 credit unions in 14 states
- 2000 connected devices
- Supports 1 million account holders
- Processes 30 million transactions/day (avg.)
- Two identical model 825 iSeries (source/target)

### Customer requirements:

- 24x7x365 uptime required  
(Some credit unions are open 7 days, while Internet banking needs to be 24x7)
- Must successfully role swap monthly, then stay on target machine until next role swap
- Can't spend more than one hour per day for HA monitoring/maintenance
- Tolerate little to no source latency at peak transaction volumes



**“High availability won't do us any good if we're not confident that we are ready for the worst.”**

- Jody Karnes, CIO, CU\*Answers

### Critical success factors:

- Consistently and successfully tests role swap each month, staying on target until next swap
- Successfully tested mid-week role swap during high transaction volumes
- Source latency tolerances satisfied
- Bonus: used Echo<sup>2</sup> to quickly migrate data to a new 825 backup system

## Customer Profile: National Freight

(New Jersey, USA)

- One of America's top 10 Warehousing Corporations with US\$400 million turnover
- 26 Trucking Support Centers nationwide
- 300 Concurrent iSeries users
- 5.8 million transactions per day
- Two identical iSeries model 810 (Source & Target systems) located in separate sites

### Customer Requirements:

- 24 x 7 x 365 up-time required
- Tape backups to be taken from Target system
- Goal of monthly Role Swaps
- Ease of use of software & use of Remote Journaling
- Speed of replication & scalability
- Affordable proven solution

## Customer Solution:



**“We have done several role-swaps with remarkable ease and success”**  
**Bob Dominico – National Freight**

### Critical Success Factors:

- Monthly Role-Swap
- Eliminated the nightly two and a half hour system downtime for backups.
- Every night the target system is backed up to tape while the user community continues working on the production system – then, after the backup is completed the transactions are quickly applied to the target database by \*noMAX.

**ORANGE : European Wireless n° 3  
( mobile phone & cellular services )**

- 1800 connected devices
- Manages 1,8 million Enterprise Customers
- Processes 125 million transactions/day (avg.)
- Two identical model 890 iSeries (source/target)

**Customer requirements:**

- 24x7x365 uptime required
- HA product must catch up a delay in a very short time when replication has been stopped for any reason
- Product has to support HA and DR processes at the same time with a unique organization
- Tolerate little to no source latency at peak transaction volumes
- An efficient Check/Sync function

**Solution: QUICK EDD-HA**



*“After a benchmark made with every other products, EDD was largely the 1<sup>st</sup> ! ... performances were 7 times better than with the 2<sup>d</sup>” says C.Carnail*

**Critical success factors:**

- Consistently and successfully tests role swap each 2 months, staying on target until next swap
- “Check/Sync” Successfully tested during production
- Keep Source and target always equal and repair differences automatically if necessary



## iSeries Disaster Recovery Server Offering



### IBM HA Express Portfolio on iSeries

- **Models 520, 810 & 825**
- **Support mission critical 24x7 environments**
- **Minimize planned and unplanned downtime**
- **Minimize save window**
- **Lower complexity and cost**

<http://www-1.ibm.com/servers/eserver/iseries/hardware/is4ha/>



### iSeries for High Availability Offering

- **Models 570, 870 & 890**
- **Support mission critical 24X7 environments**
- **Role swapping and workload distribution**
- **Minimize planned & unplanned downtime**
- **Support Heterogeneous Environments**



### iSeries for Capacity BackUp Offering

- **Designed for disaster recovery scenarios**
- **Not intended for 24x7 HA solutions**
- **Not intended for workload distribution**
- **No option to permanently activate standby processors**

<http://www-1.ibm.com/servers/eserver/iseries/hardware/is4cbu/>

# iSeries for Capacity BackUp Offering

*Lot's more opportunity here for simpler DR implementations*



## iSeries for Capacity BackUp Objectives:

- Standby server implementation
- Designed for disaster recovery scenarios
- Intended for remote recovery solutions
- Not intended for workload distribution
- No option to permanently activate standby processors

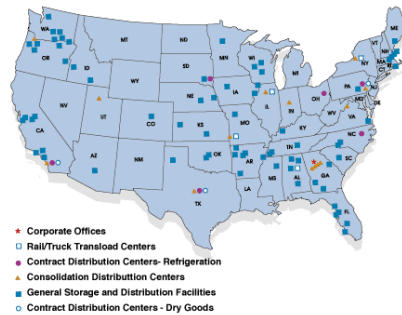
|            | Standard | HA     | Enterprise | Capacity BackUp |
|------------|----------|--------|------------|-----------------|
| 825 1/6w   |          |        |            | \$150           |
| 825 3/6w   | \$80     | \$205  | \$330      |                 |
| 870 2/16w  |          |        |            | \$330           |
| 870 5/8w   | \$230    | \$400  | \$600      |                 |
| 870 8/16w  | \$310    | \$600  | \$900      |                 |
| 890 4/32w  |          |        |            | \$800           |
| 890 16/24w | \$750    | \$1060 | \$1560     |                 |
| 890 24/32w | \$1230   | \$1615 | \$2140     |                 |
| 570 2/16   |          |        |            | \$349           |

USA planned list prices in k\$ of CEC (server feature code plus edition feature code)



## AMERICOLD

- Largest provider of Supply Chain solutions in Consumer Packaged Goods – Transportation, Warehousing, Cold Storage
- 3,500 Customers across USA
- 60 Billion pounds of product annually
- 90 remote warehouses and terminals in USA with Real Time processing to machines in Atlanta



### Customer requirements:

- Reduce “orphan data” exposure
- Replace tape back-up with real-time replication
- Outsource management

### Customer Solution:

- IBM iSeries 825 Atlanta Warehouse Production
- IBM iSeries 830 Portland Warehouse Production
- Partitioned IBM iSeries 870 – IBM BCRS - Sterling Forest
- AMERICOLD - Logistics Application
- **ORION** for OS/400



### Critical success factors:

- Replicate large quantities of data and maintain consistency and integrity
- Maintain back-ups and tapes off-site
- Reduce exposure window to minimum
- Outsource skills and management requirement – lower TCO and Risk Profile



# FACIL

- SMB iSeries Customer within price-competitive Automotive Industry - FACIL supplies over 500 different types of screws and clip fastenings for Ford Europe and 30 other customers.
- IBM iSeries 810 & IBM iSeries 820 servers

## Customer Needs:

- (The total IT staff consisted of 2 people)
- An easy-to-use, low maintenance, low cost solution.
- Business requires round-the-clock 24x6 production to meet its contractual Just-in-Time (JIT) obligations,
- Improved recovery and availability for their EDI and Automotive ERP+Applications ( Xpert XPPS).
- Limit data loss with more frequent backups and Improve recoverability speed



**“MIMIX dr1 is easy to install and even easier to run and monitor, just by clicking on the application and reviewing its replication and last recovery point status. Now, we use MIMIX dr1 as an asset to help promote and sell our Full Service Provider concept. It is the perfect entry-level solution toward a larger disaster recovery strategy within the firm.”**

- Danny Steukers, IT Manager, FACIL

## Critical Success Factors:

- Met major customer's data protection service level agreements without added complexity – MIMIX dr1 does not require journaling!
- Captured new recovery points every 30 minutes with MIMIX dr1 – better, faster restore possible.
- Eliminated nightly tape backup downtime to the production server by running tape backups off the backup machine
- Quickly proved the ROI that Availability solutions can deliver. More HA/DR investments planned!
- Local Certified Partner Support

### Customer profile: Autoliv

- Auto safety device manufacturer. iSeries model 830 runs ERP apps for 9 of 80 mfg. plants
- Peak daily transaction volume: 70 million
- Just-in-time deliveries required by automakers
- Daily and monthly downtime windows are available for planned system maintenance, but unplanned downtime is extremely costly



**iTera**  
No Time for Downtime™

**“[A system failure] makes you forget about how much...a backup server and high-availability software may have cost. If it works, it’s all worthwhile.”**

- Mark Christensen, ERP Manager, Autoliv ASP

### Customer’s DR requirements:

- Eliminate lost revenue from late deliveries caused by unplanned system downtime:
  - Many automakers pay according to on-time delivery ratings; i.e, 95% on-time rating = payments at 95% of negotiated contract price
  - Other automakers levy fines up to \$10,000 per late delivery
- RTO: less than one hour during production hours
- RPO: zero lost transactions at peak transaction volumes (no source latency)
- Mirror to identical model 830 for full role swap capacity

### Critical success factors:

- On 10/30/03 Autoliv had a major system failure followed by complications that kept prod. system down for over two days
- Once decision was made to failover, Autoliv was back online in 45 minutes
- No transactions were lost (no source latency)
- No late shipments occurred
- Autoliv estimates that HA saved tens of millions of dollars in lost revenue, penalties and lost productivity

### Customer Profile: Telecom New Zealand

- New Zealand's Largest Company and the largest iSeries site in the Southern Hemisphere
- 1000 Concurrent iSeries Users
- 4000 transactions per second
- One of the highest transaction volume customers to use OS/400 Remote Journaling in the world
- Two identical iSeries model 840 (Source & Target systems) located in separate buildings

### Customer Requirements:

- 24 x 7 supported environment
- Zero Data Loss in the event of a disaster
- Ease of use of software & use of Remote Journaling
- Speed of replication & scalability

### Customer Solution:



“With \*noMAX, if we have a disaster with our production server we have a backup that is up to the second. We can switch our users to the second system and not suffer any data loss” – Greg Taylor NZ Telecom Operations and Support Manager.

### Critical Success Factors:

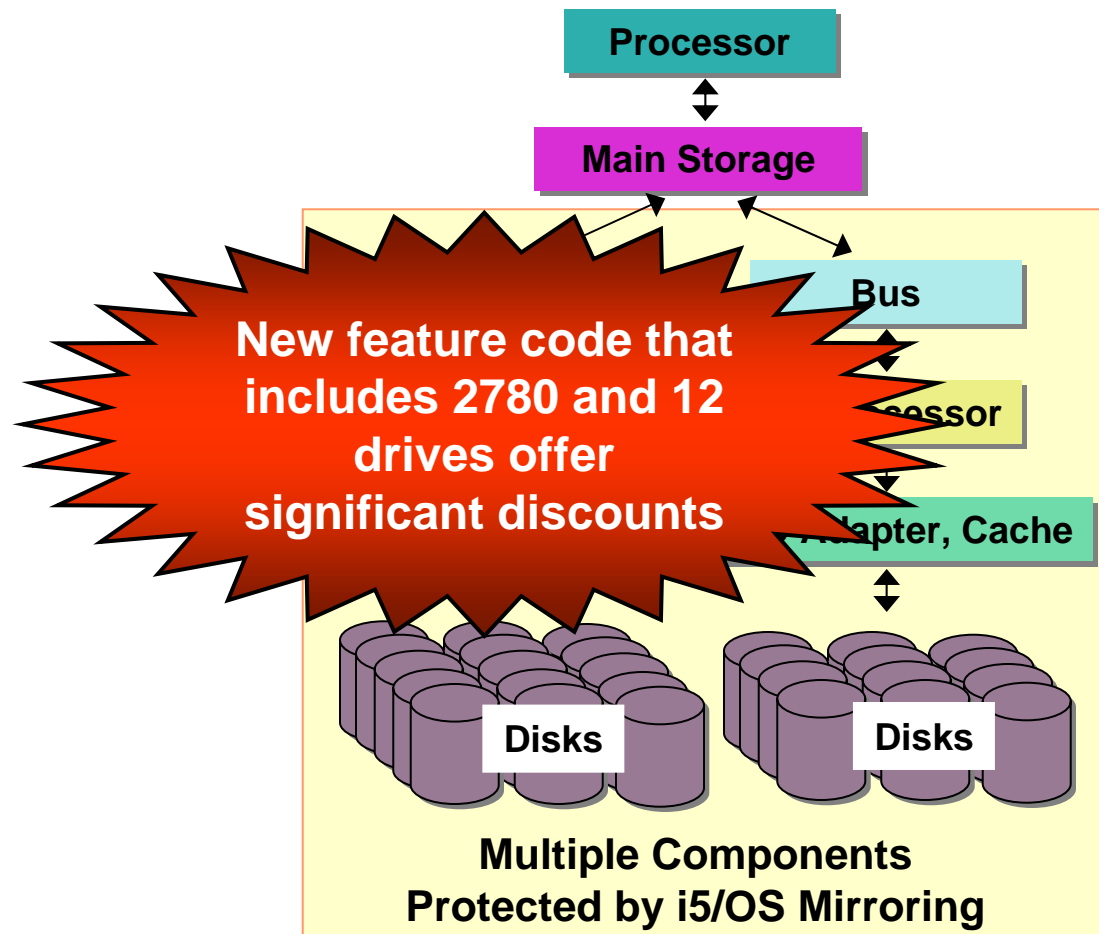
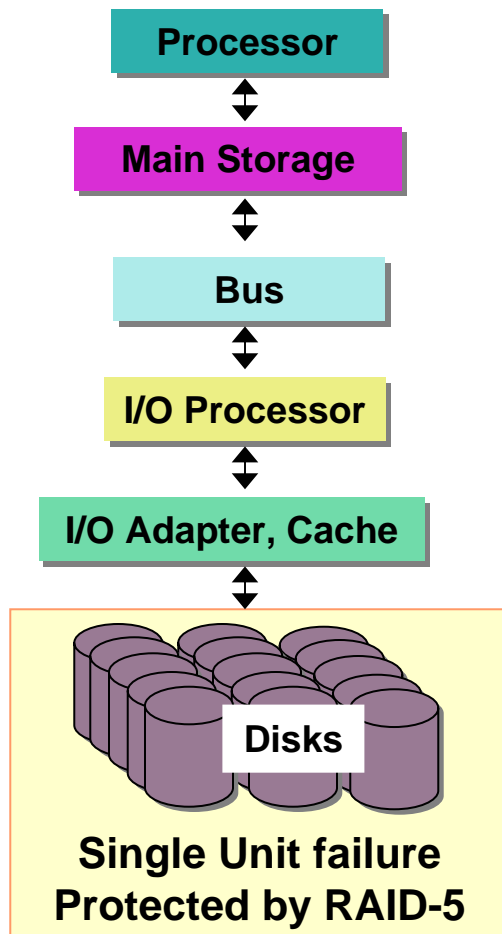
- Full Data Recovery Capability
- 24 X 7 Environment
- Zero Latency on 4000 transaction per second with Remote Journaling and \*noMAX



# Data Resiliency – Disk Replication Solutions

# Disk Mirroring Solution Package for Integrated Disks

*Provide Protection against Single Points of Failure*



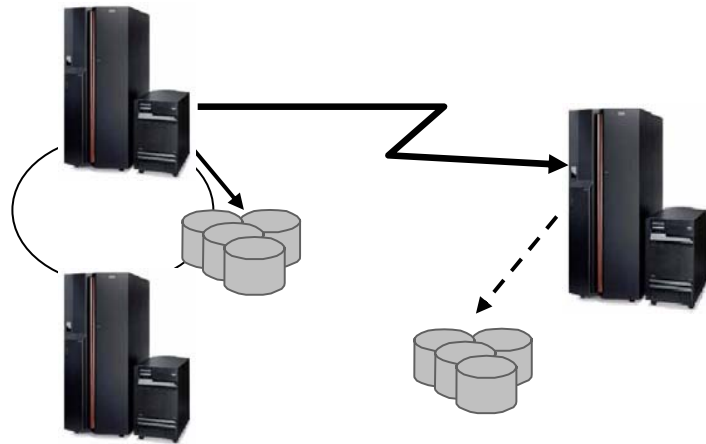
## Attractive Mirroring Solution for High Availability

| Configuration*                          | Sys Config with RAID Before | Sys Config with Mirror Before | %Diff Before | Sys Config with 50% Disc | %Diff Now |
|---|-----------------------------|-------------------------------|--------------|--------------------------|-----------|
| Model 570 Standard Edition with 1.9TB   | \$506K                      | \$674K                        | 33%          | \$553K                   | 9%        |
| Model 570 Enterprise Edition with 1.9TB | \$1192K                     | \$1360K                       | 14%          | \$1239K                  | 4%        |
| Model 870 Enterprise Edition with 1.9TB | \$850K                      | \$1004K                       | 18%          | \$872K                   | 3%        |
| Model 890 Enterprise Edition with 2.9TB | \$1904K                     | \$2102K                       | 10%          | \$1932K                  | 1%        |

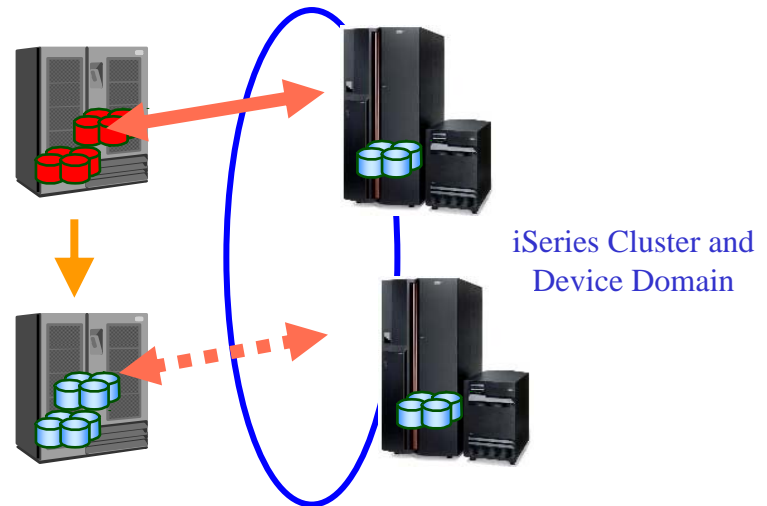
\*NOTE: All sample disk configurations based on usable capacity utilizing 35.16GB 15K RPM drives and 2757 / 2780 disk controller.

All prices and discounts shown here are preliminary US prices for new system configurations as of Oct 2004, and are subject to change without prior notice. Prices or discounts may vary by geography.

# IBM Disk Replication Solutions



**Cross Site Mirroring (XSM)**



**ESS PPRC with iSeries Copy Services**



## Customer profile; b.i.t.s. GmbH

- Application service provider (ASP) for Paulaner Brewery in Munich
- SAP with ca. 500 users
- Supports 2.7 million hectoliters shipped daily
- Processes 185,000 dialogsteps/day (avg.)
- One model i5 570 iSeries 4-way (source), one model i810 iSeries 2-way (backup)

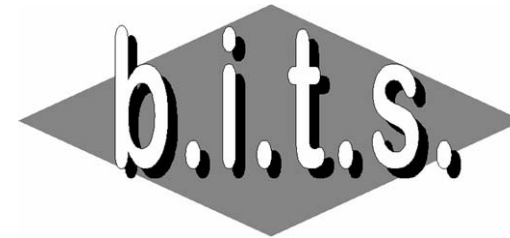


## Customer requirements:

- 24x7x365 uptime required
- Must successfully role swap monthly
- Can't spend efforts for HA monitoring/maintenance
- Tolerate little to no source latency at peak transaction volumes

## Customer Solution:

IBM's **XSM** (Cross-Site Mirroring)



**“SAP and XSM are a natural fit. This solution gives us high availability and ease of use”**

- Frank Bodfeld, CIO, b.i.t.s, Manager IT

## Critical success factors:

- Ease of use, minimal IT resource to support solution
- Minimal impact on performance
- Price competitive compared to software solutions

### Customer profile; Metro Richelieu

- Retail customer running SAP-BW in IASP's
- 2000 connected devices
- 46 Infocubes
- Processes 6 million transactions/day (avg.)
- Database size = 1 TB
- Source iSeries is 3-way partition on i890
- Target iSeries is 3-way partition on 840

### Customer requirements:

- Switch application to second site in less than 90 minutes.
- Must successfully role swap every 4 months to test the process.
- Can't spend more than one hour per day for HA monitoring/maintenance
- Must be synchronous data transfer.

### Customer Solution: iSeries Copy services

Peer to Peer Remote Copy ( PPRC ) with  
2 x ESS 800.



### Critical success factors:

- Consistently and successfully tests role swap every 4 months.
- PPRC is synchronous so there is never any latency on the target system.
- Tests to date show no longer than 90 minutes to bring the IASP online on the target system.

## Customer profile; Estes Express

- Large trucking company on the east coast
- 2000 connected devices
- 100,000 Customer Base
- 60,000 Images processed daily
- Processes 50 million transactions/day (avg.)
- 870 production system. 825 system for backups.



## Customer requirements:

- 24x7x365 uptime required
- Must stay active while saves of millions of objects take place.
- Want as much automation as possible
- Tolerate little to no source latency at peak transaction volumes

## Customer Solution: iSeries Copy Services

Flashcopy installed. PPRC implementation planned

Saved with BRMS - New libraries & IFS dirs saved automatically, no manual effort required

“Although we're a 24x365 operation, nightly, we back up 3 tb of data. This 'single-point-in-time' save is performed without a microsecond of interruption to our production applications. Not one user is aware that the save process is even being run.”

Dick Cosby System Administrator

## Critical success factors:

- Backups taken every day to send offsite
- Successfully tested restore from online saves



## Addition Resources

## 1H05 Events, Offerings and Promotions (AG)

- **Rochester HA CIO Fly-ins**
- **Quarterly Business Continuity CIO Fly-Outs**
  - Regional Cities
- **Quarterly ISV Webcasts**
- **Availability Assessments On Demand**
- **Perhaps..Buy One Get an HA Server Free...**



## Summary

- **HA is a Consultative Sell**
  - Requirements, Requirements, Requirements
- **IBM solutions feature a rich set of business continuity and high availability solutions portfolio**
  - ISV Solutions, IBM Hardware Solutions
  - HA & CBU Servers
- **IBM provides end-to-end solution integration, service, and support.**
  - ITC, CTC, IGS

## Additional Resources

- **iSeries HA External Website**
  - Several HA articles available such as; **HA 101**
  - [www.ibm.com/eserver/series/ha](http://www.ibm.com/eserver/series/ha)
- **iSeries HA Sales Kit**
  - <http://w3-1.ibm.com/sales/systems/portal/s.155/254?navID=f220s240&geoID=All&prodID=iSeries&docID=ihask.skit&docType=SalesKit&skCat=DocumentType>
- **iSeries for HA/CBU**
  - <http://www-1.ibm.com/servers/eserver/series/hardware/is4ha>
  - <http://www-1.ibm.com/servers/eserver/series/hardware/is4cbu>
- **IBM Redbooks**
  - i5/OS High Availability Clusters: Data Resilience Solutions
  - <http://www.redbooks.ibm.com>

## More References

- <http://www-306.ibm.com/software/success/cssdb.nsf/CS/DNSD-66TL6L?OpenDocument&Site=eserveriseries>
- <http://www-306.ibm.com/software/success/cssdb.nsf/CS/LEOD-5LHSCJ?>
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- <http://www-306.ibm.com/software/success/cssdb.nsf/CS/DNSD-5ZUDZC?OpenDocument&Site=eserveriseries>



## Additional Resources: Consulting

- **CTC (for fee HA consulting top to bottom)**
  - <http://www-1.ibm.com/servers/eserver/services/havail.html>
- **ITC (hardware based solutions; IASPs & ESS)**
  - <http://www-1.ibm.com/servers/eserver/series/service/itc/services.htm>
- **ATS (presale support for the America's)**
  - <http://w3.ibm.com/support>
- **IGS**
  - Business Consulting Services
    - <http://www-1.ibm.com/services/us/index.wss/of/bcrs/a1000387>
  - Rapid Recovery Offering
    - <http://www-1.ibm.com/services/us/index.wss/of/bcrs/a1000387>

## ISV Contacts iTera

### **AG (Americas Group)**

- **Brian NeVille**
- **[Brian.neville@iterainc.com](mailto:Brian.neville@iterainc.com)**
- **801-303-5128**

### **AP**

- **Dennis Bress**
- **[Dennis.bress@iterainc.com](mailto:Dennis.bress@iterainc.com)**
- **(949) 723-0644**

### **EMEA**

- **Phil Davis**
- **[Phil.davis@iterainc.com](mailto:Phil.davis@iterainc.com)**
- **+44 1256 782 988**

## ISV Contacts: Lakeview Technology

### Asia Pacific:

- Allan Campbell
- [campbela@lakeviewtech.com](mailto:campbela@lakeviewtech.com)
- Mobile: +61-408-196-072
- AP Office: +852-2970-3280

### Americas Group:

- Eric Robinson
- [robinsoe@lakeviewtech.com](mailto:robinsoe@lakeviewtech.com)
- Mobile: 775-772-8339
- AG Office: 630-282-8390

### EMEA:

- Frank Harrison
- [Frank.Harrison@lakeviewtech.com](mailto:Frank.Harrison@lakeviewtech.com)
- Mobile: 44 (0)7736 668650
- EMEA Office: 32-16-395555

### All Lakeview Office Locations & Contact Info is at:

- [www.lakeviewtech.com/aboutus/offices.asp](http://www.lakeviewtech.com/aboutus/offices.asp)

## ISV Contacts: MaxAvail

### **USA - John Valley,**

John J. Valley

- Office: 330-764-4881 (ext 4)
- Fax: 330-764-4882
- Email: [john.valley@maxava.com](mailto:john.valley@maxava.com)

### ▪ **EMEA - Noel Priddey**

- Work: +44(0)20-7004 1806
- Alt: +44(0)1273-278 389
- Mobile: +44(0)7802-234 695

### ▪ **Asia Pacific, Kaz Handa**

- Phone: +64-9-415-7008
- Fax: +64-9-415-7018

## ISV Contacts: TRADER'S

### North America :

- IIS - Loren Stormo - ph : 406 7280 601 - Cell : 406 5443 515 - [lstormo@eserverpartners.com](mailto:lstormo@eserverpartners.com)

### Latin America :

- PRINTEX - Sotero Rodriguez - ph : +5255 5037 4907 - Cell : +5255 2184 5758 - [srodriguez@printex.com.mx](mailto:srodriguez@printex.com.mx)

### EMEA :

- TRADER'S - Thierry Roux - ph : +33 146 921 711 - Cell : +33 609 792 133 - [roux@traders.fr](mailto:roux@traders.fr)

### AP :

- TRADER'S - Thierry Roux - ph : +33 146 921 711 - Cell : +33 609 792 133 - [roux@traders.fr](mailto:roux@traders.fr)

## ISV Contacts: Vision Solutions

|      |                    |                                 |                            |                       |  |
|------|--------------------|---------------------------------|----------------------------|-----------------------|--|
| WW   | David Wegman       | EVP - WW<br>Marketing /BD       | Irvine, CA, USA            | +1-949-253-<br>6522   | <a href="mailto:dwegman@visionsolutions.com">dwegman@visionsolutions.com</a>     |
| WW   | Steve Massey       | EVP - WW Sales                  | Irvine, CA, USA            | +1-949-253-<br>6591   | <a href="mailto:smassey@visionsolutions.com">smassey@visionsolutions.com</a>     |
| NA   | Bob Davis          | Vice President of<br>Sales - NA | Irvine, CA, USA            | +1-949-253-<br>6584   | <a href="mailto:bdavis@visionsolutions.com">bdavis@visionsolutions.com</a>       |
| LA   | Miguel Flis        | Director of Sales -<br>LA       | Buenos Aries,<br>Argentina | +54 (911)<br>44936214 | <a href="mailto:mflis@visionsolutions.com">mflis@visionsolutions.com</a>         |
| EMEA | Herman<br>Willeman | Director of Sales -<br>EMEA     | Brussels, Belgium          | +32 (11)<br>886727    | <a href="mailto:hwilleman@visionsolutions.com">hwilleman@visionsolutions.com</a> |
| APAC | Suzi Shaw<br>Lyons | Director of Sales -<br>APAC     | Auckland, New<br>Zealand   | +64 (9)<br>4119051    | <a href="mailto:sslyons@visionsolutions.com">sslyons@visionsolutions.com</a>     |

## iSeries Check

### Analysis, Plans and Solutions for IT Resiliency Solutions

- **Business Impact Analysis**
  - Establish/Assess Business Resiliency Needs and Objectives at the application level
  - Develop financial cost benefit analysis
- **IT Resiliency Profile**
  - Based upon Business Impact Analysis
  - Profile current state of resiliency capability
  - Identify “gaps” and create a plan of action
- **On site engagement**
  - Reviews & analysis
  - Generate a report with recommendations
- **Performed by**
  - CTC (customer Technology center)
  - Select Business Partners
  - <http://www-1.ibm.com/servers/eserver/services/havail.html>



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|----------------------------|-------|-------|-------|---------|-------|-------|
| <i>Data Mirror</i>         | Gray  | Gray  | Gray  | Gray    | Gray  | Gray  |
| <i>iTera</i>               | Gray  | Gray  | Gray  | Gray    | Gray  | White |
| <i>Lakeview Technology</i> | Gray  | Gray  | Gray  | Gray    | Gray  | Gray  |
| <i>NoMax</i>               | Gray  | White | White | White   | White | White |
| <i>Traders</i>             | Gray  | White | White | White   | White | White |
| <i>Vision Solutions</i>    | Gray  | Gray  | Gray  | Gray    | Gray  | Gray  |