

Why Business Rules and Business Process Management Are Important to System z Applications

Janet K. Wall
IBM – Product Line Management for BPM and Decision Management for zEnterprise)

Tuesday, August 9, 2011
12:15 to 1:15 – Lunch and Learn

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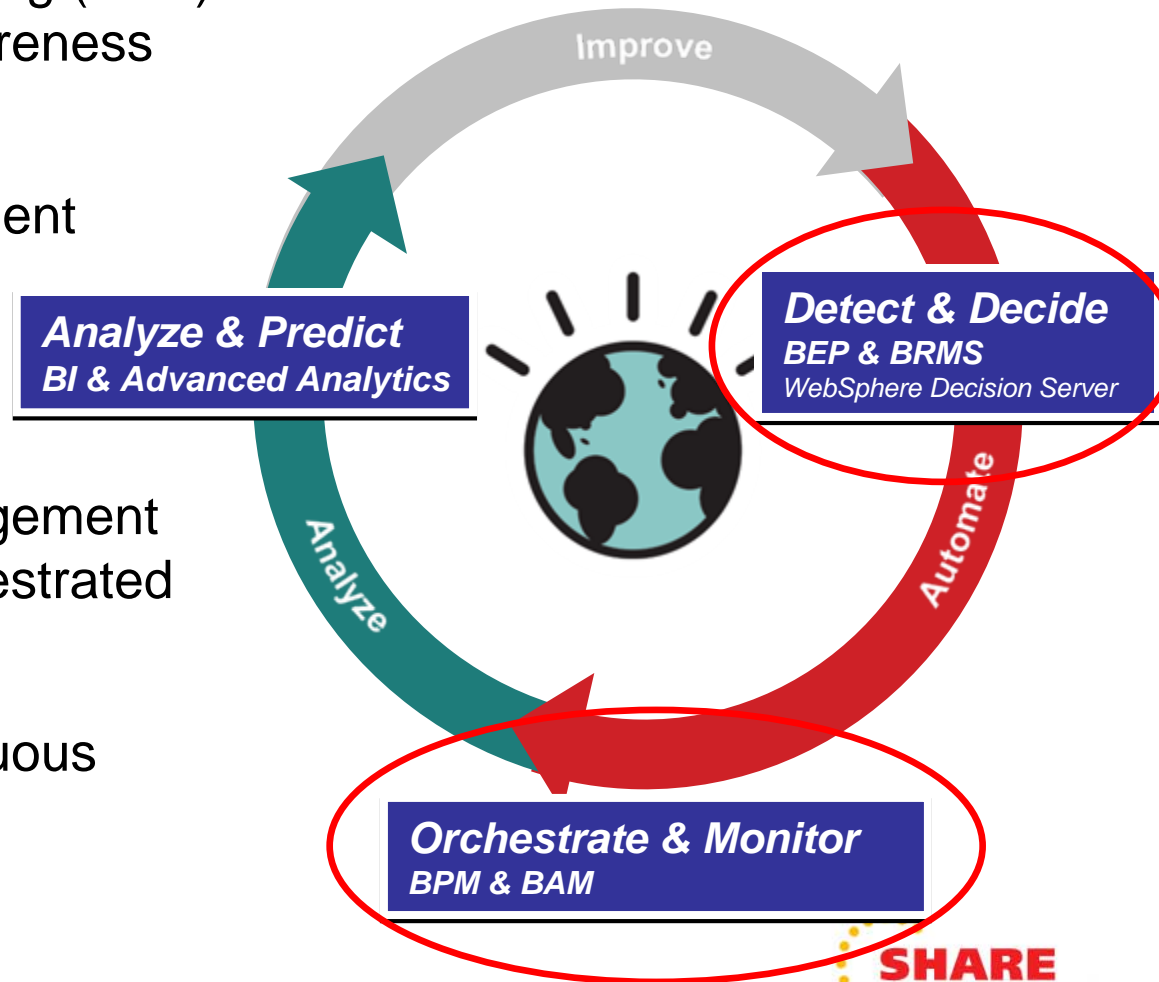
Business Challenges Requiring Improved Decision Automation



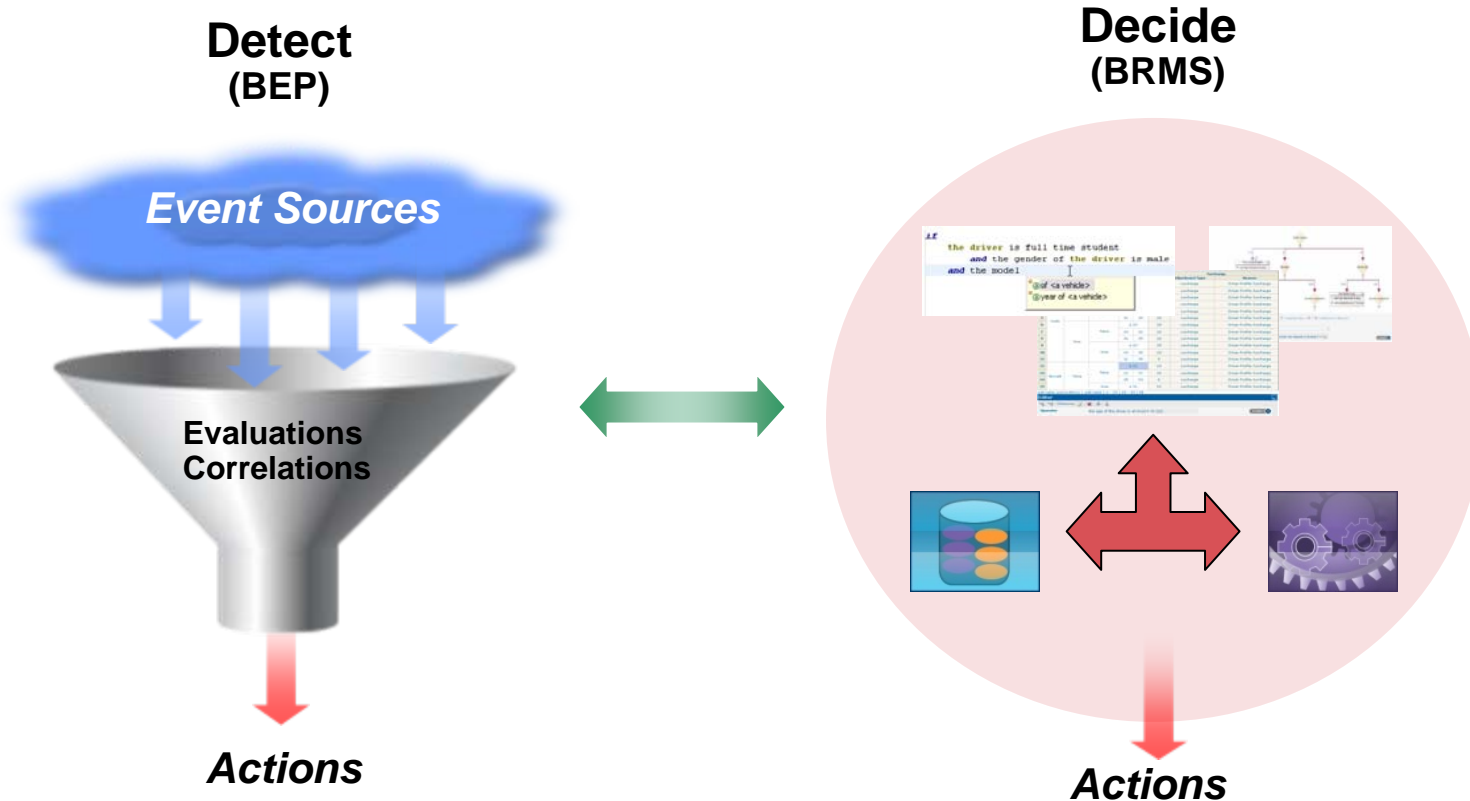
- ▶ **Healthcare insurance payer is paying millions of dollars each year against fraudulent claims**
 - Majority of fraud identification occurs through audits taking place months after claims have been processed
- ▶ **Retailer is losing market share to a new competitor that is launching new promotions more frequently**
 - Unable to coordinate promotional offers across its various sales channels, and survey research shows that its loyalty program is not retaining customers
- ▶ **Government agency has a budget deficit and spends more than comparable agencies in handling referrals and determining citizen eligibility for social services programs**
 - Over 80% of applications require manual approvals, and there are no self-service options for referrals or application submissions

BRMS & BEP are Core to Decision Agility & Effectiveness

- ▶ Business Event Processing (BEP) improves situational awareness and response
- ▶ Business Rule Management (BRMS) improves the quality of automated decisions
- ▶ Business Process Management uses outputs within orchestrated processes
- ▶ Analytics enables continuous decision improvement



Together: Additional Insight for Action



▶ **BEP - Detects** when events or patterns of events occur to notify people or systems to take action

▶ **BRMS - Decides** business outcome through execution of business rules against available data

Business Event Processing



Business Event Processing

What is...

...a Business Event?

Any electronic signal (message) indicating a change in the state of the business has occurred or contemplated

...Business Event Processing?

The ability to sense when a business event or pattern of events, representing a user defined actionable business situation, has occurred (or not occurred) – and to coordinate the right response (action) at the right time



A call to the help desk

New Customer

ATM Transaction

A PIN is changed



Product Inquiry via same or multiple channels



Correlation

High-value customer and 2 inquires within 30 days



Initiate Sales Follow-up

Situational Awareness and Response

BEP - - Sense and Respond as Situations Occur

Event
Account
Withdraw



Actionable Situation
Numerous small deposits
and small withdrawals
within short time frame



Action: Flag account
and initiate
money laundering
evaluation

Event
Customer
Information
Change



Actionable Situation
Combination of mail address,
PIN and/or email changed and
large withdraw within 36 hours



Action: Trigger
automatic 24 hour
hold and initiate
client follow-up
business process

Event:
Bedside
Monitoring



Actionable Situation:
Correlate readings
detecting emergent
conditions



Action: Notify
Doc and Nurse
of condition

Business Event Processing...

...Detects event patterns as they occur

- Between events of different types occurring across disparate systems...
- Where events may or may not be ordered...
- Where event presence or absence may be significant...
- Where the actionable event may be derived from real events...
- Where the response process is unstructured and driven by the occurrence of an event or pattern of events
- Where time to respond is of the essence



0.078	1.1601	-	1.18%	↓	0.186
.1123	1.662	+	0.16%	↑	11.600
0.118	0.1201	+	0.00%	↑	N/A
1.121	1.0233	-	1.53%	↓	10.201
20.232	1.1611	+	1.15%	↑	13.203
0.186	0.1602	-	0.87%	↓	N/A
1.1601	0.105	-	0.11%	↓	20.150
1.662					N/A

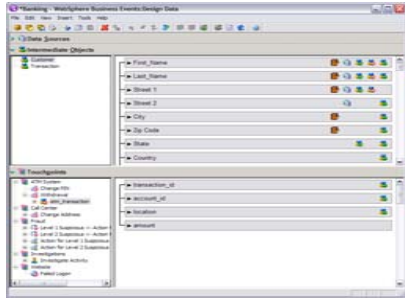


WebSphere Business Events Design Environment

“Codeless” graphical user interfaces



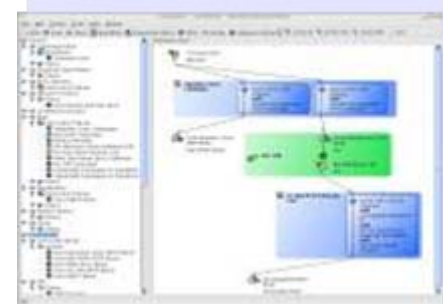
Building Blocks



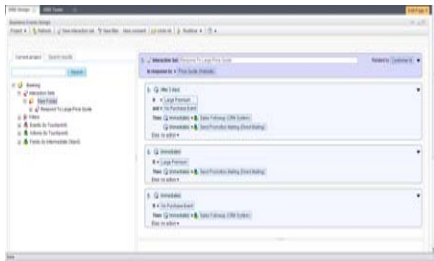
WBE Object Repository



Event Flow



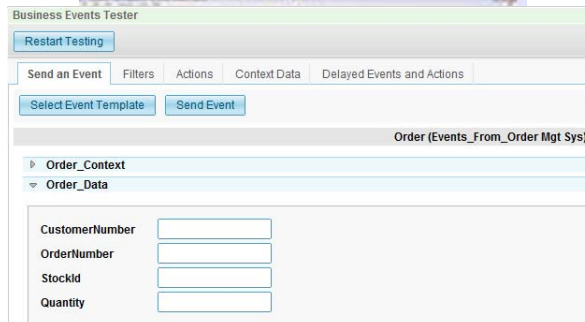
Interactions (Logic)

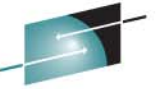


Dashboard



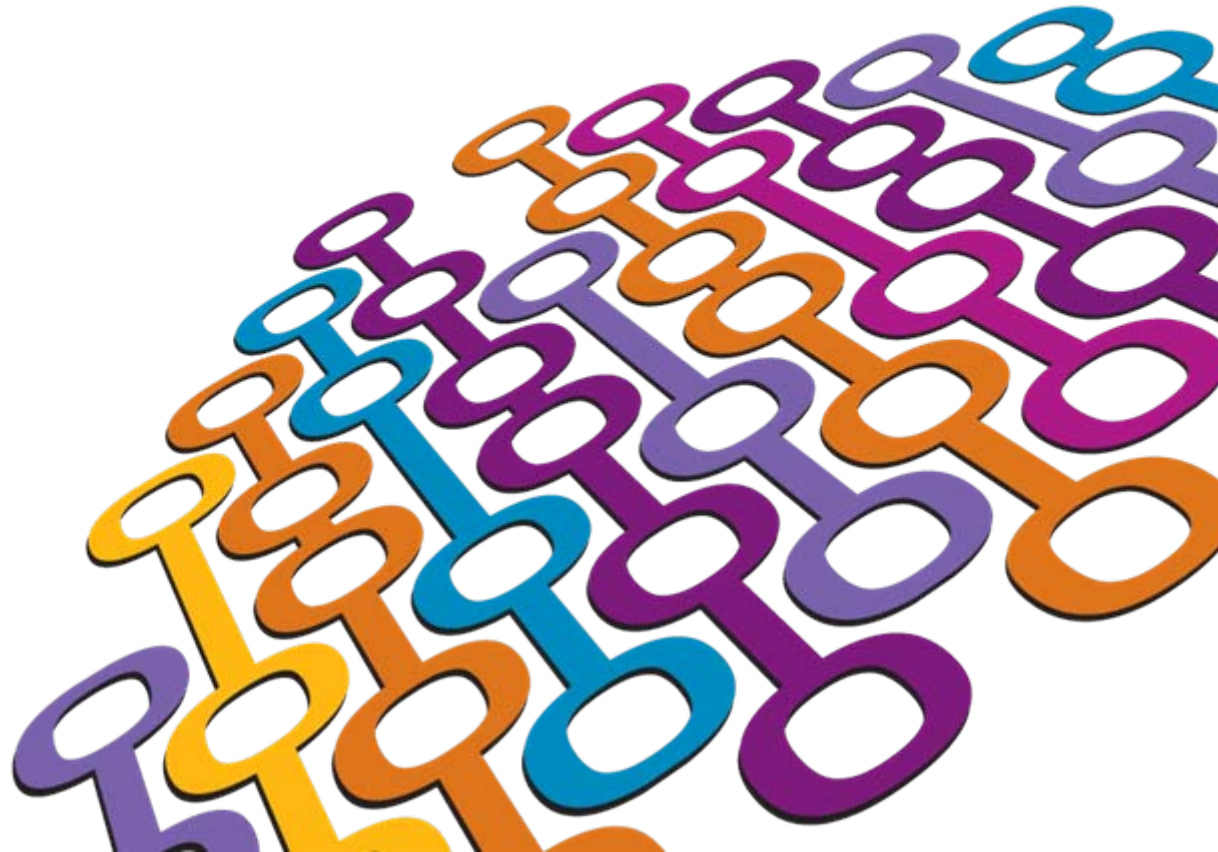
Web based Test Tools





SHARE
Technology · Connections · Results

Business Rules



Traditional Approach for Managing Decision Change

The traditional (ad hoc) approach of dealing with rule changes leads to...

- 💣 Reduced organizational agility
- 💣 Reduced employee productivity
- 💣 Increased load on IT

Where Business Rules Typically Exist

```
#!/bin/sh
/*
 * Before performing any socket operation (like retrieving hostname
 * in test_common_variables we have to call WSAStartup
 */
WSADATA WsaData;
if (SOCKET_ERROR == WSAStartup (0x0101, @WsaData))
/* errors are not read yet, so we use english text here */
no_message[ES_WSAS_FAILED, "WSAStartup Failed", WIFOS];
write_abort();
}
endif /* !_MCR_ */

if (test_common_variablesMYSQL_CONFIG_NAME
write_abort();
argv. argv. LoadDefault_procs);
test_signal();
if (Test_specialFlag & SPECIAL_NO_PRIOR)
no_thread_start() {thread_self(), CONNECT_PRIOR);
```

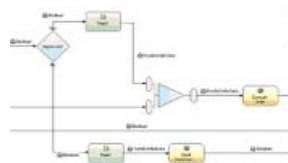
Applications



Documents



People

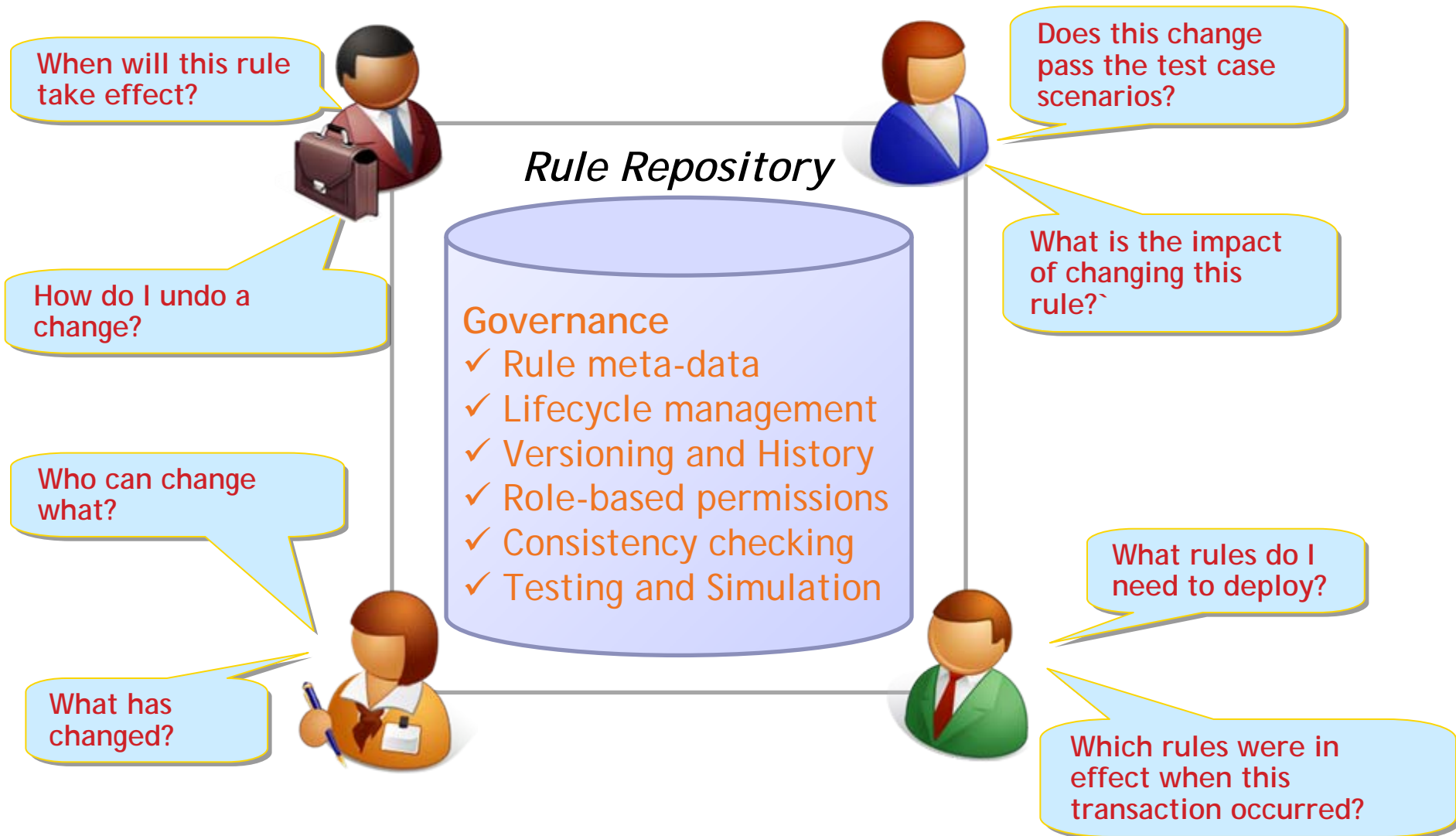


Processes

Issues

- Rules are hidden in code or isolated within the organization
- Changes are hard to track and maintain over time
- Rules used by systems have to be programmed and require IT resources
- Duplication and multiple versions of the same rules
- Lack of auditability, traceability
- Decision changes cannot be easily tested or simulated

Comprehensive Rule Governance



WebSphere ILOG JRules 7.x Components



Development

Design



Rule Studio



Line Of Business

Manage



Rule Solutions
for Office



Rule Team
Server



Decision Validation
Services



Custom
Web
Applications

Share



Rule Repository



Production

Deploy



Transparent
Decision Services



Rule Execution
Server



Rules for COBOL

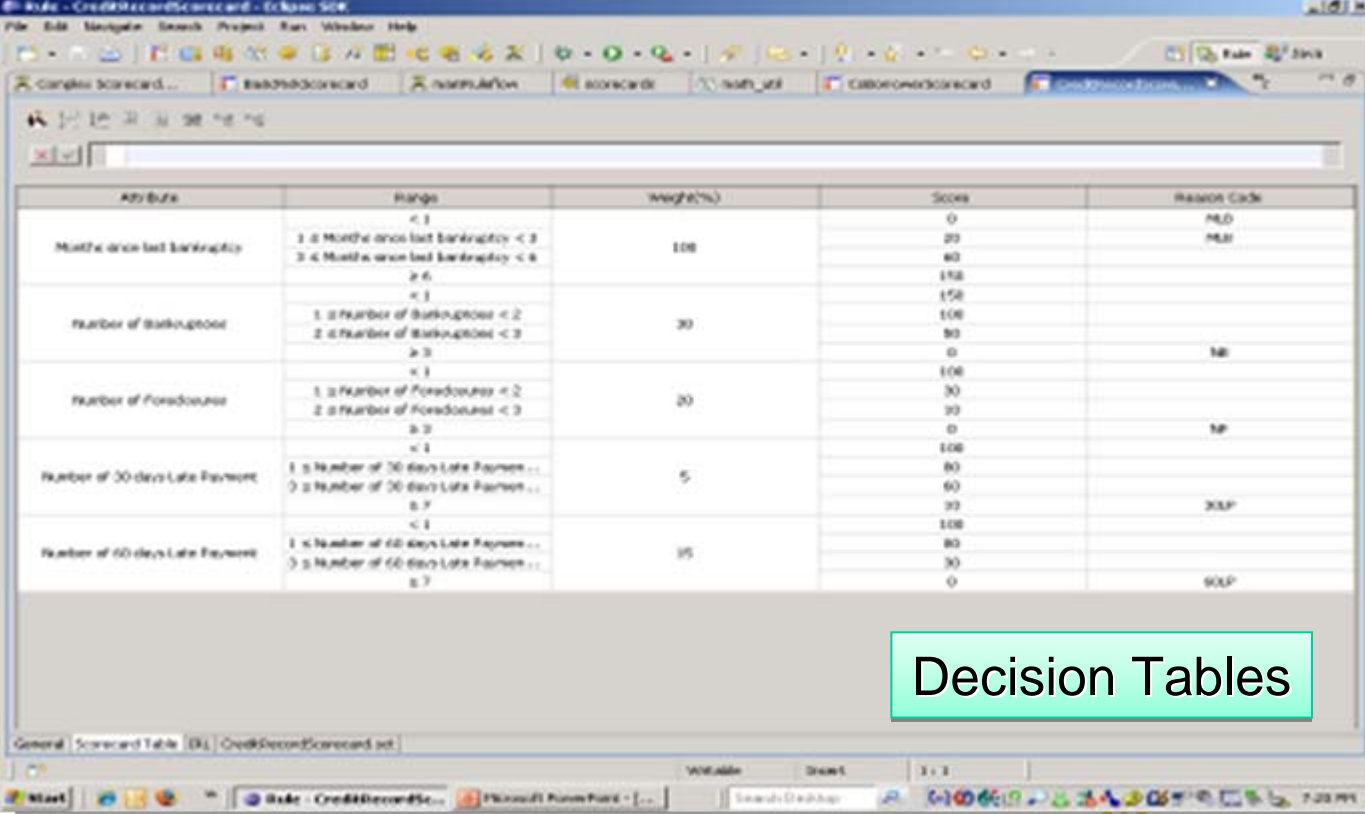
Intuitive Rule Authoring Environments

if
the one way driving distance of the vehicle coverage request [H] is more than ▼ 50 [H]
and the type of

then
add a ▼ \$ 25

Labels
Operator

Decision Tables

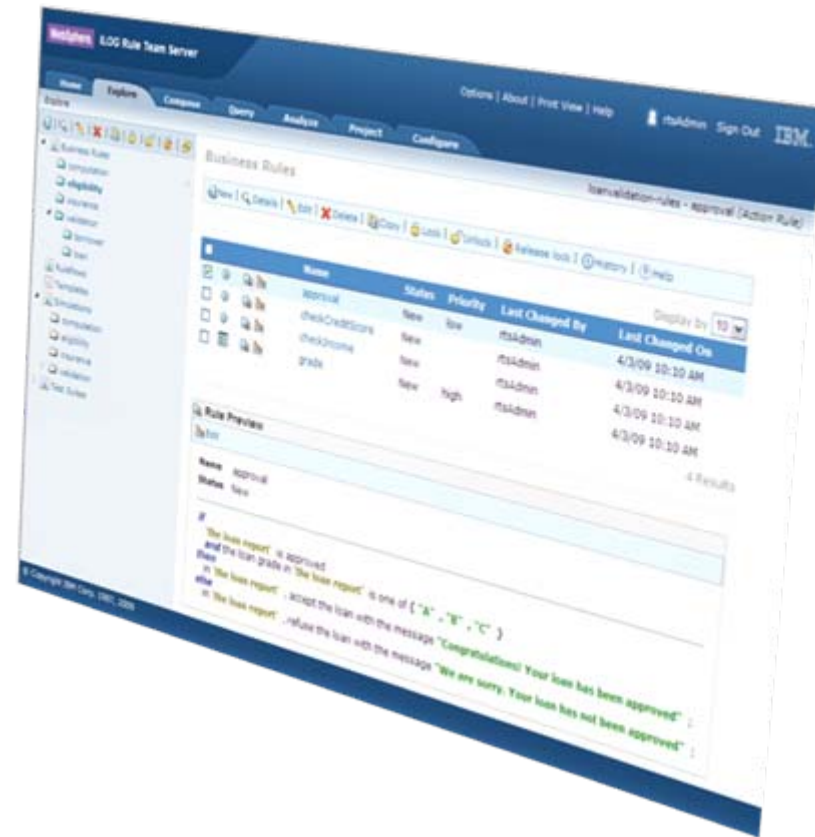


Attribute	Range	Weight(%)	Score	Reason Code
Months since last bankruptcy	< 1	100	0	N/D
	1 ≤ Months since last bankruptcy < 3		20	N/D
	3 ≤ Months since last bankruptcy < 6		40	N/D
Number of bankruptcies	≥ 6	30	150	
	< 1		150	
	1 ≤ Number of bankruptcies < 2		100	
Number of foreclosures	2 ≤ Number of bankruptcies < 3	20	80	
	≥ 3		0	NP
	< 1		100	
Number of 30 days Late Payment	1 ≤ Number of foreclosures < 2	5	30	
	2 ≤ Number of foreclosures < 3		30	
	≥ 3		0	NP
Number of 60 days Late Payment	< 1	35	100	
	1 ≤ Number of 30 days Late Payment < 2		80	
	2 ≤ Number of 30 days Late Payment < 3		30	30LP
Number of 90 days Late Payment	< 1	35	100	
	1 ≤ Number of 60 days Late Payment < 2		80	
	2 ≤ Number of 60 days Late Payment < 3		30	90LP

Web-based Console for Rule Management



- Take control of very large rulebases with Smart Views, easy search and reporting
- See where rules are used across projects using queries
- Access rule artifacts concurrently without conflict or delay
- Represent complex policies using rule overrides and hierarchies
- Get automatic notification of potential rule conflicts, redundancies
- Hot-deploy rule changes in minutes
- Secure: integrated with enterprise security facility including single sign-on



Rules Authoring Delivered to Business



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Technology Solutions
Rule Solutions
for Office

Eligibility.xlsx - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Decision Table

Column Expression: Insert Delete

Check for Gaps Check for Overlap RuleDoc Pane Preconditions Rule Statements

	A	B	C	D	E	F
1	A	City	C	D	E	
2			Min	Max		
3			≤ 22.00	FALSE	The customer's age is below the minimum for rent	
4	New Hampshire	X	23	70	TRUE	The customer is eligible to rent in New
5			≥ 71.00	FALSE	The customer's age is past the maximum for rent	
6			≤ 20.00	FALSE	The customer's age is below the minimum for re	
7	Rhode Island	A	21	70	TRUE	The customer is eligible to rent in Rh
8			≥ 71.00	FALSE	The customer's age is past the maximum for re	

RuleDoc

Table Properties

Selection Properties

Cells

Comment

Operator

Rules

Kow4

Definitions...

If

- all of the following conditions are true:
 - the state of the pickup branch of the rental agreement is New Hampshire
 - the last name of the customer starts with X
 - the age of the customer of the rental agreement is between 23 and 70

Then

- set the rental agreement accepted status to True
- display the message: The customer is eligible to rent in New Hampshire.

Else...

Ready Average: 46.5 Count: 12 Sum: 106 100%



Word Tutorial - copied.docx - Microsoft Word

File Home Insert Layout References Mailings Review View Rules

Default Apply Default Insert Rule RuleDoc Pane Vocabulary Pane Save Text to Rule Gallery Options

Format Property View Content Customize

Page 3

Special Offer. The price is computed from the base

RuleDoc

RuleDoc Outline

- Compute the Base Rate
- Check the Eligibility for the Defa...
- Define the Pricing of the Default...
- Check the Eligibility for the Long...
- Define the Pricing of the Long Te...

Rule Properties

Problem List

Description

- The word "true" is expected in place

Page: 3 of 10 Words: 2,145 100%

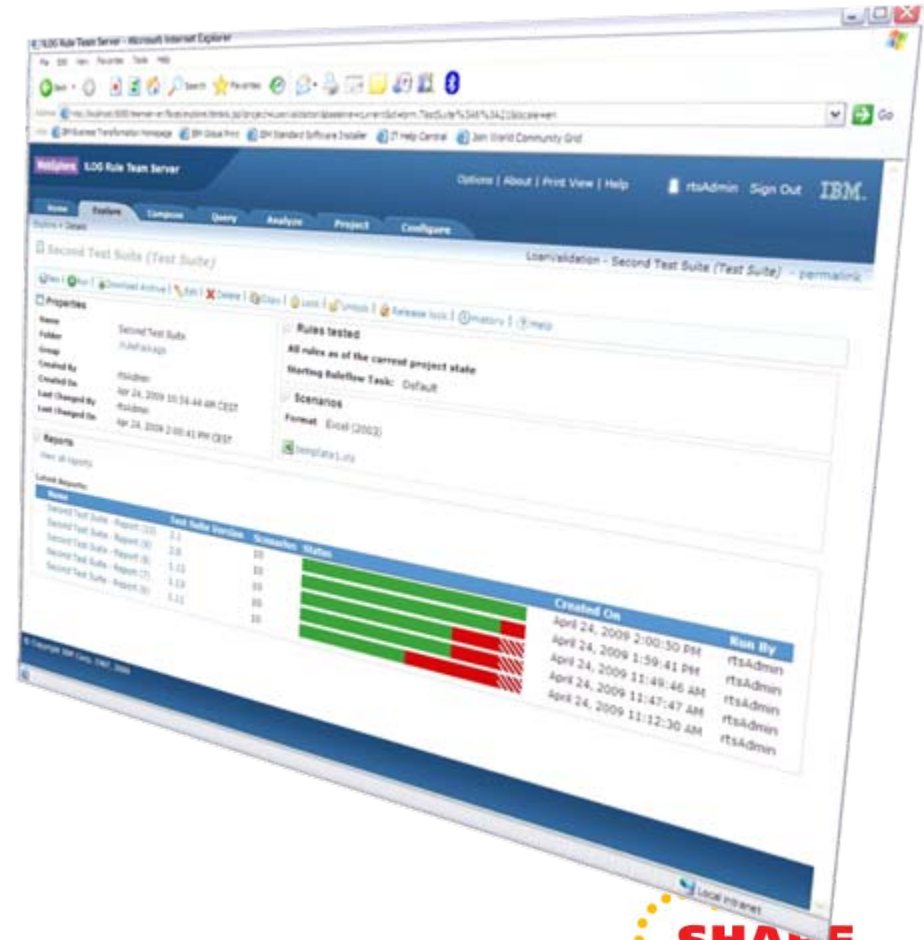


Business-focused Testing & Simulation Capabilities

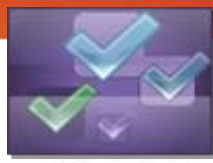


SHARE
Decision
Validation
Services

- Decision Validation Services extends Rule Team Server with:
 - Out-of-the-box ruleset testing
 - Business impact simulation
 - Detailed scenario reports
- Scenario configuration and customization in Rule Studio
- Audit - Decision Warehouse in Rule Execution Server



Business User Testing and Simulation



SHARE
Decision
Validation
Services

Detailed Scenario Reports

Second Test Suite - Report (6)

Test Suite as of this run: Second Test Suite - Version: 1.11
 Scenarios used for this run: template1.xls

Run Date: Apr 24, 2009 11:12:30 AM CEST
 Run By: rtsAdmin
 Rules tested: All rules as of the baseline Current
 Starting Ruleflow Task: Default
 Server: Sample

Summary

Number of Scenarios: 10
 Scenarios with Failures: 2
 Scenarios with Errors: 1
 Success Rate: 70%

Details

Click here to download the output values [Second Test Suite - Report (6) - data.xls]

Name	Status
Scenario 1	Failed
Scenario 2	Failed
Scenario 3	Passed
Scenario 4	Passed
Scenario 5	Passed
Scenario 6	Passed
Scenario 7	Passed
Scenario 8	Passed
Scenario 9	Failed
Scenario 10	Passed

Name	Status	Test Results																								
Scenario 1	Failed	<p>Status Test</p> <table border="1"> <thead> <tr> <th>Status</th> <th>Test</th> <th>Message</th> </tr> </thead> <tbody> <tr><td>✓</td><td>the application result of borrower equals</td><td>the observed value Low Risk is the expected value</td></tr> <tr><td>✓</td><td>the credit check report of borrower equals</td><td>the observed value null is the expected value</td></tr> <tr><td>✓</td><td>the credit check result of borrower equals</td><td>the observed value Refused is the expected value</td></tr> <tr><td>✓</td><td>the fraud probability of borrower equals</td><td>the observed value 5 is the expected value</td></tr> <tr><td>✓</td><td>the fraud report of borrower equals</td><td>the observed value tarin from paris rej is the expected value</td></tr> <tr><td>✓</td><td>the fraud result of borrower equals</td><td>the observed value Low Risk is the expected value</td></tr> <tr><td>✗</td><td>the execution duration in milliseconds is lower than or equals</td><td>the observed value 78 is greater than 50</td></tr> </tbody> </table> <p>The list of rules fired: rulePackage.businessRule The list of executed ruleflow tasks: mainRuleflow, mainRuleflow>rulePackage The duration (in ms) of execution: 78</p>	Status	Test	Message	✓	the application result of borrower equals	the observed value Low Risk is the expected value	✓	the credit check report of borrower equals	the observed value null is the expected value	✓	the credit check result of borrower equals	the observed value Refused is the expected value	✓	the fraud probability of borrower equals	the observed value 5 is the expected value	✓	the fraud report of borrower equals	the observed value tarin from paris rej is the expected value	✓	the fraud result of borrower equals	the observed value Low Risk is the expected value	✗	the execution duration in milliseconds is lower than or equals	the observed value 78 is greater than 50
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Scenario 2	Failed	<p>Status Test</p> <table border="1"> <thead> <tr> <th>Status</th> <th>Test</th> <th>Message</th> </tr> </thead> <tbody> <tr><td>✗</td><td>the application result of borrower equals</td><td>the observed value Low Risk does not equal the expected value High risk</td></tr> <tr><td>✓</td><td>the credit check report of borrower equals</td><td>the observed value null is the expected value</td></tr> <tr><td>✓</td><td>the credit check result of borrower equals</td><td>the observed value Refused is the expected value</td></tr> <tr><td>✗</td><td>the fraud probability of borrower equals</td><td>the observed value 5 does not equal the expected value 6</td></tr> <tr><td>✓</td><td>the fraud report of borrower equals</td><td>the observed value tarin from paris rej is the expected value</td></tr> <tr><td>✓</td><td>the fraud result of borrower equals</td><td>the observed value Low Risk is the expected value</td></tr> <tr><td>✓</td><td>the execution duration in milliseconds is lower than or equals</td><td>the observed value 0 is not greater than 13</td></tr> </tbody> </table> <p>The list of rules fired: rulePackage.businessRule The list of executed ruleflow tasks: mainRuleflow, mainRuleflow>rulePackage The duration (in ms) of execution: 0</p>	Status	Test	Message	✗	the application result of borrower equals	the observed value Low Risk does not equal the expected value High risk	✓	the credit check report of borrower equals	the observed value null is the expected value	✓	the credit check result of borrower equals	the observed value Refused is the expected value	✗	the fraud probability of borrower equals	the observed value 5 does not equal the expected value 6	✓	the fraud report of borrower equals	the observed value tarin from paris rej is the expected value	✓	the fraud result of borrower equals	the observed value Low Risk is the expected value	✓	the execution duration in milliseconds is lower than or equals	the observed value 0 is not greater than 13
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Scenario 7	Passed	0 test(s) (0 failure(s) - 0 error(s))																								

Impact and What-if Analysis



WebSphere. ILOG Rule Team Server Options | About | Print View | Help Adam Sign Out

Home Explore Compose Query Analyze Project **Custom Impact** Configure

Explore > Run > Report Eligibility

Impact View

Report: Last year history - all rules - Report

Run Date: Dec 15, 2009 3:01:35 PM CST

Run By: Adam

Number of Scenarios: 400

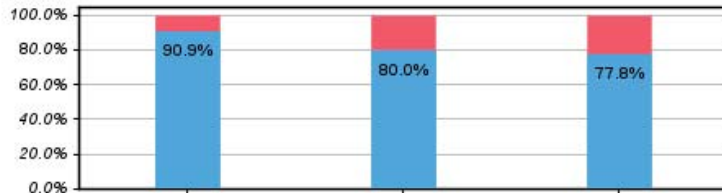
Success Rate: 100%

Global eligibility results



Accepted 82.5% Rejected 17.5%

Eligibility results by states



Accepted Rejected

Report: Last year history - all rules - Report (2)

Run Date: Dec 15, 2009 4:08:26 PM CST

Run By: Adam

Number of Scenarios: 400

Success Rate: 100%

Global eligibility results



Accepted 77.5% Rejected 22.5%

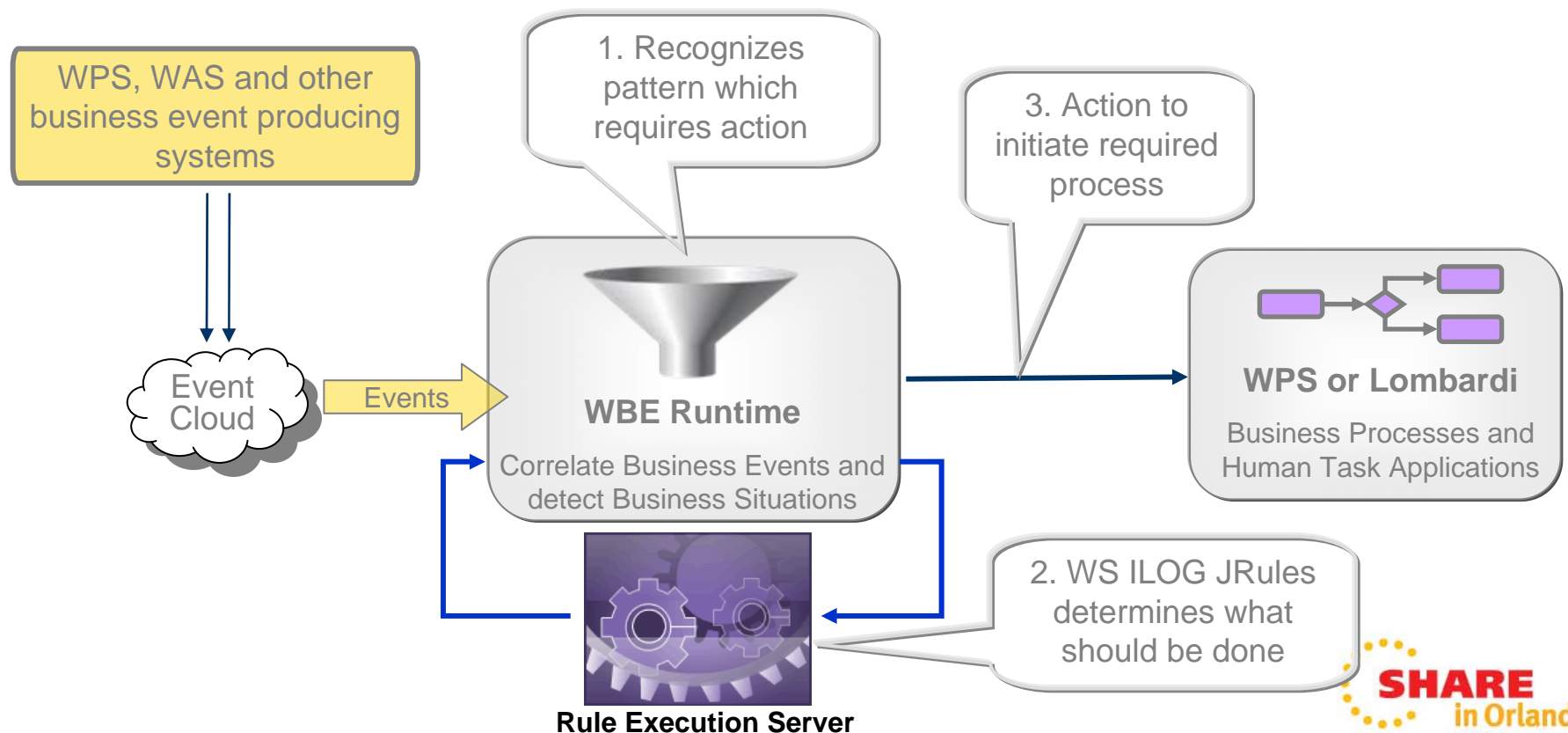
Eligibility results by states



Accepted Rejected

Integrating WebSphere ILOG JRules & Business Events

1. WBE identifies business situation and determines *when* to act
2. ILOG BRMS rules determines what should be done
3. WPS or Lombardi business process or human task is initiated to do it



Maximize the Value of Business Interactions and Decisions



Customer Acquisition (E.g. Car Insurance)

- WBE to monitor customer behavior and offer promotional discounts
 - Detect multiple requests for insurance quote over a short period of time
 - Detect quote requests that have not been accepted within a period of time
 - Trigger action to JRules to determine customer promotional offer
- JRules to determine whether to make an offer, and if so, for what
 - Tailor offer based on customer demographic and quote details
 - Provides ability to quickly introduce/remove offers as business policies, risk tolerance or regulatory requirements change



Value Add Personalized Service and Interaction (E.g. Credit Card Services)

- WBE to monitor transaction behavior based on individual customer preferences
 - Detect patterns and subsequently notify cardholders about card activity behavior and thresholds (i.e. purchases exceed threshold over 24 hours)
 - Offers business users the flexibility to change rules and patterns definitions
 - Identify behavior patterns that meet promotional opportunity
- JRules to determine whether to offer new/other products or services
 - Precise offer based on customer profile and behavior

Events and Rules Together with CICS



WebSphere Business Events and CICS

- ▶ Provide greater business agility for proven and trusted traditional System z applications
- ▶ Deliver new value and insight from legacy systems and transaction processing
- ▶ Enable the initiation of follow-on processing based on actionable patterns of transactions
- ▶ Provide means for coordinating information sharing across operational systems
- ▶ Increases efficiency and effectiveness providing faster time to value



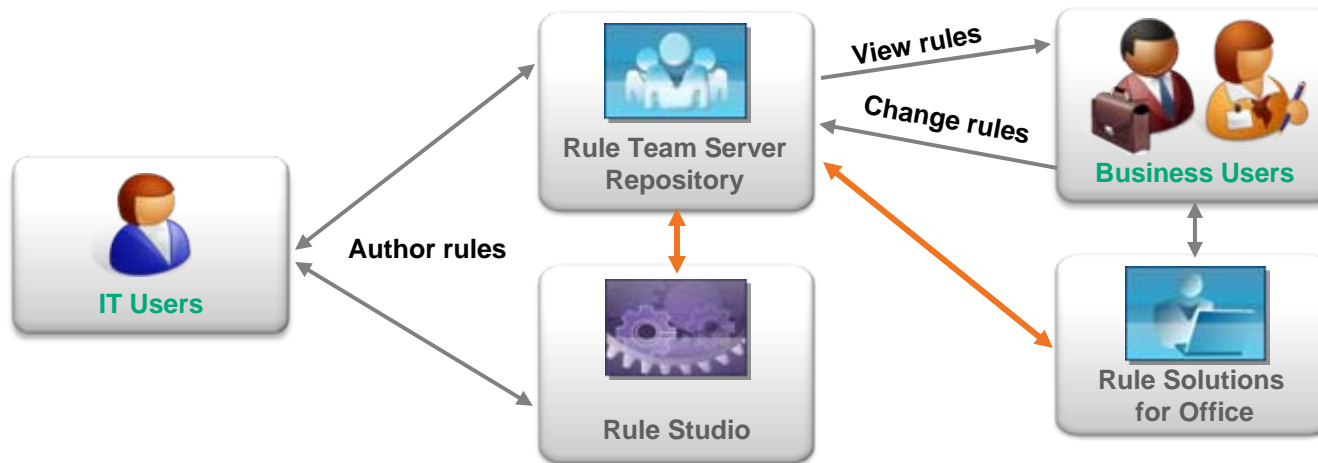
Business Rules and CICS

- ▶ *Consolidation and/or maintenance of COBOL applications*
 - Author once, Manage Centrally, Deploy anywhere
- ▶ *Sharing Decisions across Platform/Running Parallel*
 - Author rules in JRules...verify which rules will move them into the future
 - Rules can now be shared across applications and across platforms
- ▶ *COBOL Maintenance Projects*
 - Projects that are change rules ... why not upgrade to a BRMS and make rules available to Business Users
 - Faster changes Decrease future maintenance costs and time



Reduce the Load on IT Development

Use ILOG BRMS to align Business and IT on decisions and rules



- Provide visibility of business rules to Business Users via Web interface
- Provide selective rule authoring ability to Business Users via Web interface
 - E.g. IT can enable rule parameters to be changed by business

A Top 5 North American Bank

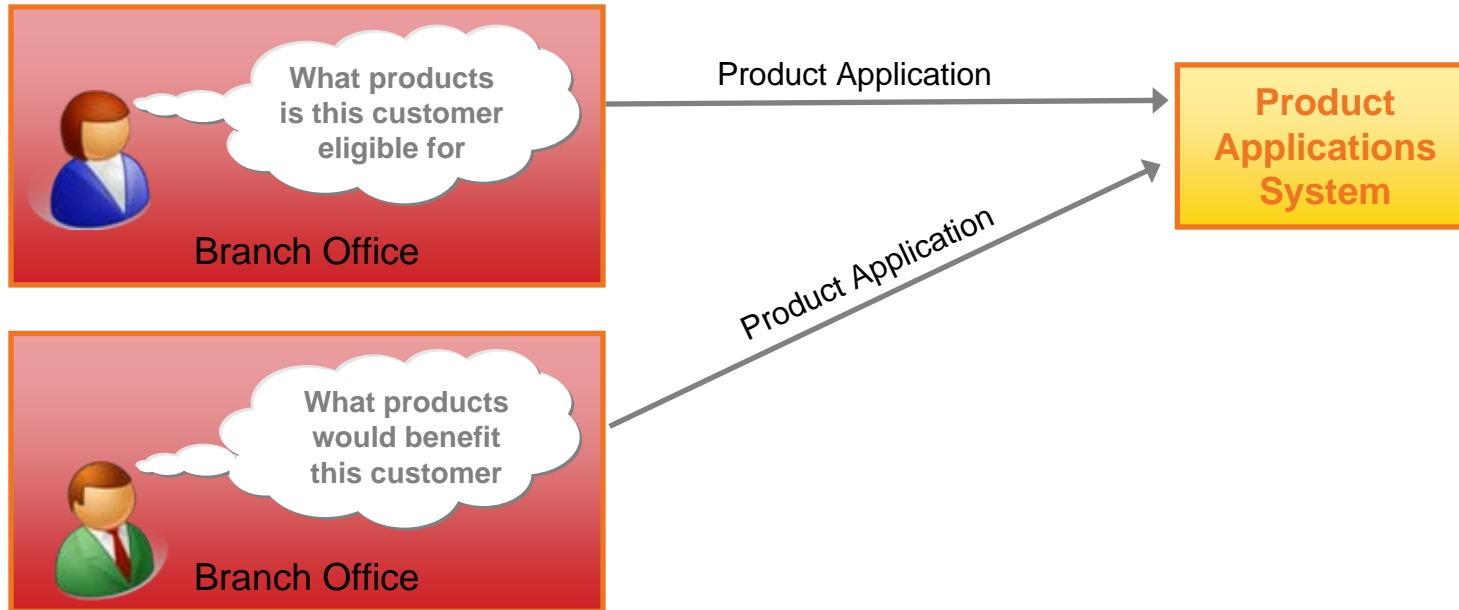


- ▶ One of the largest financial service providers in the world
- ▶ Over 18 million clients worldwide
- ▶ Nearly ¼ million mortgages
- ▶ Nearly ½ million loan products
- ▶ Prioritizes branch office networks to build personal ties with its clients

Large opportunity for the bank to cross sell / up sell financial products to existing customers



Existing Scenario



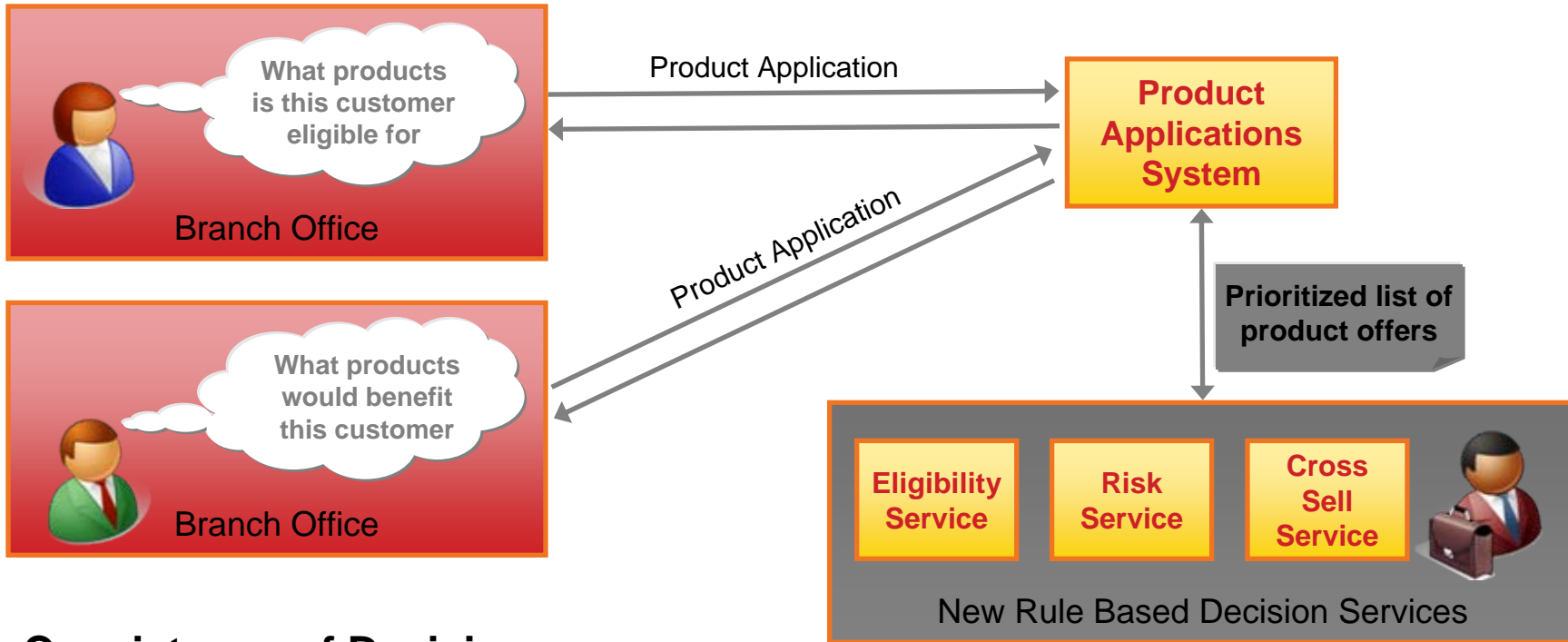
▶ Poor customer experience

- ▶ Difficult to determine or identify who to cross sell or up sell to
- ▶ Branch staff would sometimes try to cross-sell to clients who did not qualify

▶ Inefficient use of customer service representative time

- ▶ Assessment times were too long
- ▶ Separate application in order to know if client qualifies for an additional product

New Scenario



Consistency of Decisions

- Prioritized list of pre-approved product offers returned to customer service agent
- New BRMS based decision services provides consistent decisions across branches

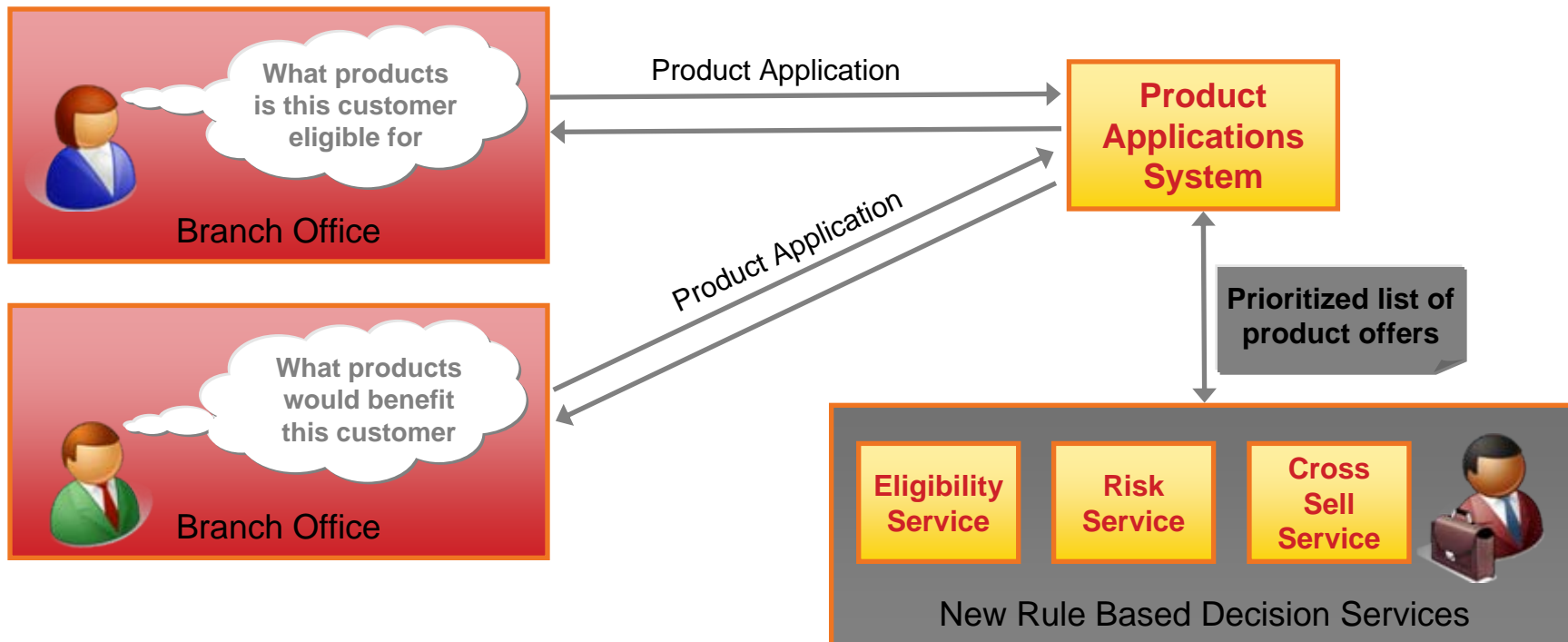
Improved time to market

- New policies can be introduced & managed across the company more effectively

Flexible solution enables incremental modernization

- Low development risk as new functionality incrementally added to existing application as new services

New Scenario



- ▶ **Employees equipped to make intelligent, consistent product recommendations in real time**
 - ▶ \$14 million in new business in 2 ½ months
- ▶ **Customer experience enhanced with pre-approved offers that better match customer needs**
 - ▶ Offer acceptance increased from 3% to 20 – 30%

Events from CICS Transaction Server

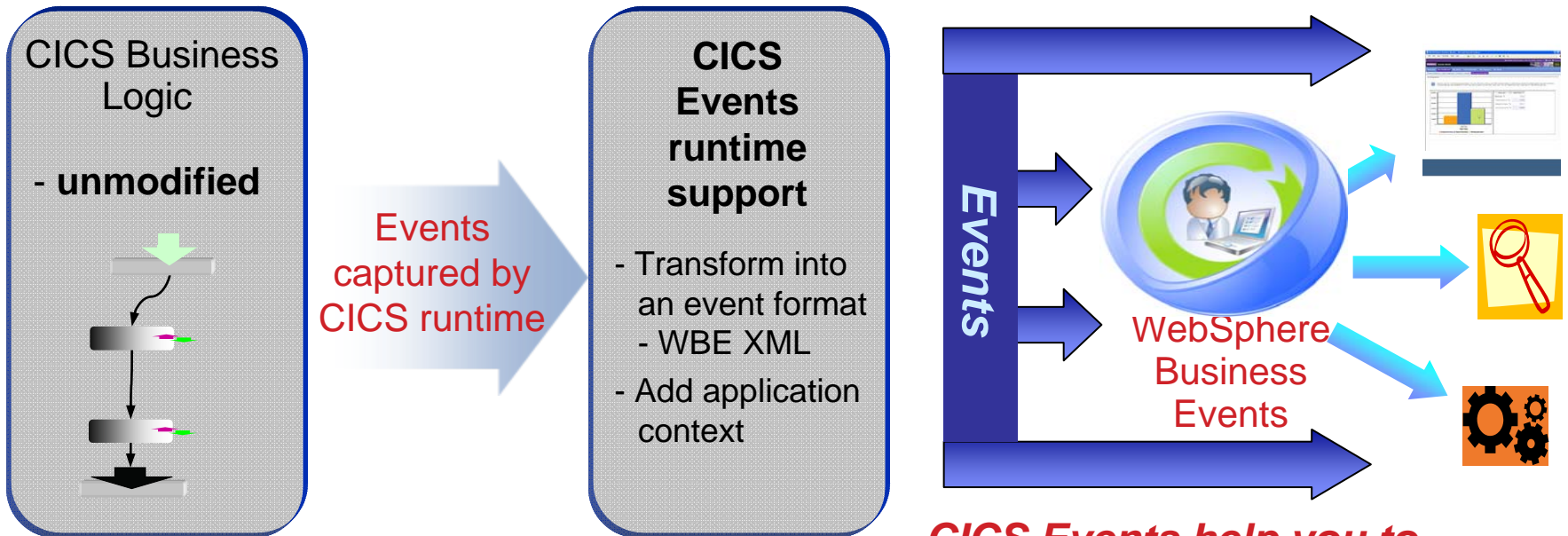
Event Sources

Event Emission

Event Processing

Business Action

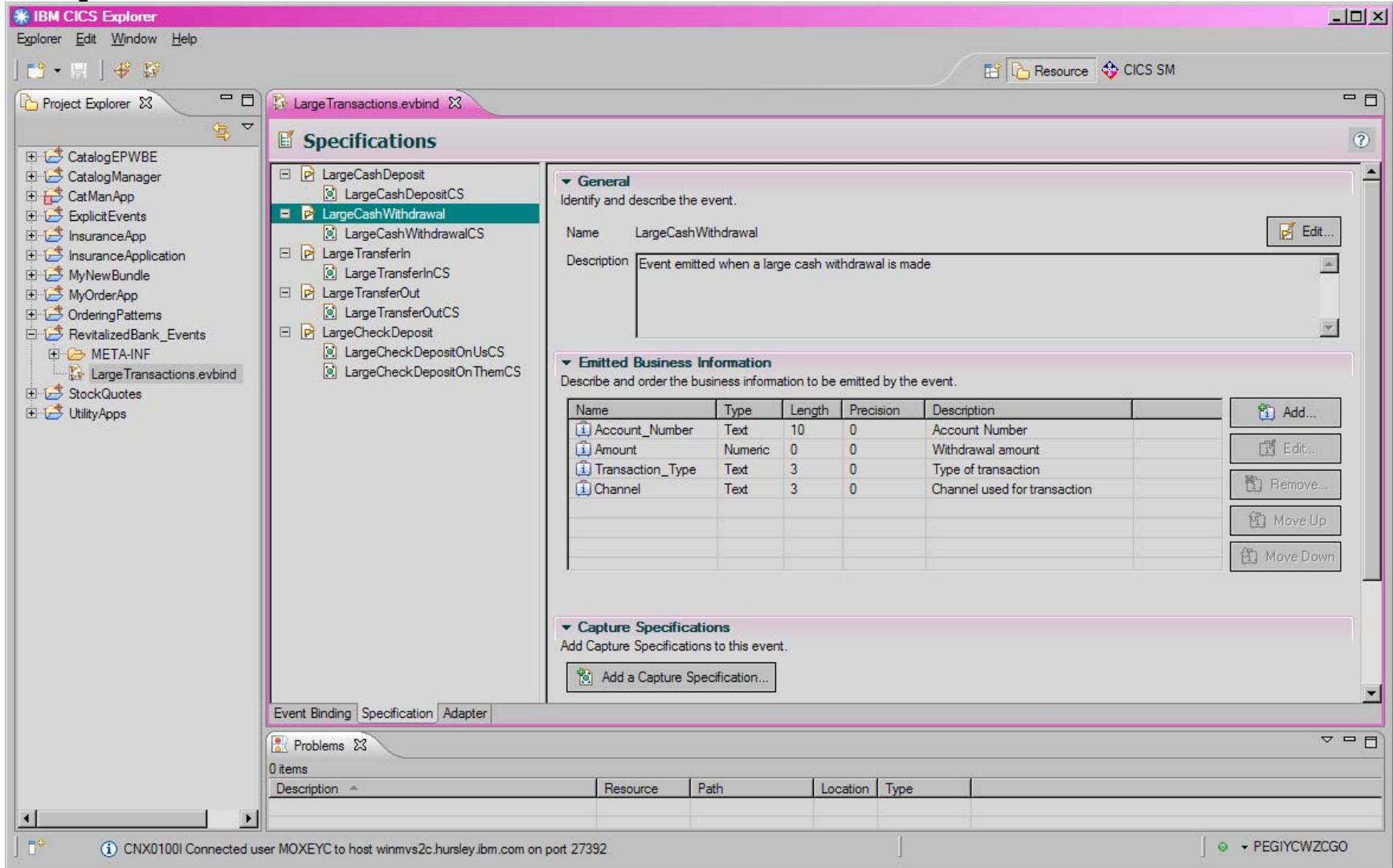
CICS TS V4.1



CICS Events help you to

- *Observe business processes*
- *Recognize suspicious activity*
- *Drive new processing*

Event Binding Editor Tooling – Event Specification



The screenshot shows the IBM CICS Explorer interface. The main window displays the 'Specifications' for the 'LargeTransactions.evbind' resource. The 'LargeCashWithdrawal' event is selected, and its details are shown in the right-hand pane.

General
Identify and describe the event.

Name: LargeCashWithdrawal [Edit...]

Description: Event emitted when a large cash withdrawal is made

Emitted Business Information
Describe and order the business information to be emitted by the event.

Name	Type	Length	Precision	Description
Account_Number	Text	10	0	Account Number
Amount	Numeric	0	0	Withdrawal amount
Transaction_Type	Text	3	0	Type of transaction
Channel	Text	3	0	Channel used for transaction

Buttons: Add..., Edit..., Remove..., Move Up, Move Down

Capture Specifications
Add Capture Specifications to this event.

Buttons: Add a Capture Specification...

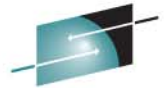
Event Binding | Specification | Adapter

Problems: 0 items

Description	Resource	Path	Location	Type

Status bar: CNX01001 Connected user MOXEYC to host winmvs2c.hursley.ibm.com on port 27392 | PEGIYCWZCGO

Event Binding Editor Tooling – Capture



IBM CICS Explorer

Explorer Edit Window Help

IBM CICS Explorer

Explorer Edit Window Help

Project Explorer

- CatalogEPWBE
- CatalogManager
- CatManApp
- ExplicitEvents
- InsuranceApp
- InsuranceApplication
- MyNewBundle
- MyOrderApp
- OrderingPatterns
- RevitalizedBank_Events
- META-INF
 - LargeTransactions.evbind
- StockQuotes
- UtilityApps

LargeTransactions.evbind

Specifications

- LargeCashDeposit
 - LargeCashDepositCS
- LargeCashWithdrawal
 - LargeCashWithdrawalCS
- LargeTransferIn
 - LargeTransferInCS
- LargeTransferOut
 - LargeTransferOutCS
- LargeCheckDeposit
 - LargeCheckDepositOnUsCS
 - LargeCheckDepositOnThemCS

Capture Point | Filtering | Information Sources

Application Context
Define predicates to filter events.

Context	Operator	Value
Transaction ID	All	
Current Program	Equals	CPPEPM33
User ID	All	
Response Code	All	Ok

Application Command Options
Define predicates for command options. Predicates marked with * should be specified to maintain CICS performance.

Name	Operator	Value
PROGRAM*	Equals	WPPEPM33
CHANNEL	All	

Application Data
Define predicates for application data. Import a language structure and pick an item to specify the data format.

Source	Container	Offset	Length	Operator	Value
COMMAREA		77	8	Greater Than	5000

Event Binding | Specification | Adapter

Problems

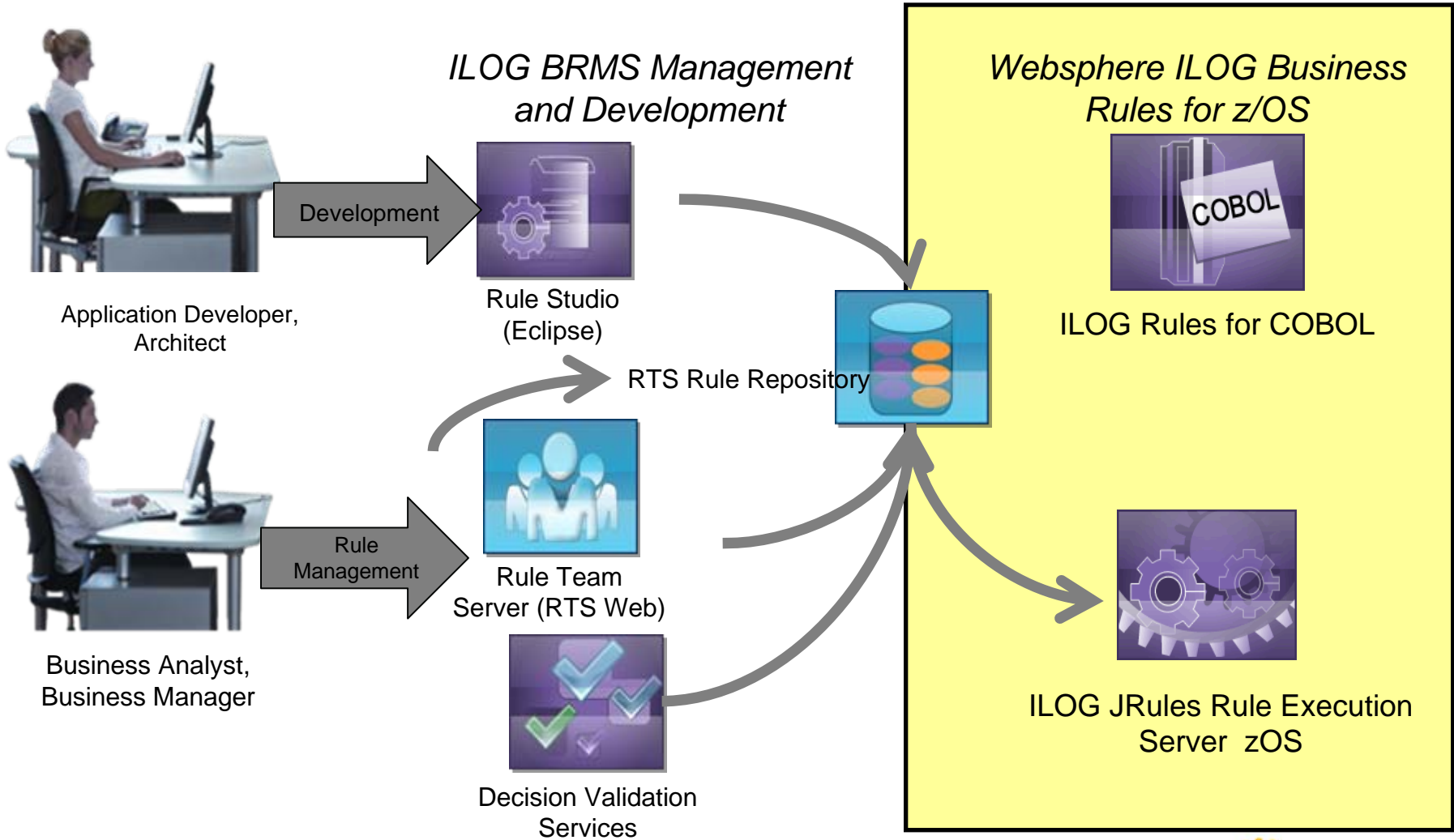
0 items

Description	Resource	Path	Location	Type

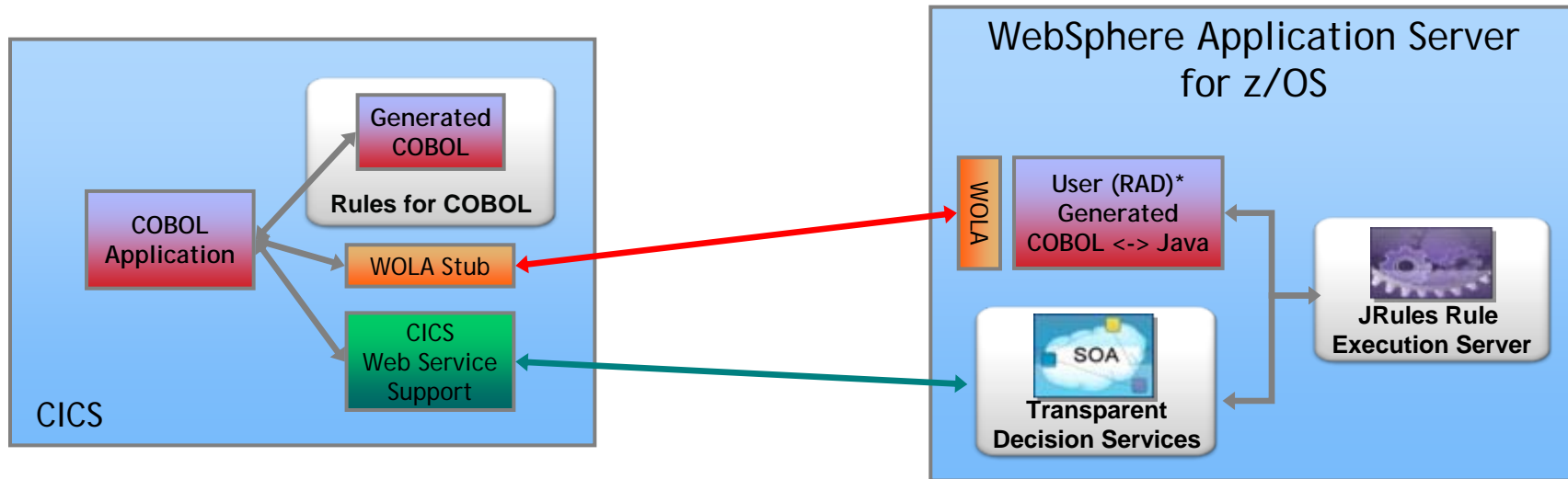
ⓘ CNX01001 Connected user MOXEYC to host winmvs2c.hursley.ibm.com on port 27392

PEGIYCWZCGO

Websphere Business Rules for zOS



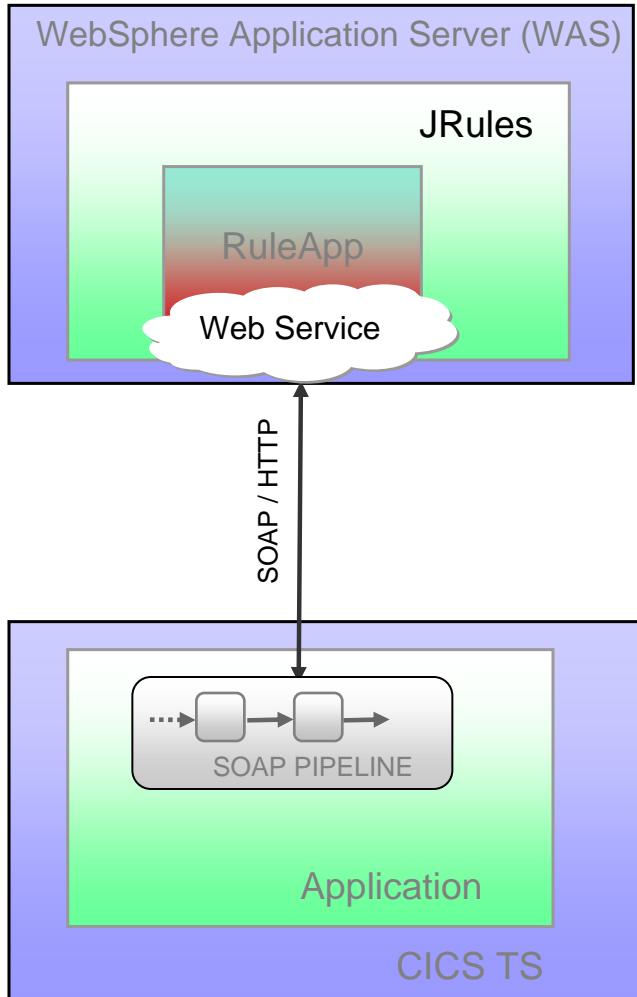
Business Rule Invocation Options



* Rational Application Developer provides tooling to map COBOL data structures to Java

- Generated COBOL Rules - direct invocation
- Web Service call
- WOLA Call

CICS calling JRules via Web Service



■ Scenario

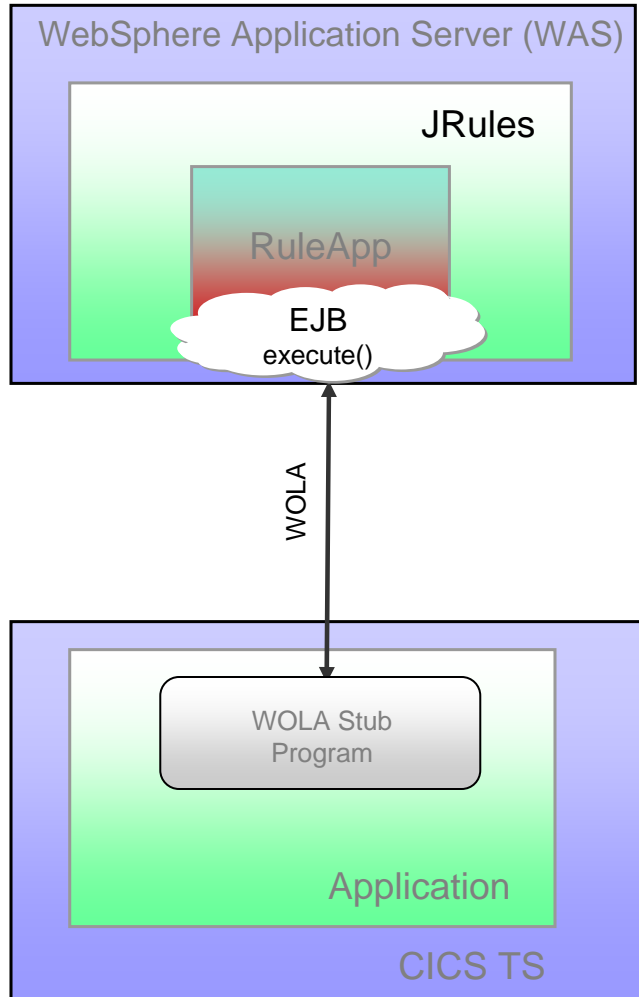
Use CICS Web Services to call JRules hosted in WAS via a Web service

- Full capability JRules Execution Server
- Allows CICS to share rules with other platforms

■ Considerations with this Approach

- ✓ Standards-based integration
- ✓ Decisions can be re-used/shared with other systems
- ✓ Full BRMS management capabilities
- ✗ Overhead of XML marshalling & network connection
- ✗ Additional runtime to administer and maintain as the application processing is now split across multiple application servers

CICS calling JRules via WebSphere Optimized Local Adapter



■ Scenario

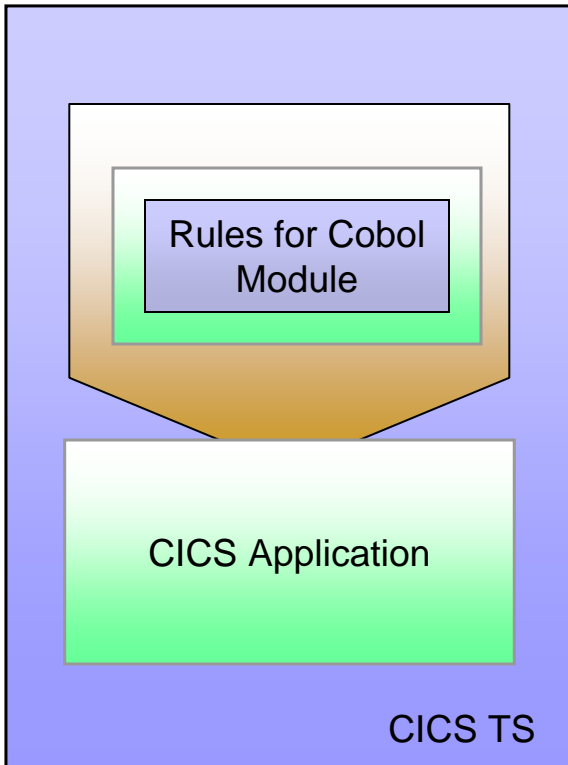
Call JRules hosted in WAS in the same LPAR via a WebSphere Optimized Local Adapter (WOLA)

- Full capability JRules Execution Server
- Allows CICS to share rules with other platforms

■ Considerations with this Approach

- ✓ High performance connection to WAS
- ✓ Decisions can be re-used/shared with other systems
- ✓ Full BRMS management capabilities
- ✗ CICS and WAS/JRules must reside in the same LPAR
- ✗ Custom EJB and marshalling code required to receive request and handle conversion to Java
- ✗ Additional runtime to administer and maintain as the application processing is now split across multiple application servers

Rules for COBOL – Generated Rule Invocation



■ Scenario

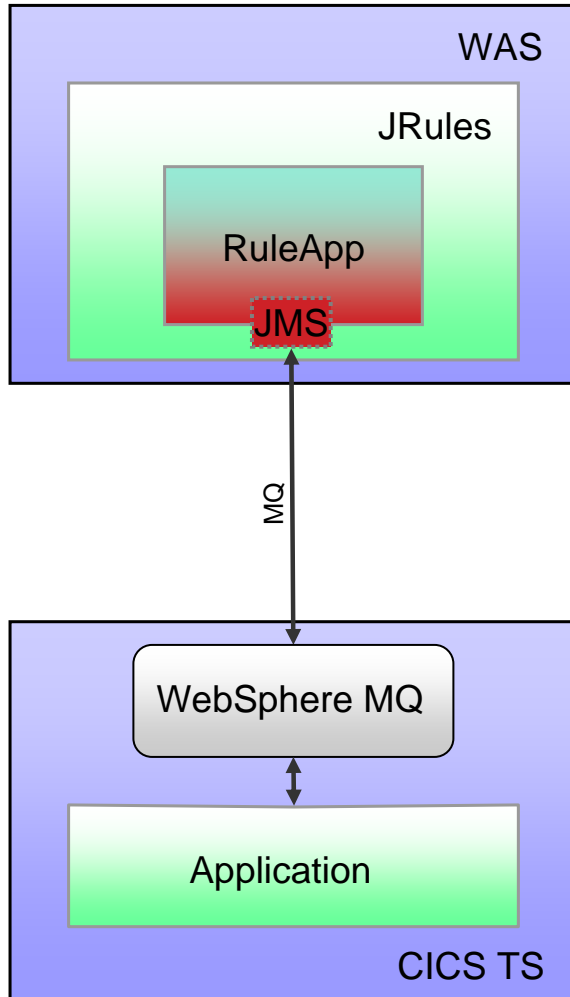
Use Rules for COBOL to generate a COBOL module that embodies the rules and executes within the CICS region

- CICS app can call the module via static or dynamic linking
- Can be invoked via EXEC CICS LINK

■ Considerations with this Approach

- ✓ Fits in easily with COBOL application architecture
- ✓ Better performance due to co-location of rule execution
- ✓ Easy to reuse the COBOL rules in batch as well as CICS environments
- ✗ No Rule Execution Server management capabilities
- ✗ No Decision Warehousing functionality
- ✗ No externally shared decisions

CICS calling JRules via MQ



■ Scenario

Call a message-driven bean on WAS by sending a message from CICS via MQ.

- Full capability JRules Execution Server
- Allows CICS to share rules with other platforms

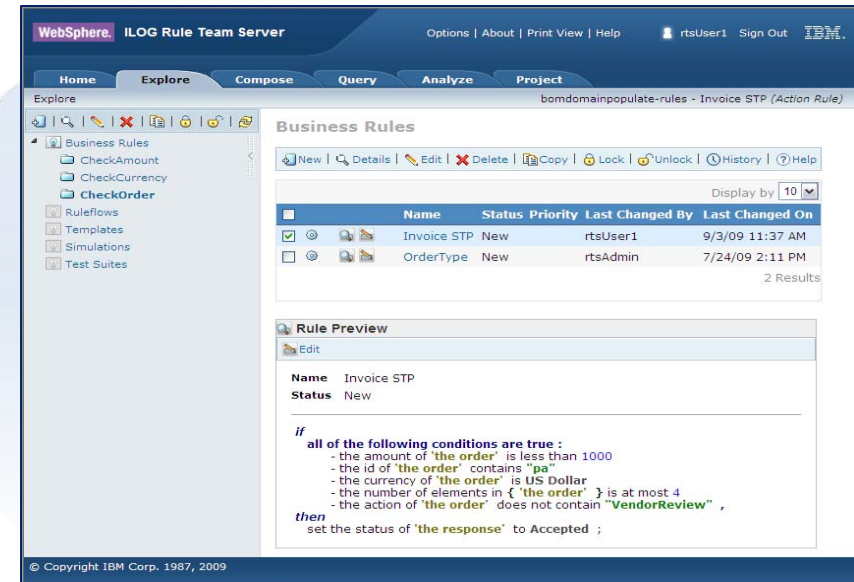
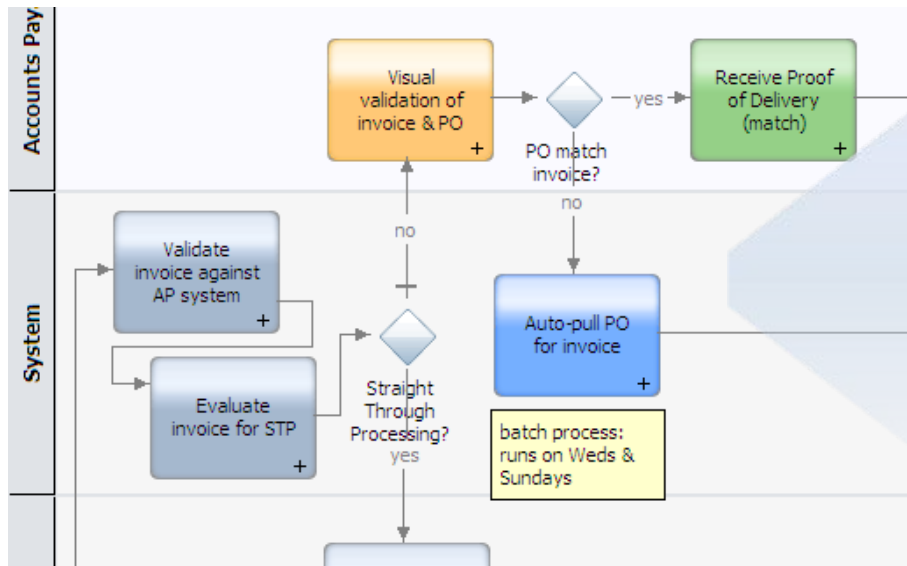
■ Considerations with this Approach

- ✓ Standards-based integration (JMS)
- ✓ Decisions can be re-used/shared with other systems
- ✓ Full BRMS management capabilities
- ✗ Overhead of marshalling & network connection
- ✗ Custom marshalling code may be required to handle conversion to Java
- ✗ Additional runtime to administer and maintain as the application processing is now split across multiple application servers

Business Process Management for z/OS



Two-Pronged Approach to Business Process Improvement



The screenshot shows the ILOG Rule Team Server interface. The top navigation bar includes 'Home', 'Explore', 'Compose', 'Query', 'Analyze', and 'Project'. The main content area displays 'Business Rules' with a table listing rules and a 'Rule Preview' section showing the logic of a rule.

Name	Status	Priority	Last Changed By	Last Changed On
Invoice STP	New		rtsUser1	9/3/09 11:37 AM
OrderType	New		rtsAdmin	7/24/09 2:11 PM

Rule Preview

```
if
  all of the following conditions are true :
    - the amount of 'the order' is less than 1000
    - the id of 'the order' contains 'pa'
    - the currency of 'the order' is US Dollar
    - the number of elements in { 'the order' } is at most 4
    - the action of 'the order' does not contain "VendorReview" ,
then
  set the status of 'the response' to Accepted ;
```

Business Process Management

- Define and orchestrate the end-to-end process
- Combine automation with user interaction

Business Rules Management

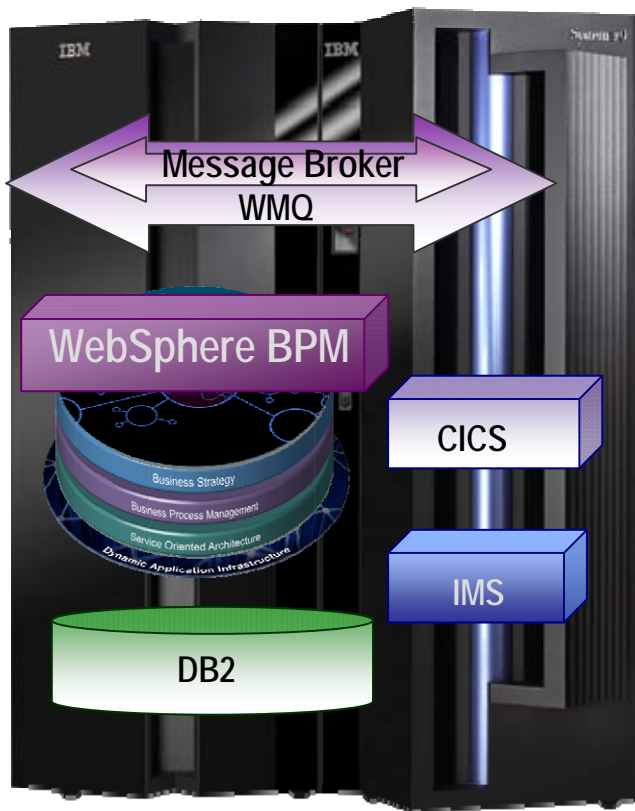
- Define and execute specific decision points in processes and applications
- Automate and improve decisions

Why BPM on z/OS?

Enterprise data access in an integrated environment

System z is an integration platform, with system level awareness across the SW stack, enabling you to work smarter

Benefits include:

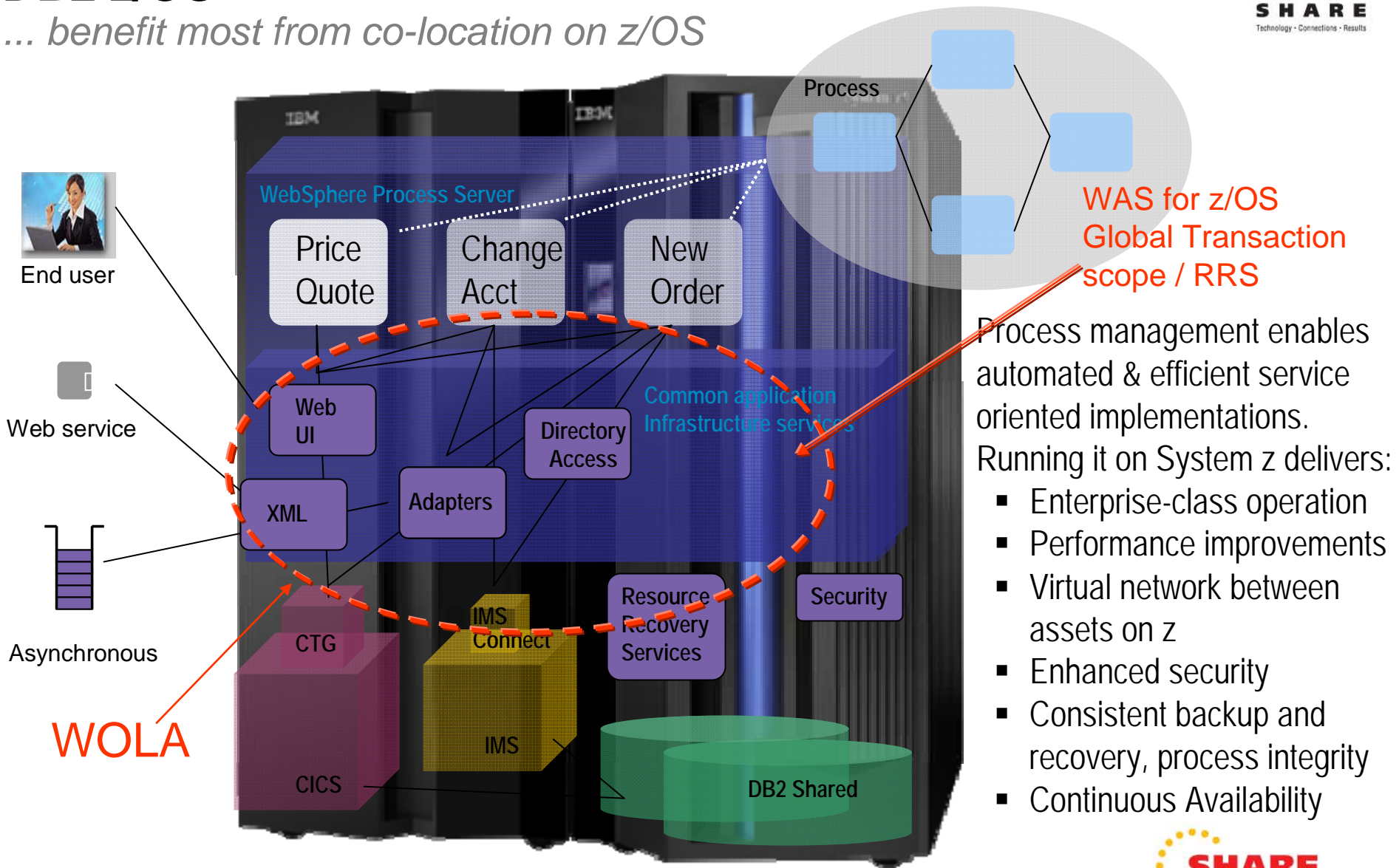


- Easier Management
 - ✓ Fewer components to administer
 - ✓ Vertical dynamic scalability
- Stringent Security
 - ✓ Reduced interception opportunity
 - ✓ Integration of RACF via SAF
- Highly Available Infrastructure
 - ✓ Parallel Sysplex enabled
- Higher Performance
 - ✓ No network time
 - ✓ No product specific network protocol construction / deconstruction

System z is the Undisputed Platform Leader in...
 Availability • Security • Utilization • Manageability • Scalability

Processes that frequently interact with CICS, IMS, DB2 z/OS

... benefit most from co-location on z/OS

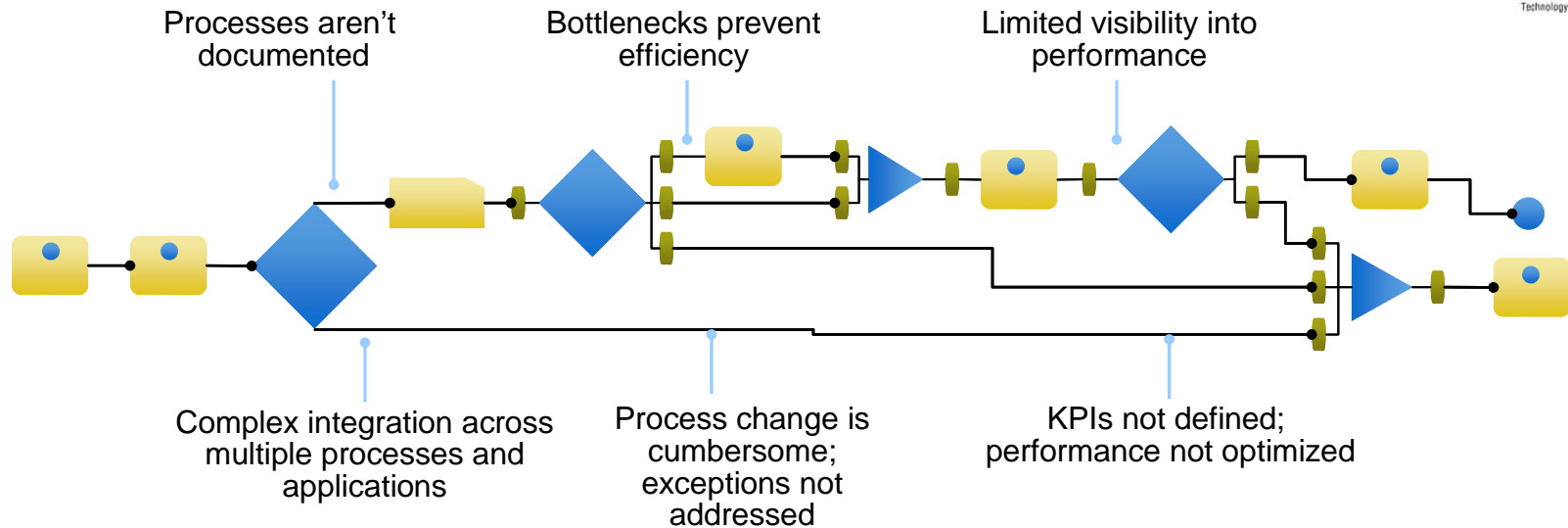


Process management enables automated & efficient service oriented implementations.

Running it on System z delivers:

- Enterprise-class operation
- Performance improvements
- Virtual network between assets on z
- Enhanced security
- Consistent backup and recovery, process integrity
- Continuous Availability

BPM Solves Common Business Challenges



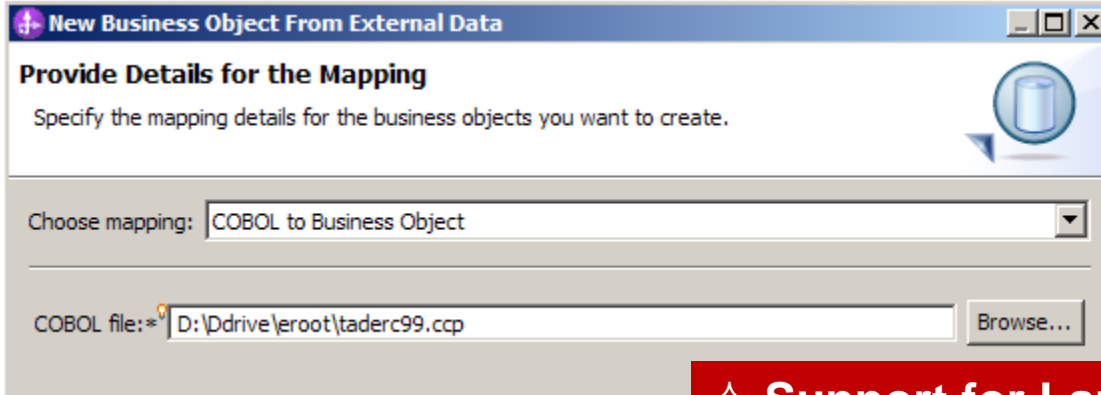
Your BPM journey...

- ...can start with simply **documenting current processes**
- ...proceeds into **simulation**, new process design and substantial **process automation and human-centric workflow management** support
- ...or it can start with **monitoring current processes** to find opportunities for business optimization

In short, your journey into BPM can **start anywhere and grow anywhere**

Leverage Native z/OS Data Structures

✧ Reference data from COBOL copybook



New Business Object From External Data

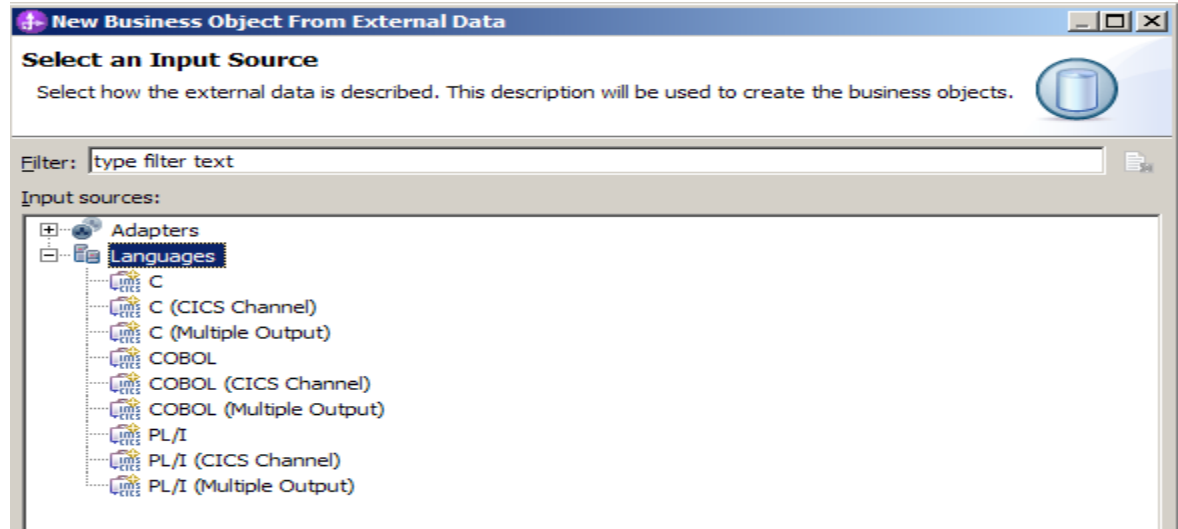
Provide Details for the Mapping

Specify the mapping details for the business objects you want to create.

Choose mapping: COBOL to Business Object

COBOL file: * D:\Ddrive\eroot\taderc99.ccp

✧ Support for Language such as C, COBOL, PL/I, Channel Records, Multiple output



New Business Object From External Data

Select an Input Source

Select how the external data is described. This description will be used to create the business objects.

Filter: type filter text

Input sources:

- Adapters
- Languages
 - C
 - C (CICS Channel)
 - C (Multiple Output)
 - COBOL
 - COBOL (CICS Channel)
 - COBOL (Multiple Output)
 - PL/I
 - PL/I (CICS Channel)
 - PL/I (Multiple Output)

Connect to CICS and IMS z/OS Services

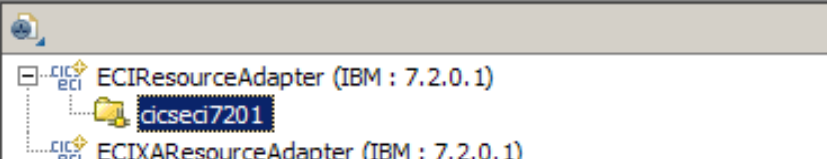
Designers will be able to interact with applications on zOS using familiar COBOL data structures

1 Select Adapter

New External Service

Select an Adapter

Select the version of the adapter that you want to use.



2 Specify interaction Info

New External Service

Add, Edit, or Remove Operations

The adapter will use these operations to access native functions.

Operations:

- getCustomer (Taderc99 arg) : Taderc99

InteractionSpec class: com.ibm.connector2.cics.ECIInteractionSpec

InteractionSpec properties for 'getCustomer'

Function name: *TADERC99

Commarea length: -1

Advanced >>

3 Specify Service name

New External Service

Specify the Name and Location

Specify the name and location of the new service and its interface.

Module: CICS

Namespace: http://CICS/CICSImport1

Use the default namespace

Name: *CICSImport1

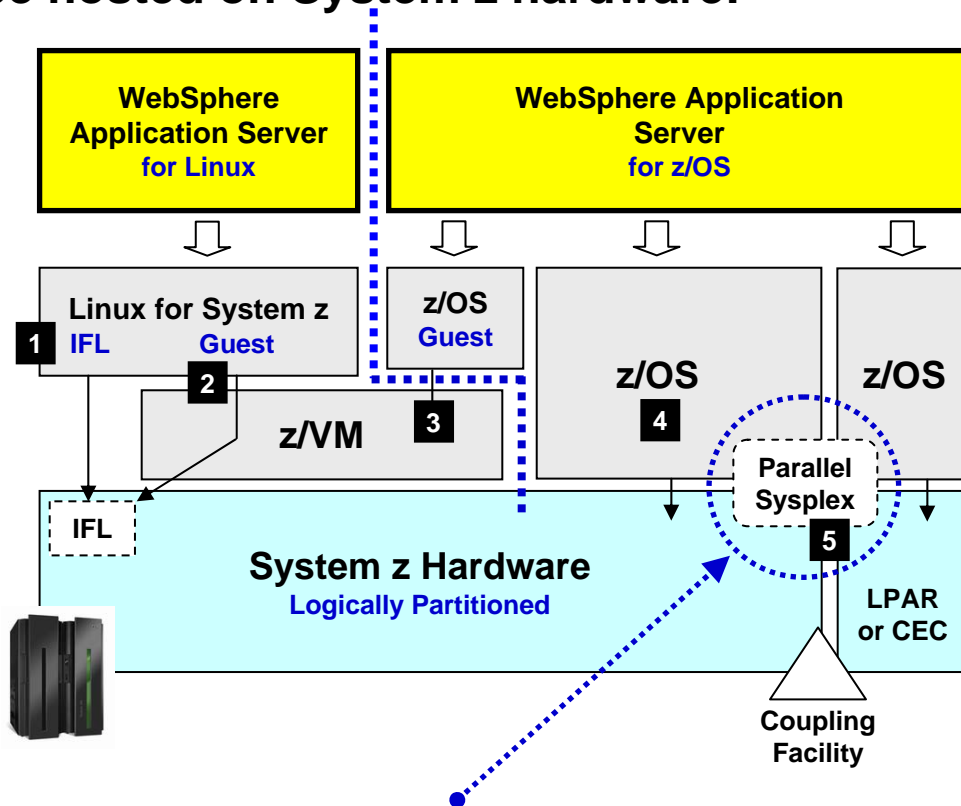
Deploy connector with module

The quality of service that is used to join the transaction provides a higher degree of data integrity, especially when a failure occurs. Because the adapter supports only local transactions, it must be the only one-phase commit resource in the transaction. [More ...](#)

Join the transaction

BPM V7 for System z, z/OS, Linux, and WebSphere Application Server

Here's a mapping of how the two flavors of WebSphere Application Server can be hosted on System z hardware:



- 1. Linux for System z directly on IFL**
Possible, but not very common. Solution where no zVM skills exist
- 2. Linux for System z as guest on zVM**
Very common. This provides excellent virtualization with z/VM with Linux running as a guest. Runs on the IFL.
- 3. z/OS as guest on z/VM**
Another example of zVM's virtualization capabilities. WAS z/OS as guest typically in a development or test environment.
- 4. z/OS in a non-Sysplex environment**
WAS runs directly on z/OS with no z/VM virtualization. No Sysplex more common in test environments or small production.
- 5. z/OS in a Parallel Sysplex environment**
This is the flagship environment. This is where high availability, scalability and maximum platform exploitation takes place.

WebSphere z/OS design and implementation capitalizes on the Sysplex environment

Much more to follow

BPM for z/OS exploits these QOS functions

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