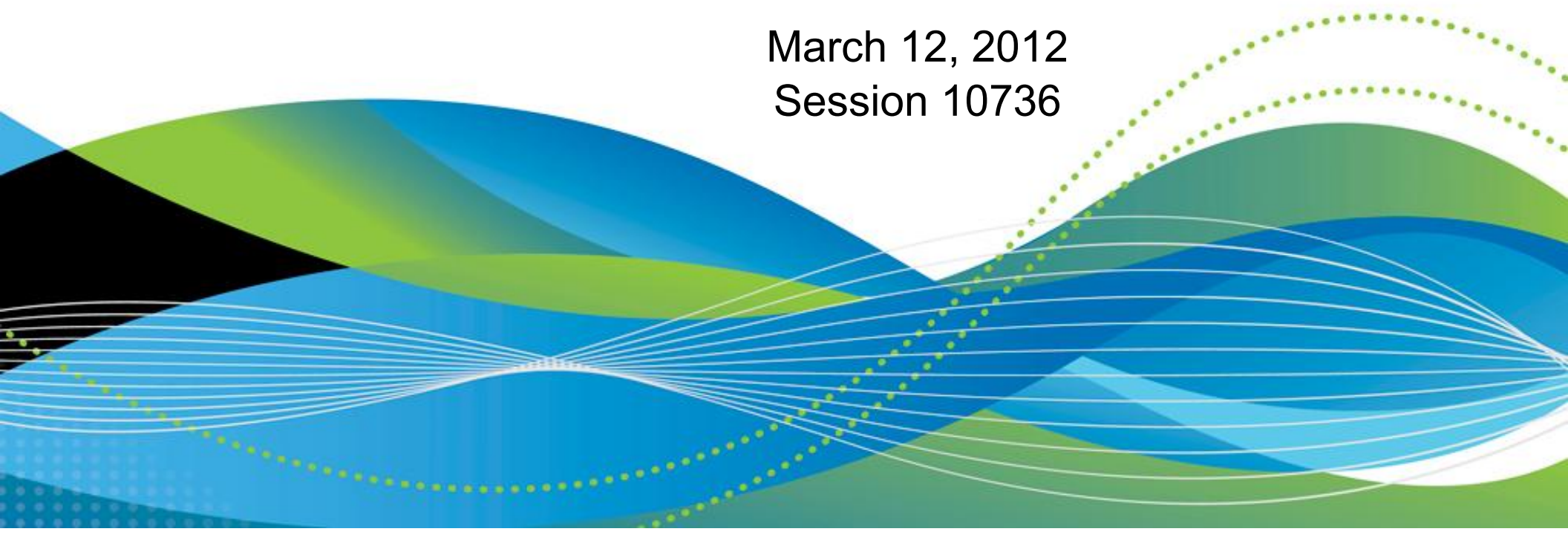


# Making zEnterprise Relevant to Line of Business

*Business Process Management and Decision Management*

Bill Lawton  
IBM

March 12, 2012  
Session 10736



# Agenda

This session is about leveraging IBM's Business Process Management and Decision Management products for greater agility on the zEnterprise platform.

- Improving Business Operations and Outcomes
- IBM's approach
- How the pieces fit together
- On zEnterprise

# Improving Business Operations and Outcomes

# Process Improvement is Still Top Priority with Business & IT



## Focus on effectiveness and efficiency

McKinsey Dec 2011

% of respondents<sup>1</sup>

### Current IT priorities at respondent's company

### Ranking by current priority

	Total, n = 927	Non-IT executives, n = 427	IT executives, n = 471	Ranking by ideal priority, total, n = 927
Improving effectiveness of business processes	47	1	2	1
Improving efficiency of business processes	45	2	3	4
Reducing IT costs	44	5	1	7
Providing managers with information to support planning and decision making	40	3	4	3
Creating new products or services	29	4	6	2
Ensuring compliance with regulations	23	6	8	8
Entering new markets	20	7	5	5
Managing risk	14	8	7	6

<sup>1</sup> Respondents who answered "other" or "don't know" are not shown.

McKinsey 2011 Technology Survey of 927 IT and non-IT Executives, December 2011

[https://www.mckinseyquarterly.com/High\\_Tech/Strategy\\_Analysis/A\\_rising\\_role\\_for\\_IT\\_McKinsey\\_Global\\_Survey\\_results\\_2900](https://www.mckinseyquarterly.com/High_Tech/Strategy_Analysis/A_rising_role_for_IT_McKinsey_Global_Survey_results_2900)



# Companies are recognizing mainframe cost savings

*Based on an analysis of actual IT spend and business performance, comparing companies with greater than average mainframe mix vs. less than average mainframe mix...\**



44%

lower IT cost per credit card transaction



31%

lower IT cost per consumer loan



25%

lower IT cost per mega watt hour produced



24%

lower IT cost per hospital bed



20%

lower IT cost per airline passenger



26%

lower IT cost per new vehicle



25%

lower IT cost per retail store



23%

lower IT cost per barrel of oil

- Failure to optimize your IT can significantly impact business outcomes
- Companies are seeing cost savings from mainframe systems

# CIOs Want to Drive Better Business Decisions and Processes

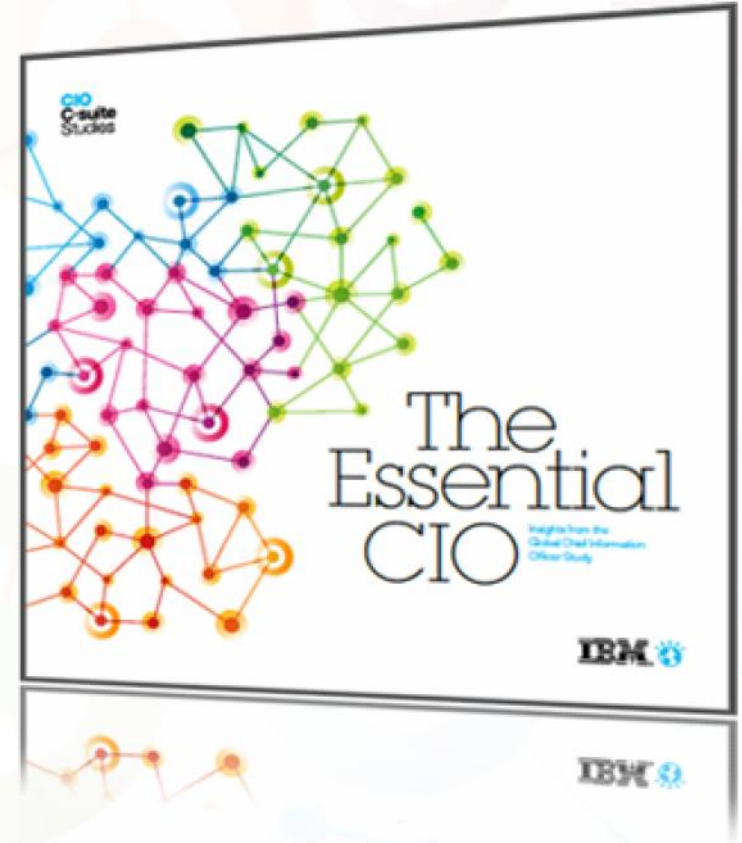


75%

of CIOs with mandates to **transform the business** are looking to “drive *better real time decisions.*”

99%

of CIOs with mandates to **transform the business** are looking to “drive *better internal collaboration processes.*”

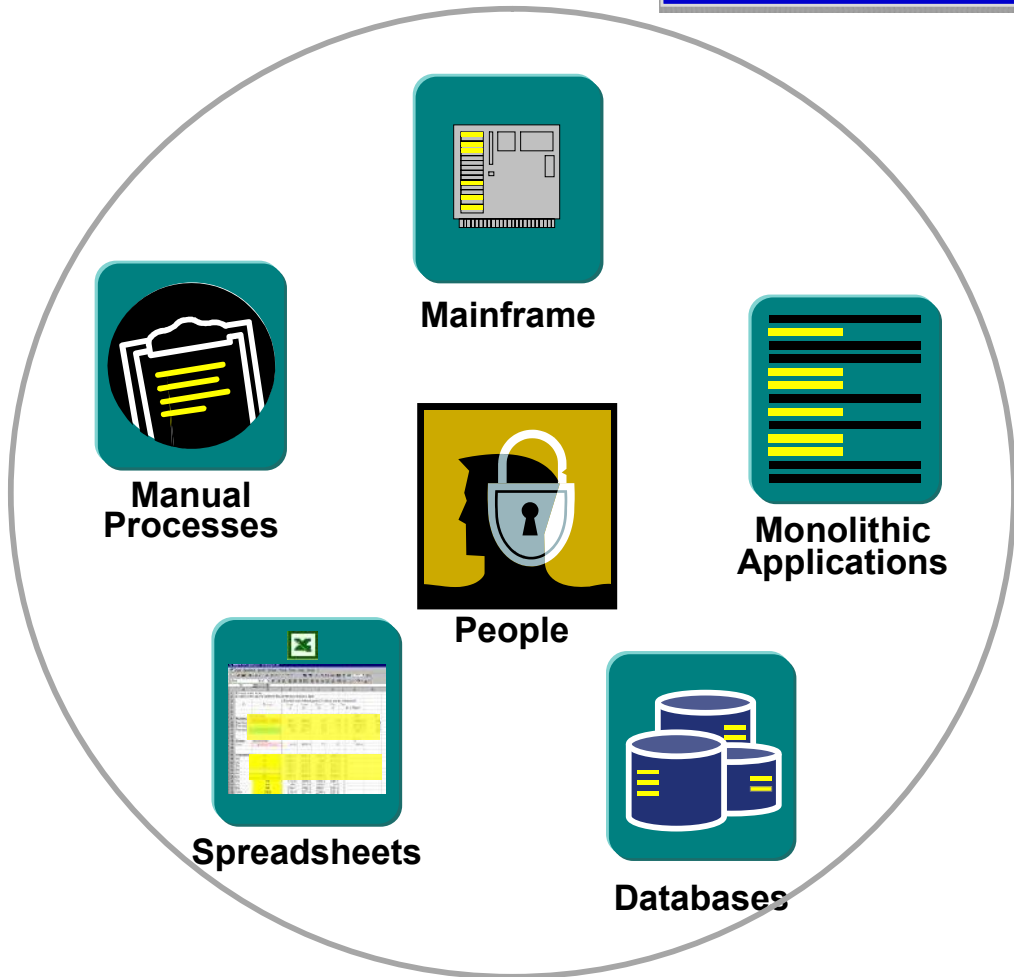


Source: IBM Global CIO Study 2011

# Decisions & Business Rules on System z platforms

Can get quite large

Are scattered everywhere



Are subject to change

## Challenges for a Change Request

- **Changes are costly, resource & time-intensive**
  - Rules are hidden in COBOL code
  - Most changes have to be programmed – costly
- **Lack of consistency**
  - No central management of rules
  - No reuse of rules
- **Gap between business analysts & IT administrators**
  - Business rules knowledge fades over time
- **Lack of auditability**
- **No easy way to test/simulate the change**

# The market has moved to the strengths of System z

## Requirements for operational characteristics

- *System z is the most available platform you can buy (99.999%)*
- *The security on System z is unsurpassed by any other platform*
- *Stringent Service Level Agreements*

## Low Latency of key information

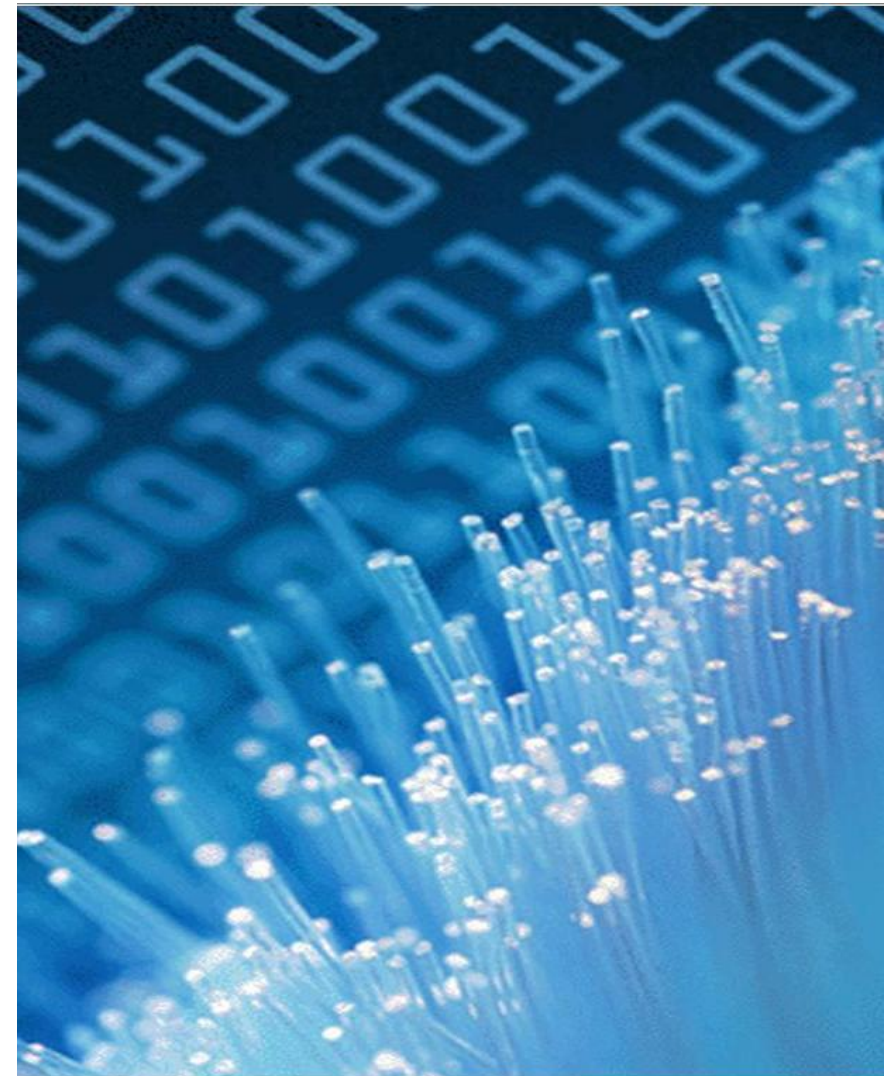
- A large portion of today's operational data resides on the mainframe

## Workload management for mixed workloads

- Manage multiple workload types with priority and work types scheduling

## Lower costs through reduced complexity

- Simplified management
- Reduced environmental costs
- Greater flexibility to meet changing needs



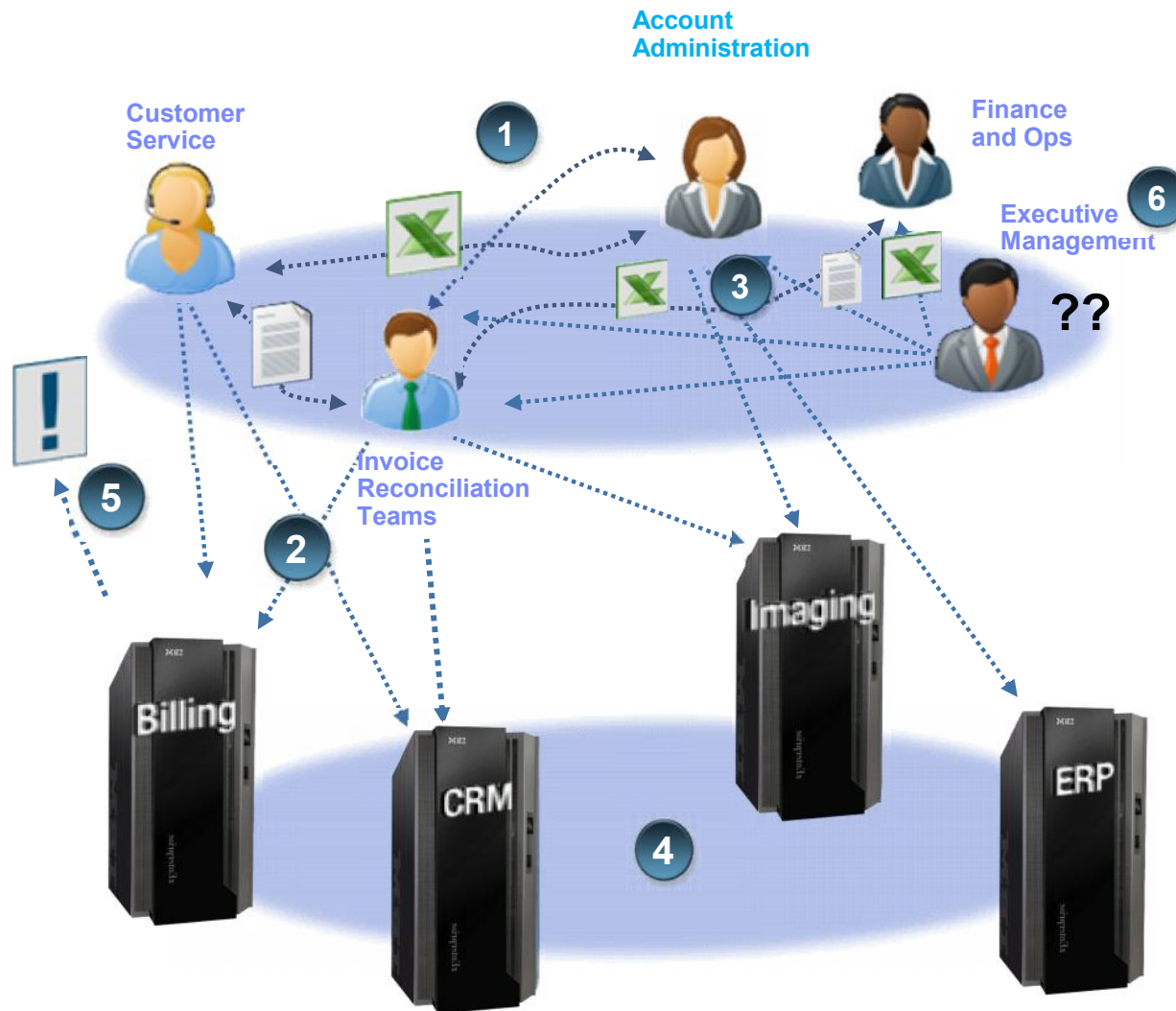


# Common Operational Problems

- Frequent unexpected problems in business operation
- Individual or group heroics needed to make the process work
- Lots of manual work - with high error rates, rework, and inconsistent decisions
- Lack of understanding, poor overall visibility into end-to-end processes within line of business
- Poor, late visibility to important business events
- Immediate process changes required multiple times per year

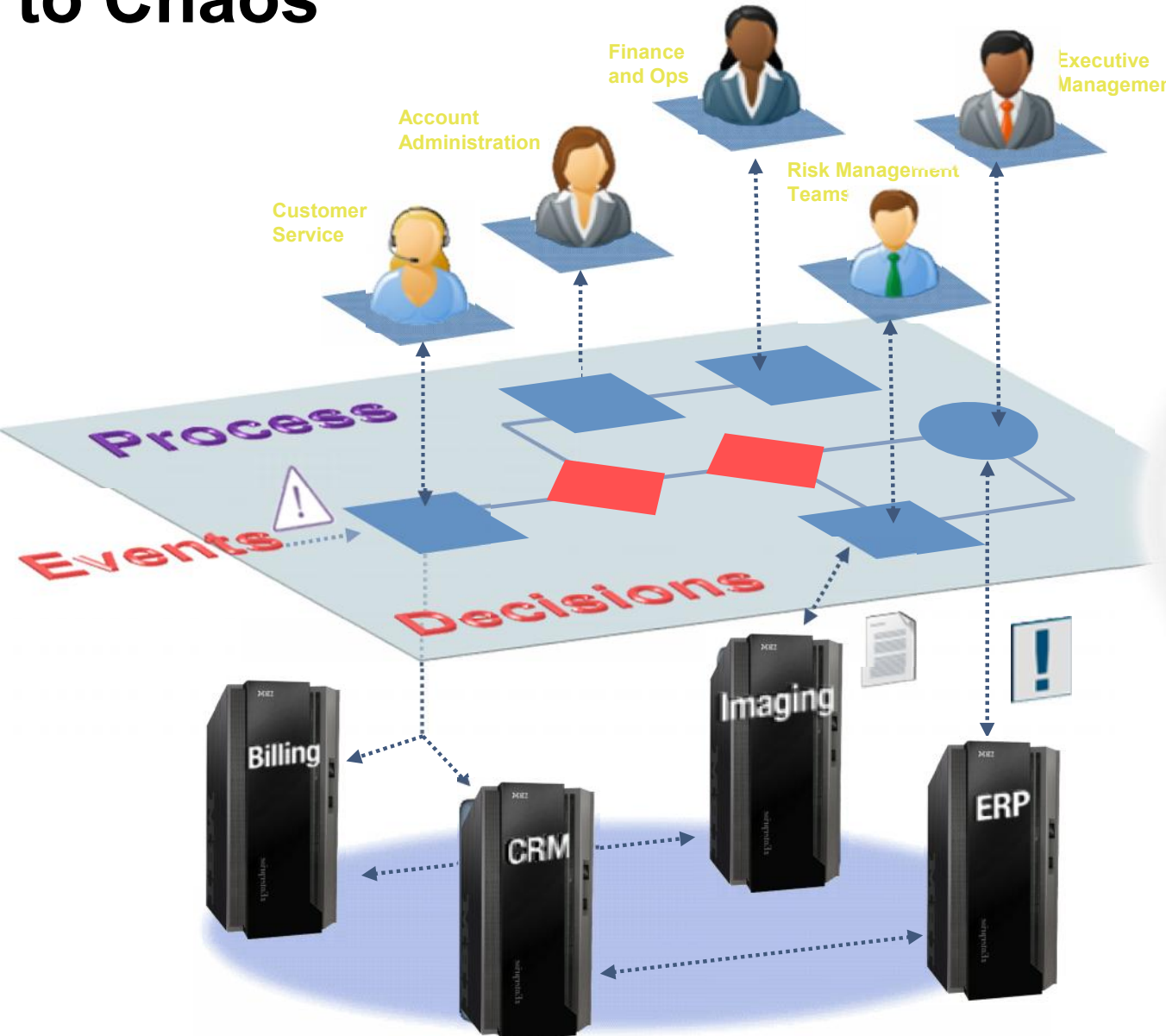


# Business Chaos Begs for Operational Improvement



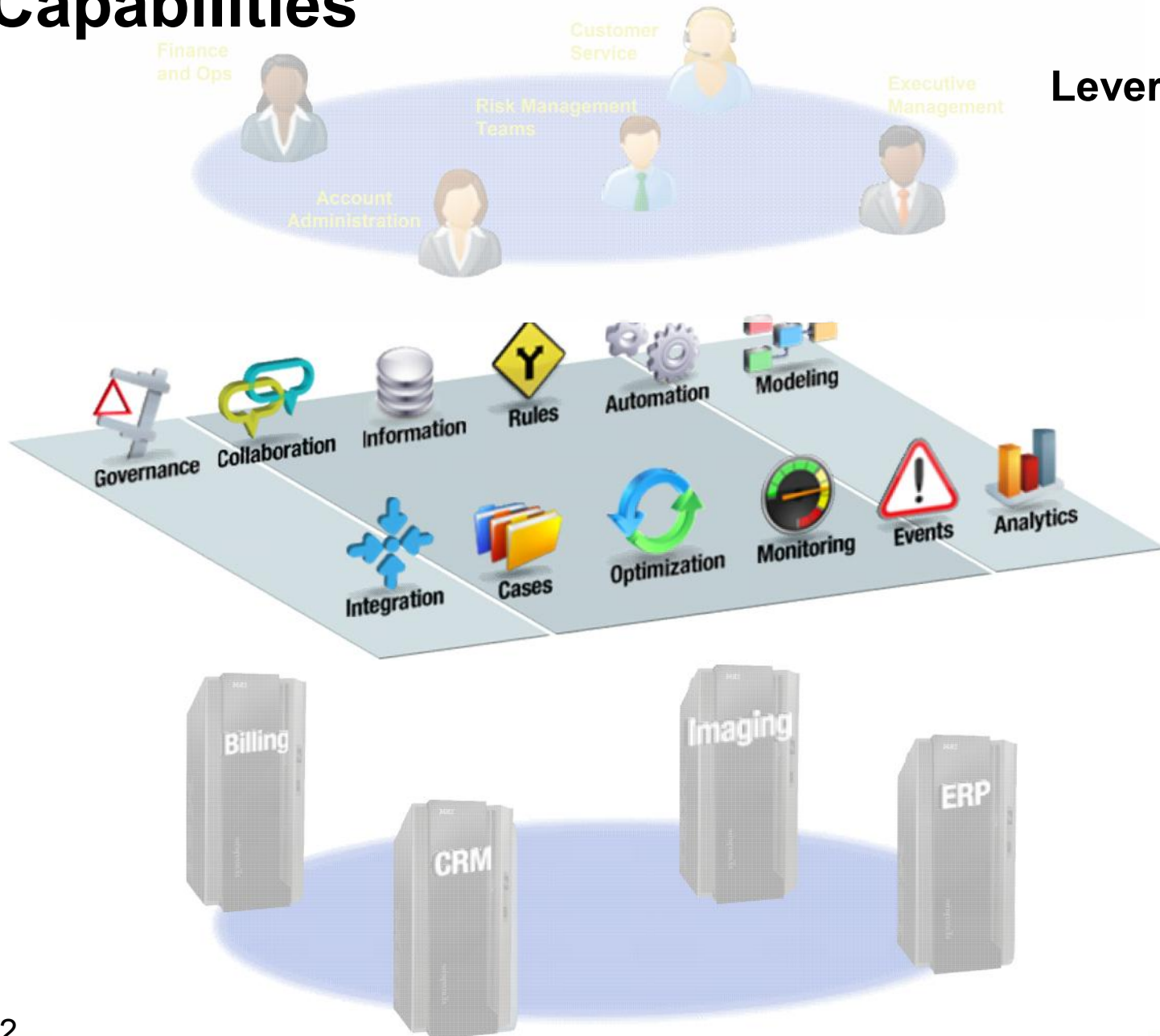
- 1 Unstructured tasks and communication (ex. paper or email)
- 2 Inefficient working environment spans systems
- 3 Inconsistent prioritization
- 4 Incomplete or inaccurate data flow between systems
- 5 Lack of control over system and business events (Exceptions)
- 6 Poor visibility into process performance

# Process & Decision Management Bring Order to Chaos








**What to do.  
How to do it.  
When to do it.**

# Essential Process & Decision Management Capabilities



## Leverage these Capabilities on zEnterprise

-  • Automation
-  • Rules
-  • Events
-  • Information
-  • Cases
-  • Integration
-  • Monitoring
-  • Analytics
-  • Optimization
-  • Governance

# Enhanced by Capabilities of a zEnterprise Environment

## Process Integrity

Reliable execution of distributed business activity

## Transactional Strength

Robust applications demonstrate resilience and scalability in the face of workload challenges

## Co-location

Mission-critical applications and processes co-located for performance

## Scalability

To billions of transactions per day with high utilization rates



## Dependability

Through a robust and resilient infrastructure

## Interconnected

Throughout enterprise with high speed cross-memory communications

## Dynamic Infrastructure

IT must adapt to changing infrastructure cost pressures, contention for limited resources, and changing business priorities

## High Availability

Processes execute even when one system is down

# To Improve Business Operations & Outcomes



## Efficiency

- Eliminate Manual Data Entry Reduction in time from 9 hours to 10 minutes.
- Reduce Process Cycle Time Cut processing timing for compensation approval from 33 days to 7
- Reduce Manual Work Elimination of 80% of the manual routing of disputed invoices
- Support Business Growth 250% productivity improvement by existing staff

## Effectiveness

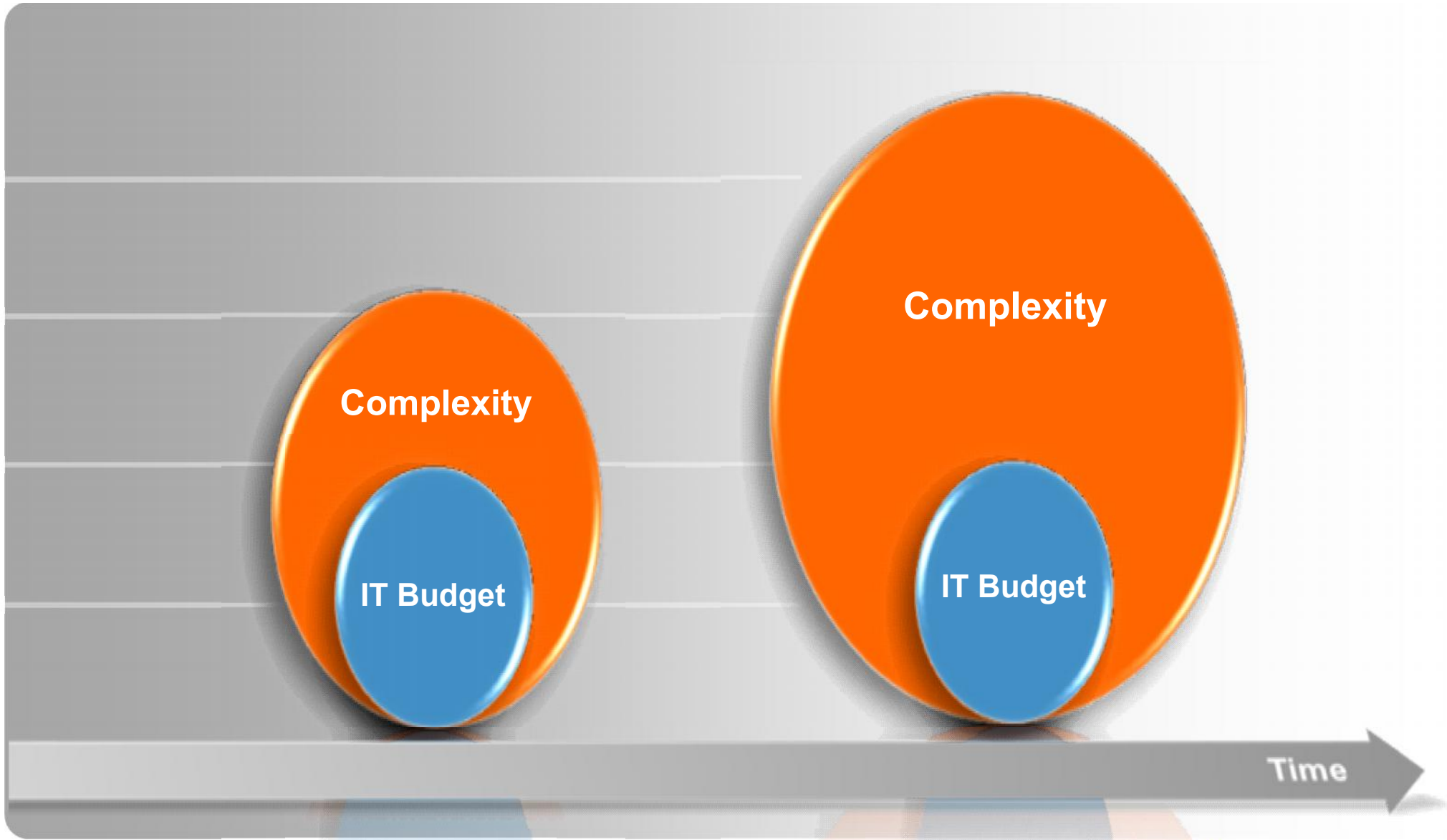
- Handle Exceptions Better Rescuing distressed shipments yielded \$2M per quarter in saved revenues.
- Make Better Decisions Better process controls saved \$3M in incorrect write-offs
- Consistent Execution Consistent, proactive communication raised customer satisfaction to 92%

## Agility / Competitiveness

- Faster Regulatory Compliance Compliance with new customs requirements within 90 days
- Support New Business Models Ability to change shipping partners in core process to eliminate vendor lock-in

# IBM's Approach

# Are you experiencing this issue?





# Increasing demands for Business Agility

We have a few days to add this special promotion and tune it !

Did we make this change in September to comply with the new regulation ?

This is why this customer was not eligible



# With traditional technical approaches, the business does not own the business logic ...



Lines of business



IT

```
static void processLoanRequest(Borrower borrower, Loan loan) { // Processing request from  
    borrower.getName(); // Approve or reject the loan - checkLoanConditions(borrower, loan); // Display the verdict if  
    (loan.isApproved()) { System.out.println("=> Loan is approved :-"); } else { System.out.println("=> Loan is rejected :-");  
    for (Object msg : loan.getMessages()) { System.out.println("=> Because -> " + msg); } } // Check conditions on the  
    borrower and the loan using hard-coded policies */static void checkLoanConditions(Borrower borrower, Loan loan) { //  
    Check maximum amount if (loan.getAmount() > 1000000) { loan.addToMessages("The loan cannot exceed 1,000,000");  
    loan.reject(); } // Check debt-to-income ratio if ((val = 100 / borrower.getYearlyIncome() * borrower.getCreditScore()) > 50) {  
    (borrower.getCreditScore() > 50) { loan.addToMessages("debt-to-income too high compared to credit score");  
    loan.reject(); } if ((val >= 30) && (val < 45) && (borrower.getCreditScore() >= 0) && (borrower.getCreditScore() < 400)) {  
    loan.addToMessages("debt-to-income too high compared to credit score"); loan.reject(); } if ((val >= 45) && (val < 50)  
    && (borrower.getCreditScore() >= 0) && (borrower.getCreditScore() < 600)) { loan.addToMessages("debt-to-income too high  
    compared to credit score"); loan.reject(); } if ((val >= 50) && (borrower.getCreditScore() >= 0) && (loan.getAmount() >
```

Application code

# Transformation to Agility Demands More Business Participation

Developers

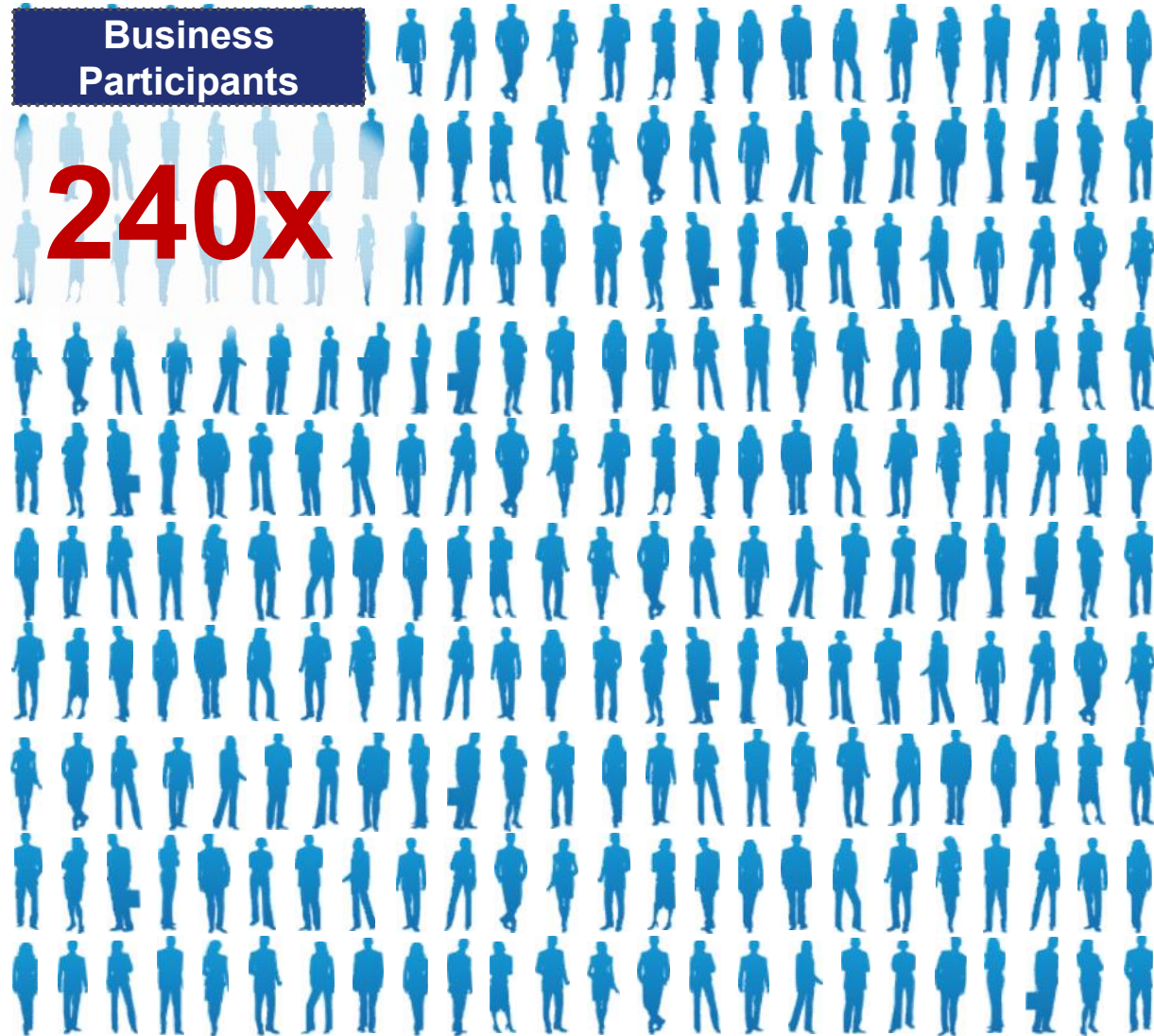


Rest of IT



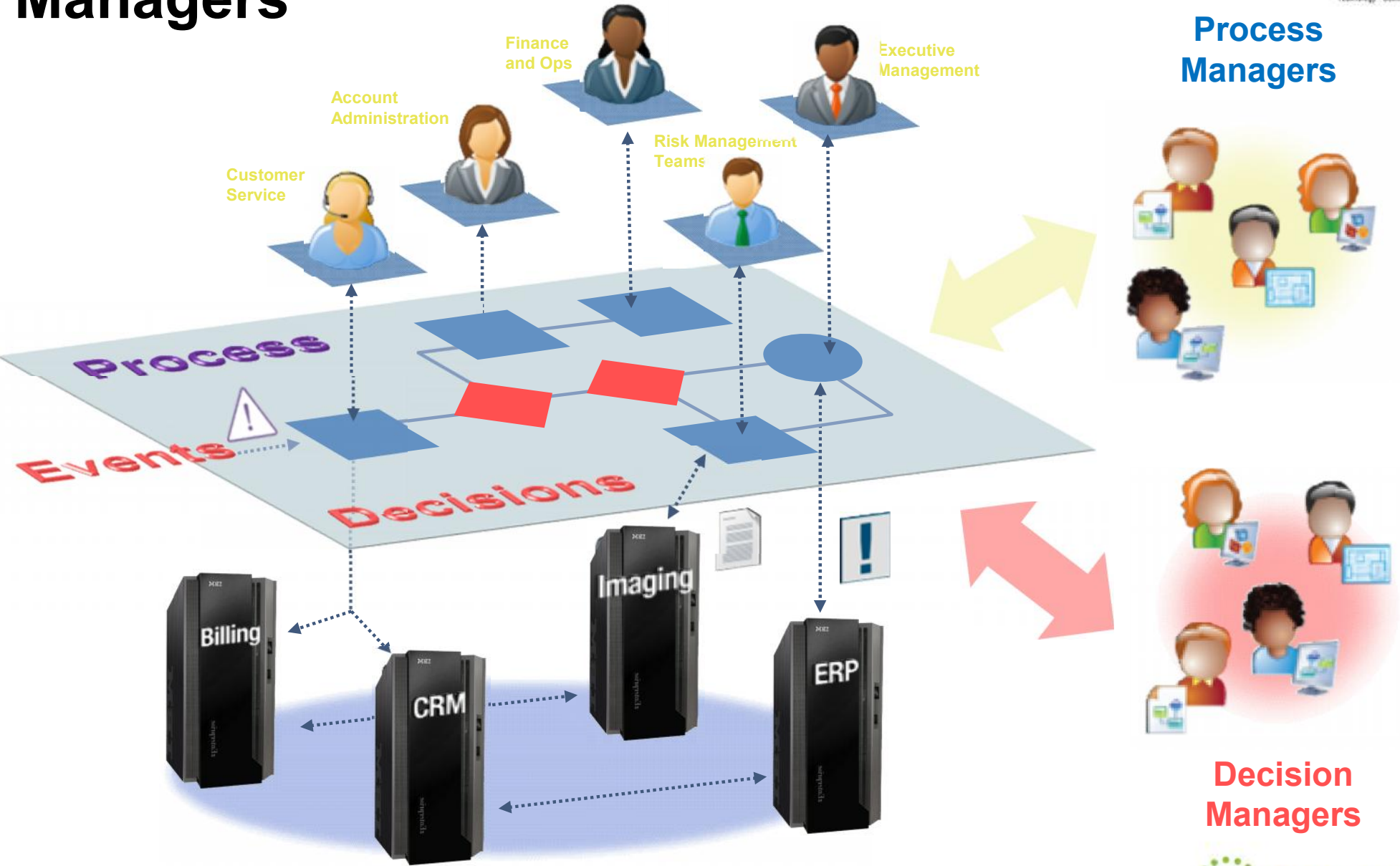
Business Participants

240x

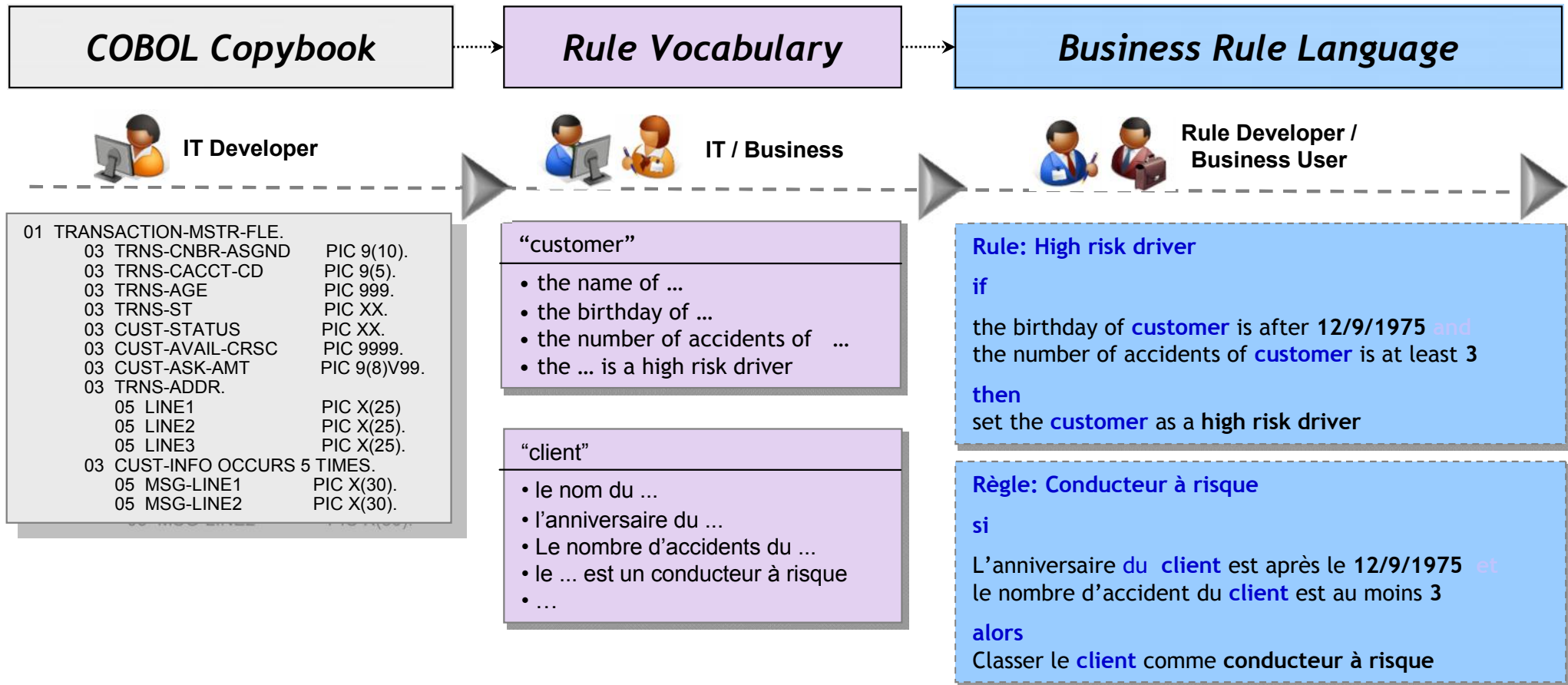


Leveraging your knowledge workers can be a huge opportunity

# Give Visibility & Control to Process & Decision Managers



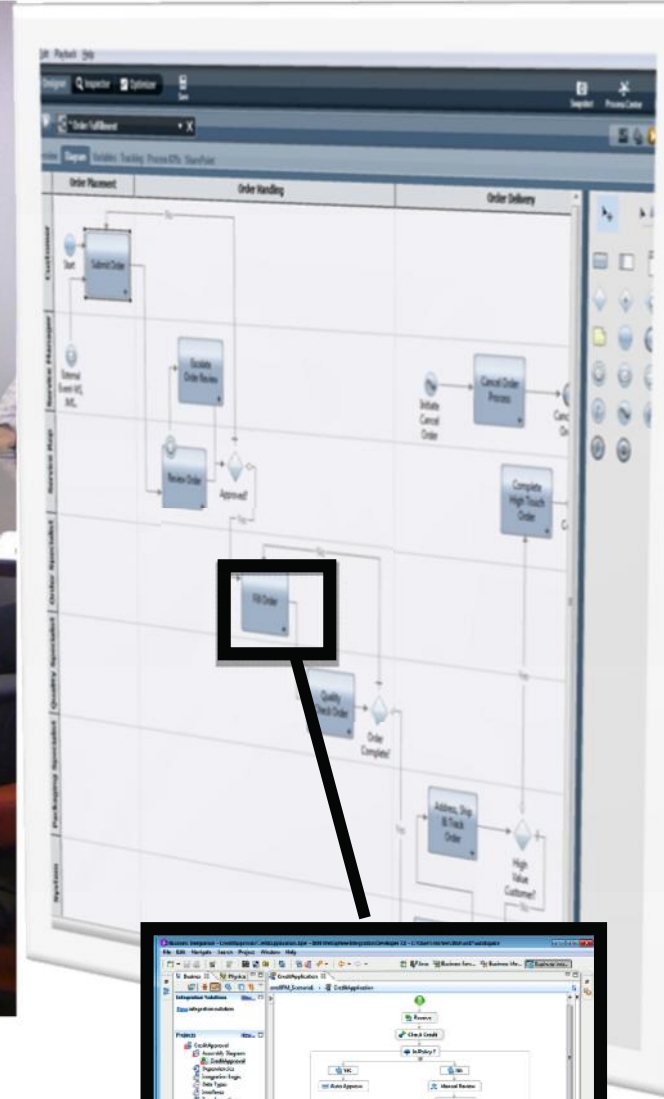
# Business decisions stated in business language



- Customizable vocabulary specific to your organization, industry, application (etc.)
- Supports language localization
- Integrates with external data sources (e.g. list of countries)
- Drop down lists for customized domain data
- Templates facilitate new rule and event creation
- Empower business experts to manage and validate decision logic, eliminating delays in business

# Better Business & IT Collaboration

*Playback the process with business stakeholders*



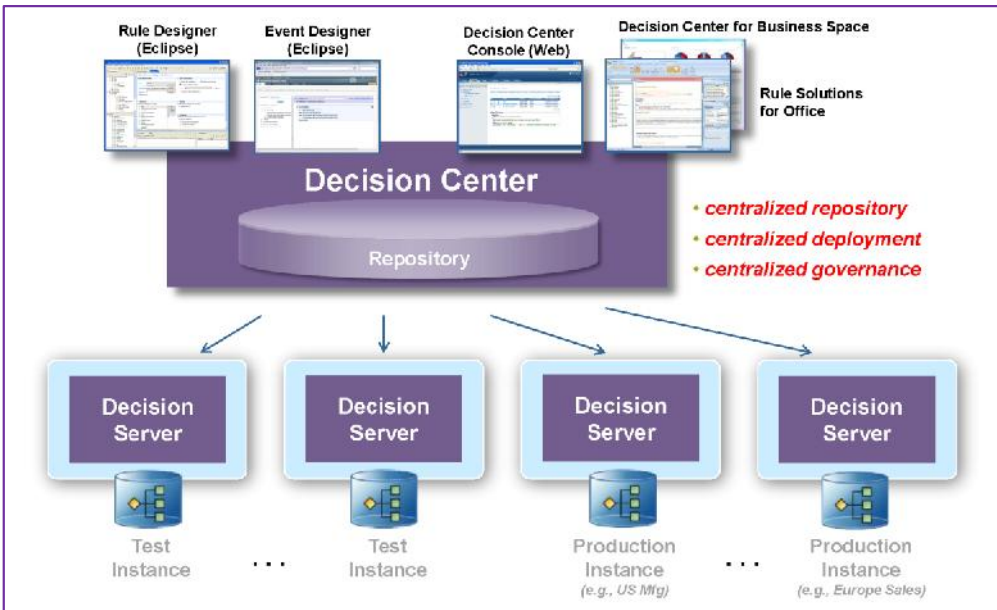
**Validate implementation faster**  
**Visualize version to version changes**  
**IT impact more visible to the business**

# Scaling Up Operational Improvement



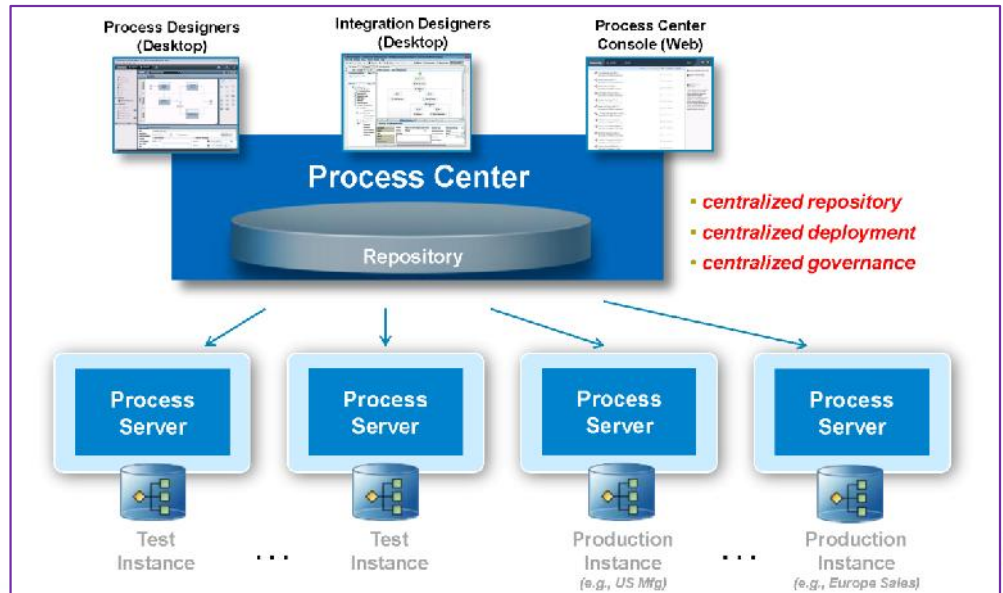
*.... from a Project to a Program*

# Process & Decision Centers for Governance & Reuse



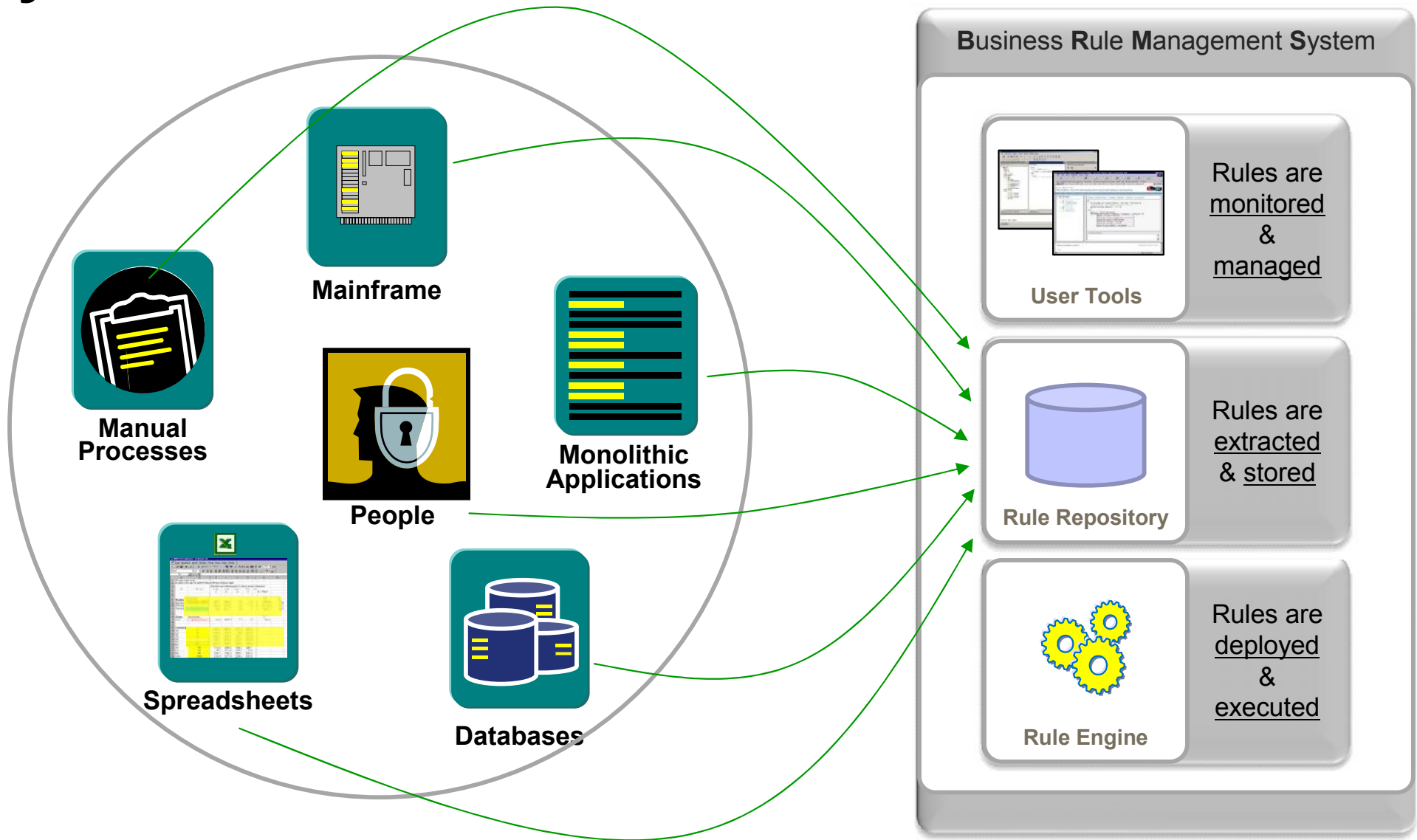
*Business Process Manager – Process Center*

*Operational Decision Manager – Decision Center*





# Decision / Business Rule Management System



# Patterns that Signal Need for Decision Management Support



Decisions **change more frequently** than process

*Ex: Fall prices in an online beauty care sales process*



More **straight through processing is needed** inside processes

*Ex: Eligibility determination automation in an insurance application process*



Decision **services need to be shared** across processes

*Ex: Fret pricing shared between the invoicing and the online sales applications*



Business users need the **ability to modify** decision logic

*Ex: Marketing teams to directly update promotion rules in a beauty care retailer*



Patterns of **events trigger the need to invoke or resume** a decision or process

*Ex: Fraudulent credit card usage detected invoking an account suspension process*



Need to **manage** and **govern** hundreds of **rules or events**

*Ex: 30.000+ rules in an automated payment authorization and settlement system*

# Improving operational decisions through modernization

## Modernization issues to resolve

1. Consolidation of COBOL application portfolio (cost savings)
2. Be able to react to changes requested by business in days, not months.
3. Sharing rules across platform / running parallel

## Benefits of a Decision Management system

- ✓ **Rule management**
  - Version control
  - Audit controls
  - Central repository for multiple rule deployments
- ✓ **Rule testing and simulation to ensure accuracy of changes prior to deployment**
- ✓ **Improved agility**
  - Decouple development and business rule lifecycles
  - New rules to enforce new business policies to multiple applications
- ✓ **Reuse of rules across applications and platforms**
- ✓ **Incremental rule modernization: applying technology and process to gain increased “decision making” agility**
  - Gradually pull out rules from existing applications - does not require a “big bang” change
  - Rewrite business rules in natural language

# How The Pieces Fit Together

# IBM Products for Business Process & Decision Management

## Blueworks Live

### Business Process Manager

Process Center

Process Server

Management of all process components

### Operational Decision Management

Decision Center

Decision Server

Management of business rules & events

## Business Monitor

Work together to deliver effective solutions for business operation improvement

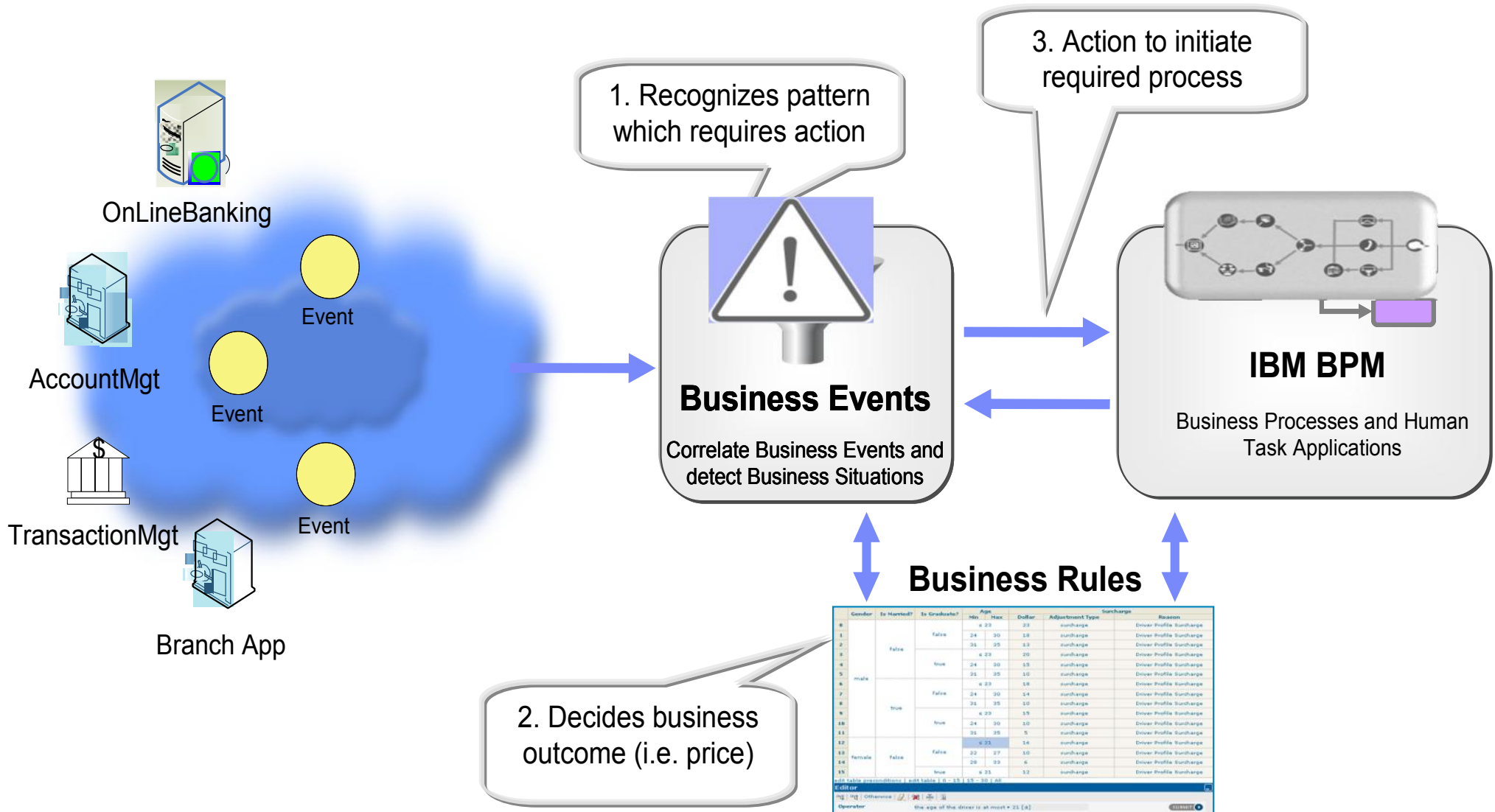
**Available on z/OS and zLinux**

# Engaging the Business Users



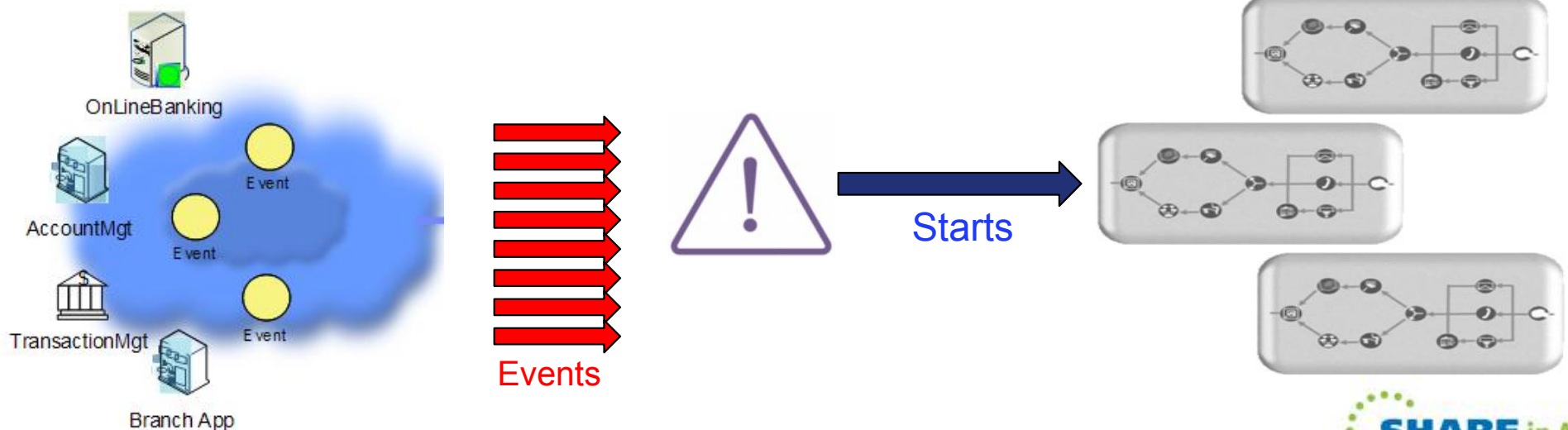
The image displays two overlapping software interfaces. The background interface is IBM BlueworksLive, showing a 'My Tasks' sidebar with categories like 'Overdue (3)', 'At Risk (2)', 'Due Today (9)', and 'Due This Week (4)'. The main area shows a '12.0 Process Expert Network' with options to 'Blueprint a Process', 'Automate a Process', and 'Import'. The foreground interface is IBM DecisionCenter, showing a 'mini-loan rules > Q2release' project. It features a 'Details' section with creation info, a 'Changes' log for 'Today' and 'Yesterday', and a 'Current Content' list with categories like 'Surcharges - NY', 'Rates - Lease', and 'No Tags'.

# BPM and ODM



# Business Events Enhance BPM

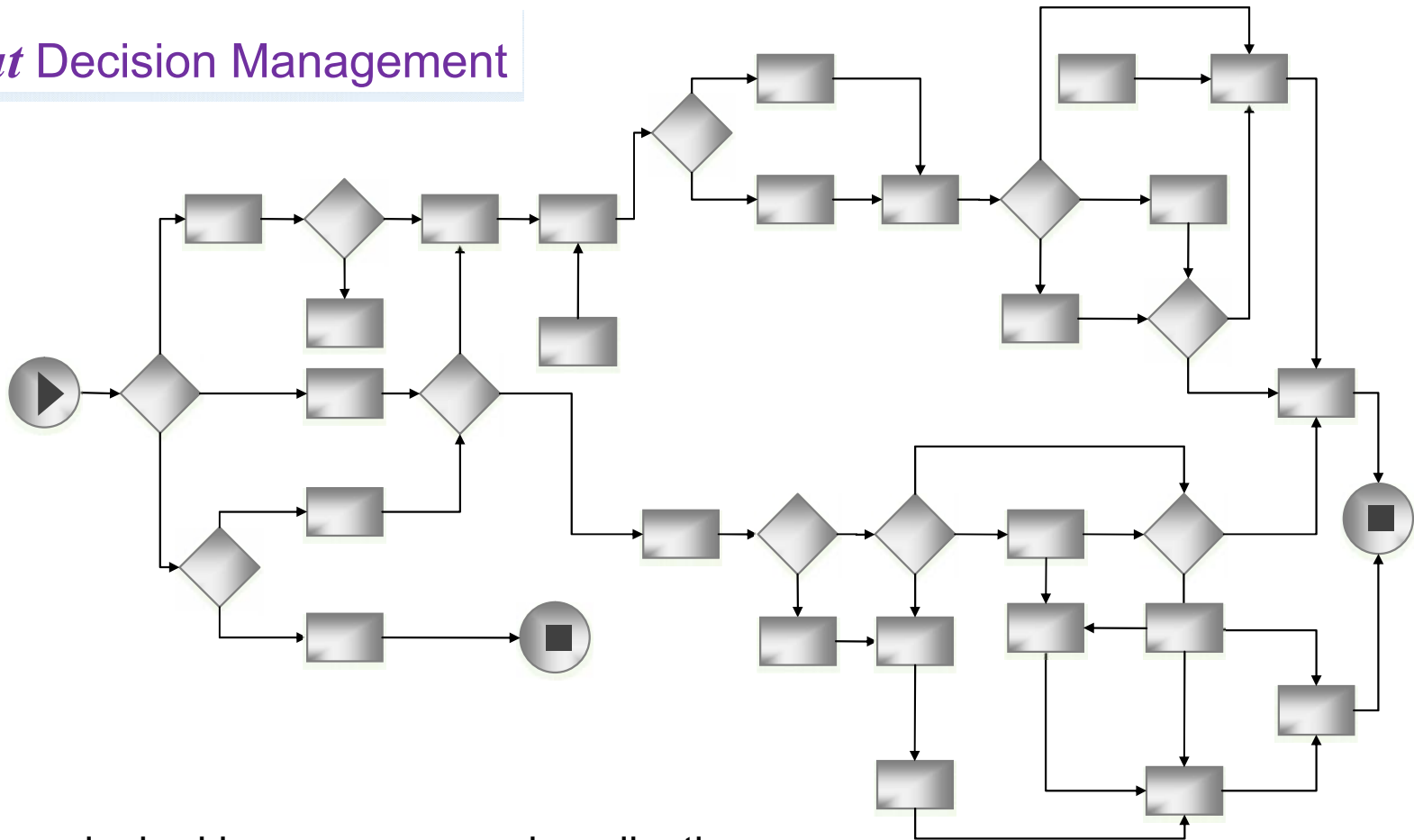
- Complex patterns of events can trigger process execution
  - Nature of the events (Sensors, applications, customer behaviors...)
  - Decisioning horizon (from seconds to months)
  - Volume (potentially thousands of signals to analyze per second)
  - Correlation between different source of signals or events
- Examples include detecting varied situations like fraud patterns to instantiate fraud investigation processes automatically
- Works with business rules to refine decisions on which process to initiate once patterns are recognized





# Decisions are Often Locked within Processes

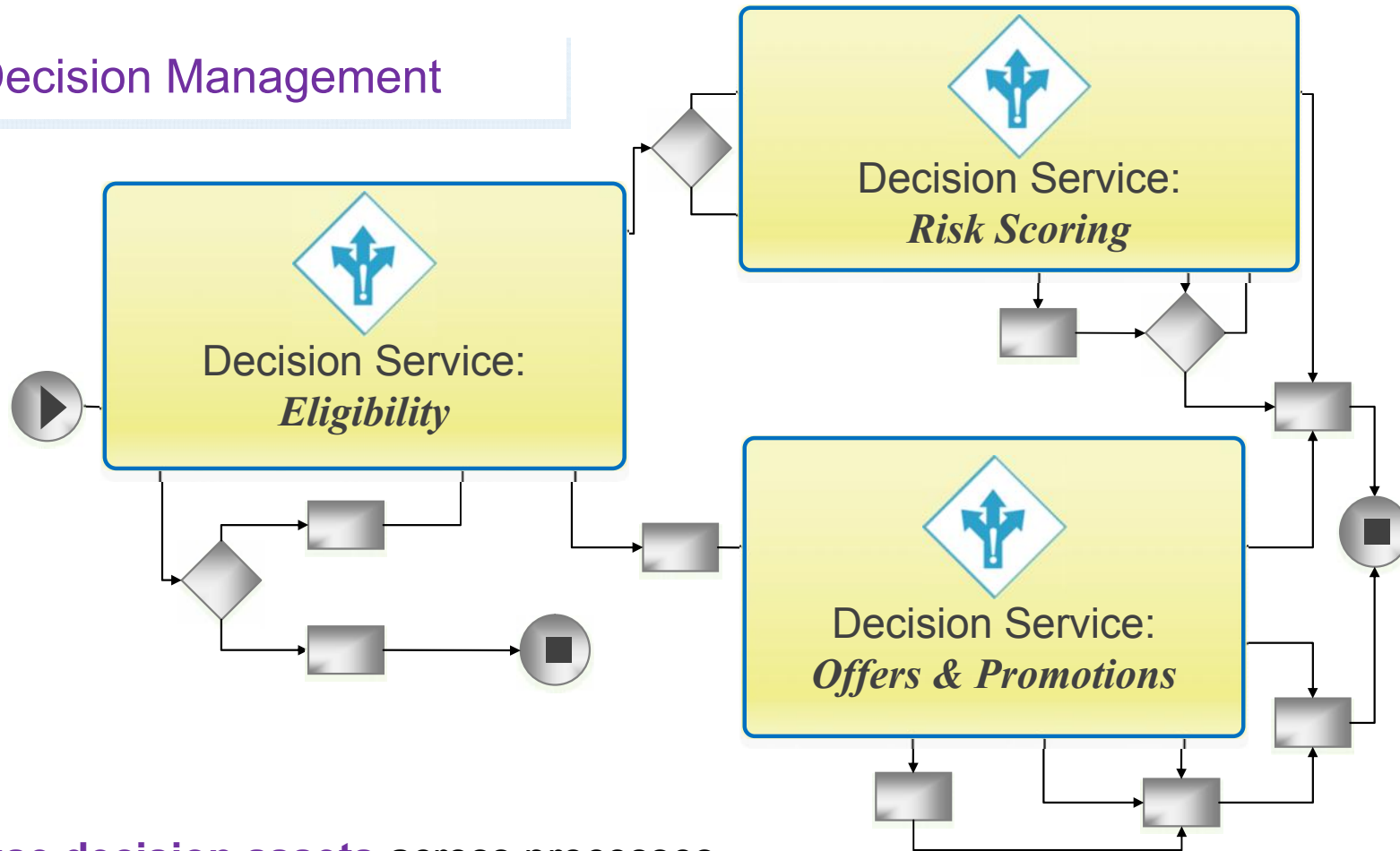
## *Without Decision Management*



- Decisions are locked in processes and applications
- Programming skills are needed to create & modify decision logic
- Speed of business change is limited by IT bandwidth
- Manual intervention increases costs & reduces customer satisfaction

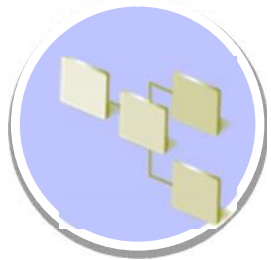
# Decision Management Enables Reuse Across Processes

*With* Decision Management

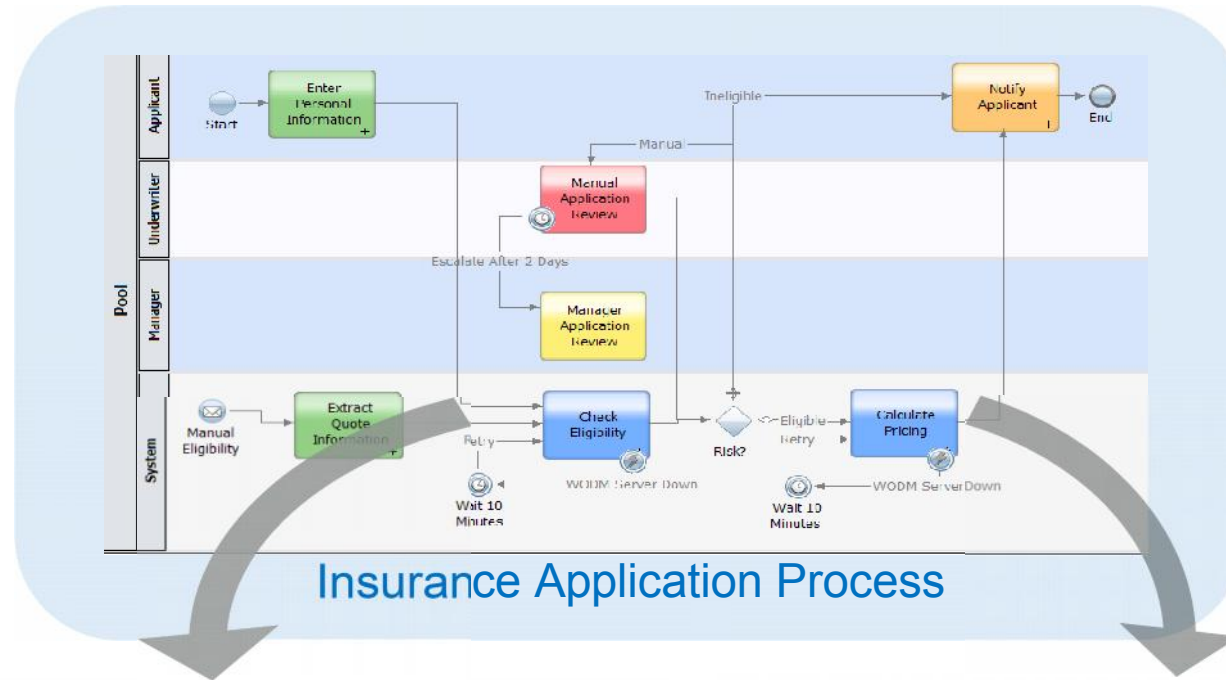


- **Reuse decision assets** across processes
- **Empower business people** to own, author and update decision services
- **Respond quickly** to changing market conditions
- **Maximize automation** and straight-through processing

# Externalizing business rules from the business process



BPM



Insurance Application Process



ODM

```

if
  the number of accidents the driver has been involved is more than 4
  and the age of the driver is at most 25
  and the driving license issue date of the driver is after 1/9/2010
then
  set 'high risk driver' to true ;
  add eligibility error: "The driver (" + name + ") has been involved in too many accidents";
  
```

Product Eligibility Service

	Min Limit	Coverage Limit	Max Limit	Annual Premium		Base Premium (%)
				Min	Max	
1				\$ 500	\$ 500	\$ 100
2	\$15,000		\$50,000	\$ 1,000	\$ 2,000	\$ 110
3				\$ 2,000	\$ 4,000	\$ 120
4				\$ 3,000	\$ 6,000	\$ 130
5				\$ 4,000	\$ 8,000	\$ 140
6				\$ 5,000	\$ 10,000	\$ 150

```

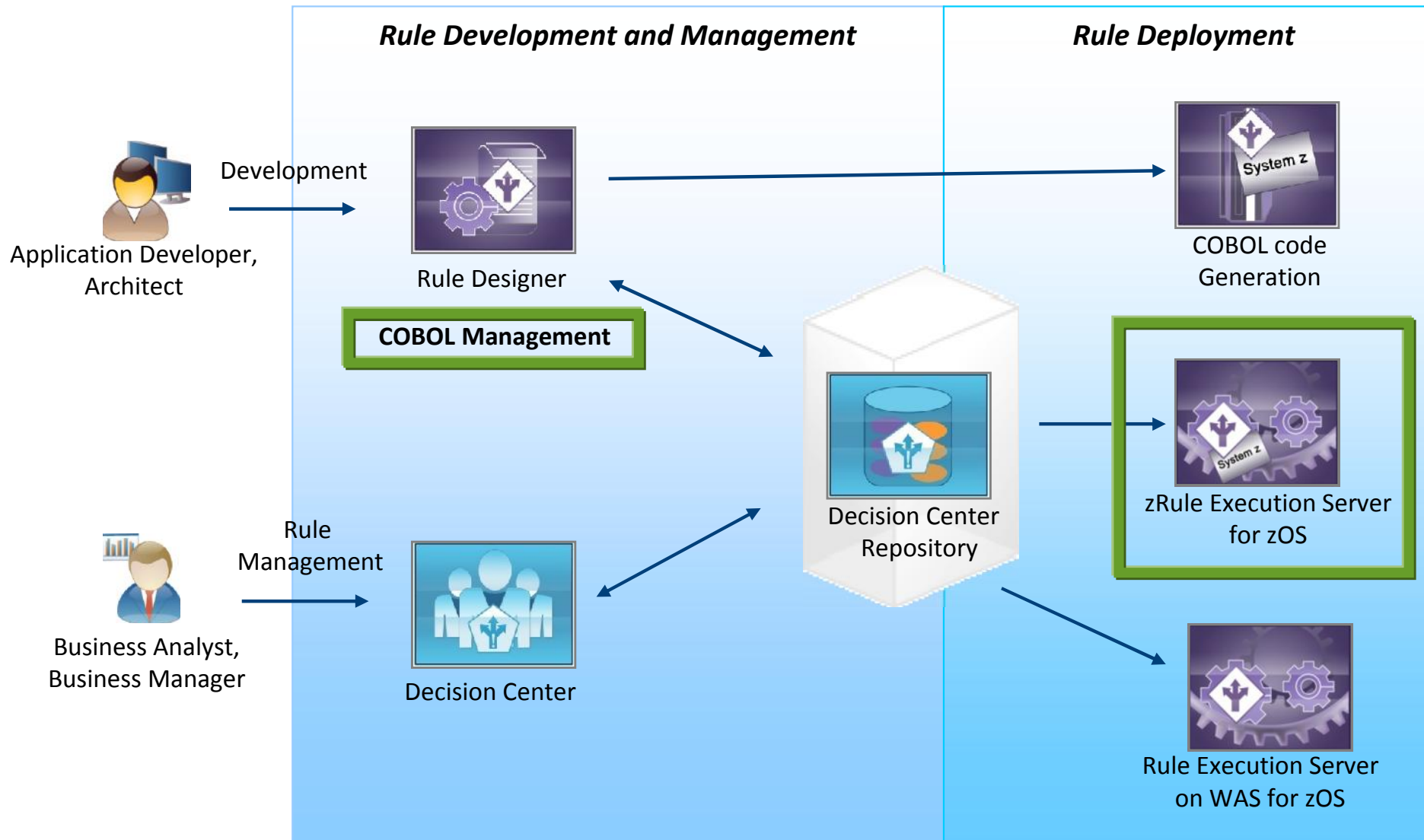
if
  all of the following conditions are true :
  - the age of the driver is between 18 and 21
  - the number of accidents the driver has been involved is at least 1
  - the number of traffic tickets the driver has received is at least 1,
then
  add a $ 8 surcharge to 'Auto Quote Response', reason: "Young driver surcharge";
  
```

Insurance Pricing Service

The best combination to support *When* / *What* / *How* kind of decisions from *immediate* to *very long term* ones

# On zEnterprise

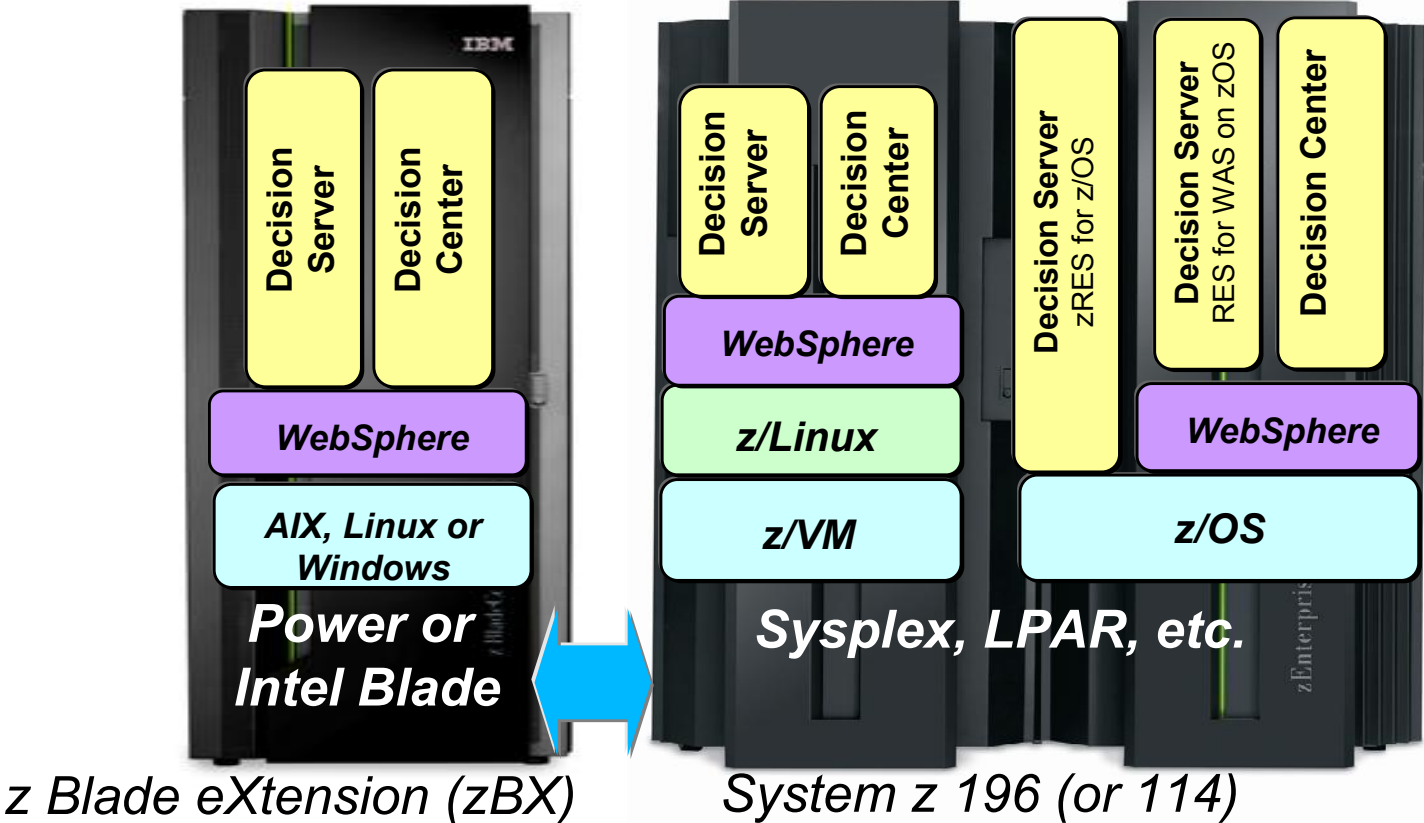
# Decision Server for zOS: business rules execution options



# Deployment options for WODM on System z



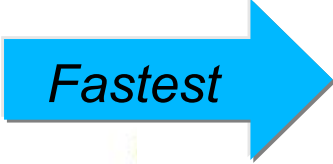
RE  
Ions • Results



**Security**



**Application/Data Access**



# Operational Decision Management on System z

## Runtime options

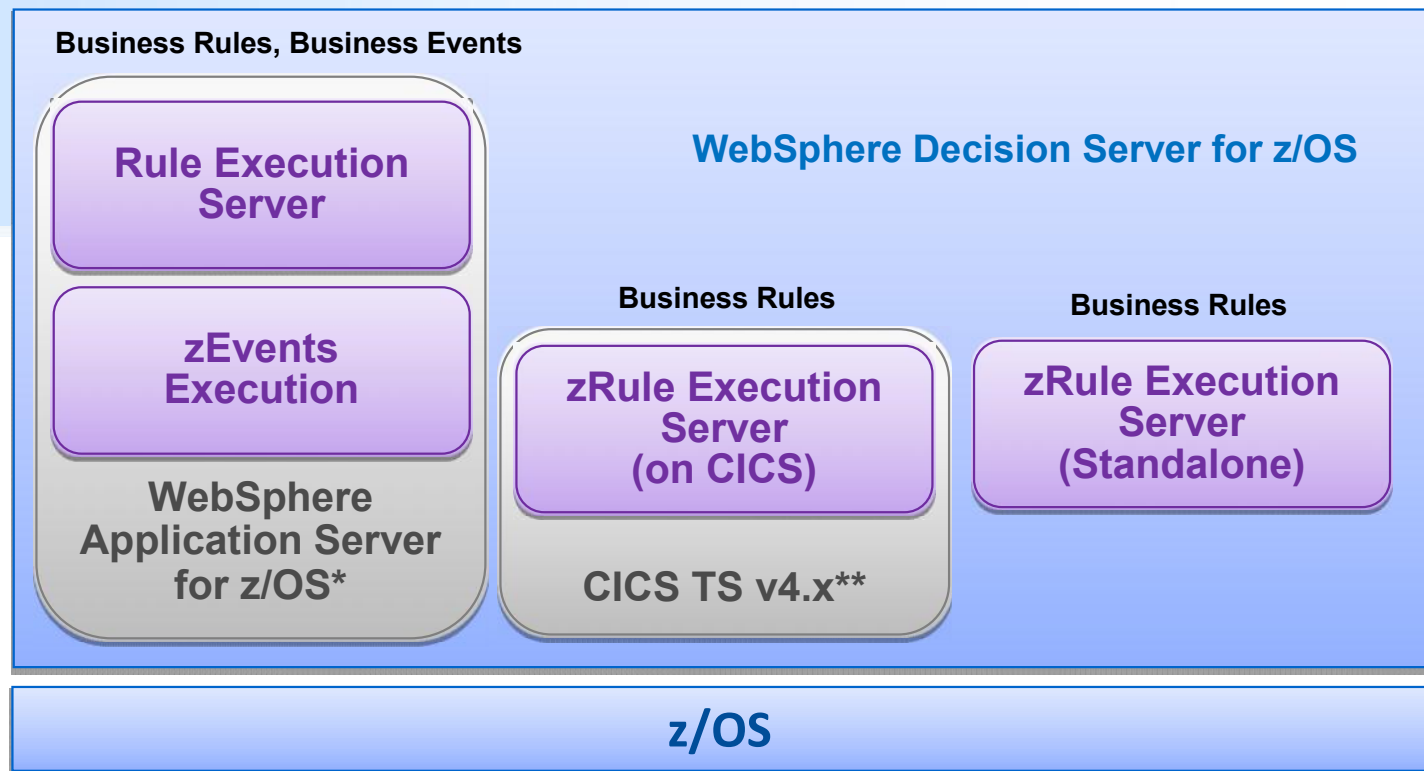


Decisions can be invoked from existing CICS and batch applications

Runtime support for COBOL data types

Flexible runtime deployment to fit any System z environment:

- Deployed on WebSphere Application Server for z/OS
- Deployed on CICS TS 4.x (JVM server environment)
- Deployed standalone to z/OS



\* WAS for z/OS OEM entitlement included with Decision Server

\*\* CICS Transaction Server licenses purchased separately

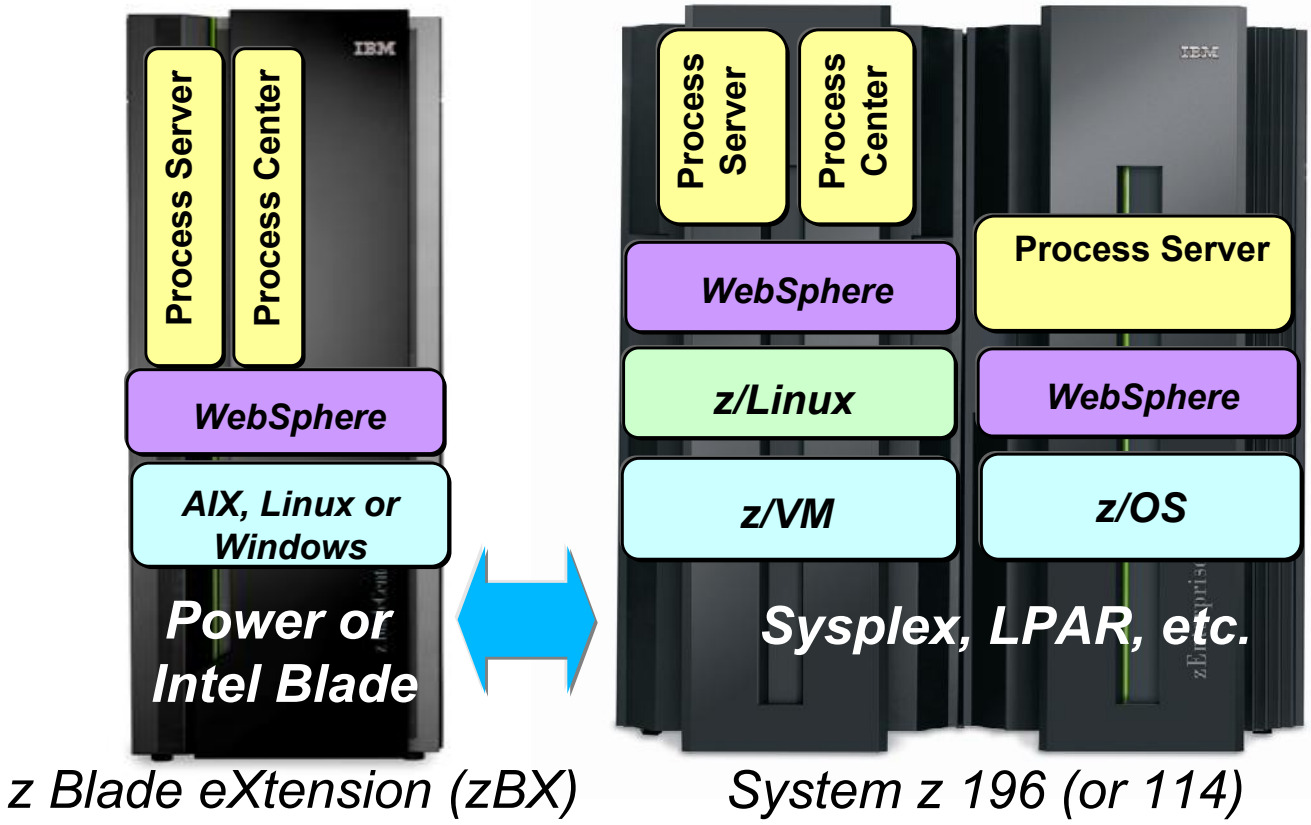
# When WODM 7.5 on z/OS makes sense



1. Have recently upgraded to CICS TS v4.1 or above?
2. Want to centralize business rules within their Enterprise and distribute to local rules servers?
3. Would like to deploy business rules natively in a CICS Region or with COBOL Batch Applications on z/OS?
4. Have business rules buried within millions of lines of COBOL?
5. Would like to access your business rules natively from PLI or COBOL?



# Deployment options for IBM BPM on System z

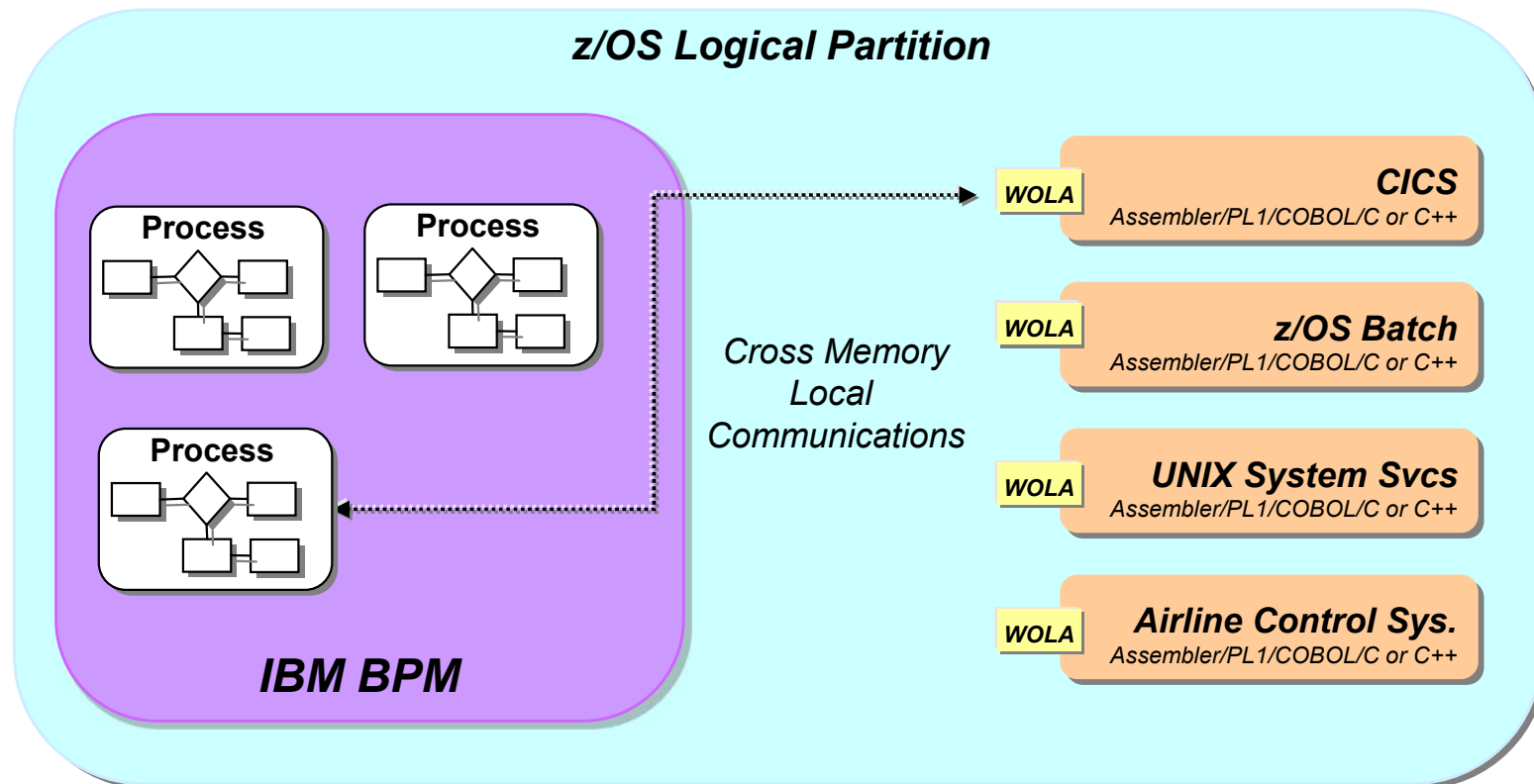


More Human based processes are better suited for zLinux or zBX

Automated processes that need the fastest possible throughput speed

# Business Process Management and zOS

- Co-locate Processes with Core Apps
- Based on Local Communications (**z/OS exclusive**)
- Bi-directional ... WAS outbound or inbound to WAS (**WOLA exclusive**)



*WebSphere Optimized Local Adapters (WOLA) connect Business Processes and Java Applications to core legacy applications in Memory*

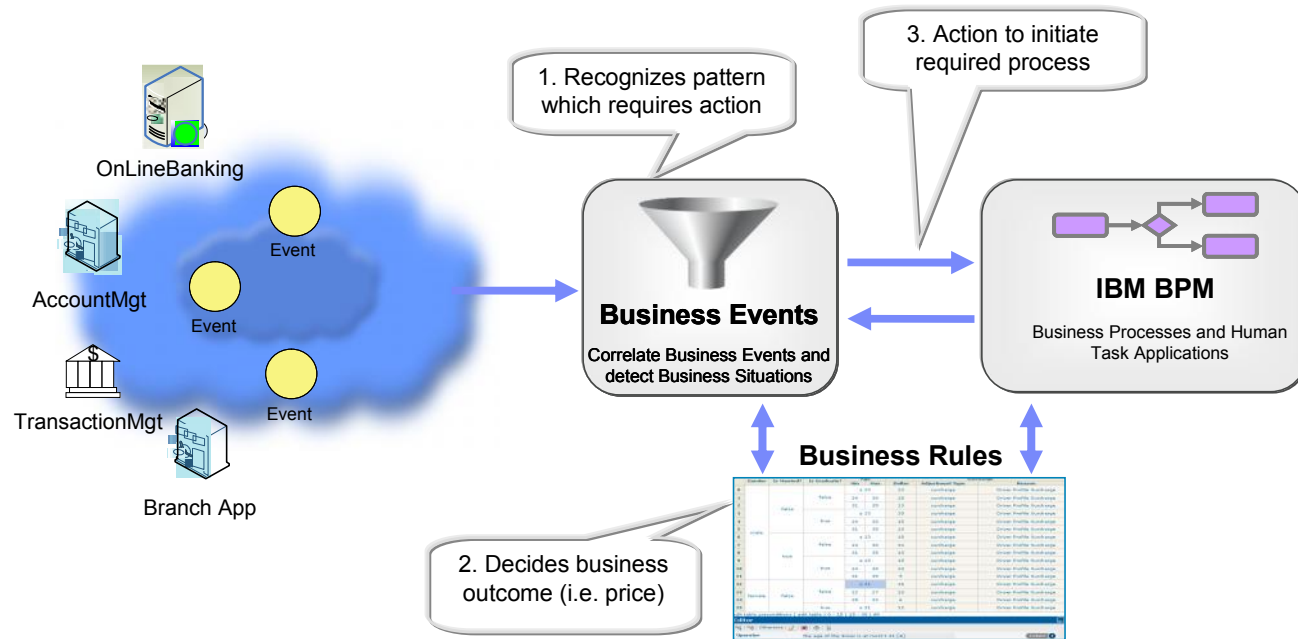
See WP101490 on <http://ibm.com/support/tech> docs for more Information

# When BPM 7.5 for z/OS makes the most sense



1. Is the **hardware current** (z10, z196), thereby positioned to **take advantage of the latest hardware capabilities**?
2. Does the business process **require frequent high speed, highly automated access to z/OS transactions** (CICS, IMS, WebSphere MQ)?
3. Are the related **workloads highly dynamic, unpredictable, or of high business value**?
4. Can the workloads **take advantage of specialty processors** (IFLs, zIIPs, or zAAPs)?

# BPM and WODM - The Full Story



- Simplify processes and shorten cycle times by removing decision logic
- Increase agility by maintaining decisions and processes separately
- Increase consistency by reusing decision assets across the enterprise
- Improve governance and compliance through separation of concerns
- Eliminate custom code to handle events resulting from lack of activity over time
- Start, stop and resume processes based on complex event patterns that cross process instances by capturing events from disparate sources

# Improve Business Outcomes in these Areas



Horizontal: best/appropriate price, cross-sell/ up-sell recommendations, loyalty promotions, exception identification, risk/fraud assessment, straight-through processing approvals



Insurance	Banking	Healthcare	Government	Energy/Util./Telco
<ul style="list-style-type: none"> <li>• Claim                             <ul style="list-style-type: none"> <li>• Validation</li> <li>• STP approval</li> <li>• Exception routing</li> </ul> </li> <li>• Policy/Underwriting                             <ul style="list-style-type: none"> <li>• Eligibility</li> <li>• Risk</li> <li>• Pricing</li> </ul> </li> <li>• Annuity                             <ul style="list-style-type: none"> <li>• Recommendation</li> <li>• Commissioning</li> <li>• Payout calc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Loan                             <ul style="list-style-type: none"> <li>• Eligibility</li> <li>• Risk</li> <li>• Pricing</li> </ul> </li> <li>• Account                             <ul style="list-style-type: none"> <li>• Cross-sell</li> <li>• Fraud/Alerts</li> </ul> </li> <li>• Credit Card                             <ul style="list-style-type: none"> <li>• Mkg Offers</li> <li>• Fraud</li> <li>• Credit limit</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Patient Care                             <ul style="list-style-type: none"> <li>• Drug interaction risk warnings</li> <li>• Follow-up alerts</li> </ul> </li> <li>• Member                             <ul style="list-style-type: none"> <li>• Services recommendation</li> <li>• Eligibility</li> <li>• Benefit calculation</li> </ul> </li> <li>• Provider                             <ul style="list-style-type: none"> <li>• Patient eligibility for services</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Benefits                             <ul style="list-style-type: none"> <li>• Eligibility</li> <li>• Calculations</li> </ul> </li> <li>• Tax Payer                             <ul style="list-style-type: none"> <li>• Classification</li> <li>• Audit flagging</li> </ul> </li> <li>• Citizen                             <ul style="list-style-type: none"> <li>• Program(s) recommendation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Land/Permits                             <ul style="list-style-type: none"> <li>• Conveyance processing</li> <li>• Contract compliance</li> </ul> </li> <li>• Service Mgmt                             <ul style="list-style-type: none"> <li>• Service prioritization</li> <li>• SLA alerts</li> <li>• Maintenance alerts</li> <li>• Order configuration</li> </ul> </li> </ul>

# Where can I find out more?

- [WebSphere Operational Decision Management for z/OS](#)
- [Business Process Management](#)
- **White papers & tech docs**
  - [Optimizing process management with IBM System z](#)
  - [WebSphere z/OS – The Value of Co-Location](#)
  - [Brief introduction to WebSphere Optimized Local Adapters](#)
  - [WebSphere for System z Prescriptive Use Cases \(Oct. 28, 2011 Addendum\)](#)
- **Redbooks**
  - [Batch Modernization on z/OS](#)
  - [Patterns: Integrating WebSphere ILOG JRules with IBM Software](#)
- **Demos**
  - [IBM BPM In Action demos](#)
  - [WebSphere Operational Decision Management YouTube demo](#)
- [9 day-to-day decisions you can make better with Operational Decision Management](#)
- [Good Decision! Decision Management blog](#)
- [System z pricing](#)

# Other Sessions on Process and Decision Management



## 10736: Making zEnterprise Relevant to Line of Business

*Monday, March 12, 2012: 1:30 PM-2:30 PM, International Ballroom E*

## 10740: CICS and Decision Management: Perfect Together

*Tuesday, March 13, 2012: 3:00 PM-4:00 PM, Dogwood A*

## 11094: Decision Management for CICS: Optimizing CICS Infrastructure for Business Rules Execution - Lunch & Learn

*Wednesday, March 14, 2012: 12:15 PM-1:15 PM, International Ballroom B*

## 10742: Using Business Rules to Achieve Affordable Agility in System z Applications

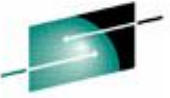
*Thursday, March 15, 2012: 8:00 AM-9:00 AM, International Ballroom E*

## 10751: Modernization of Mainframe Applications with WebSphere Operational Decision Management for z/OS

*Thursday, March 15, 2012: 9:30 AM-10:30 AM, International Ballroom E*

## 10743: Why Business Rules and Business Process Management are Important to System z Apps (and to you)

*Thursday, March 15, 2012: 4:30 PM-5:30 PM, International Ballroom E*



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