

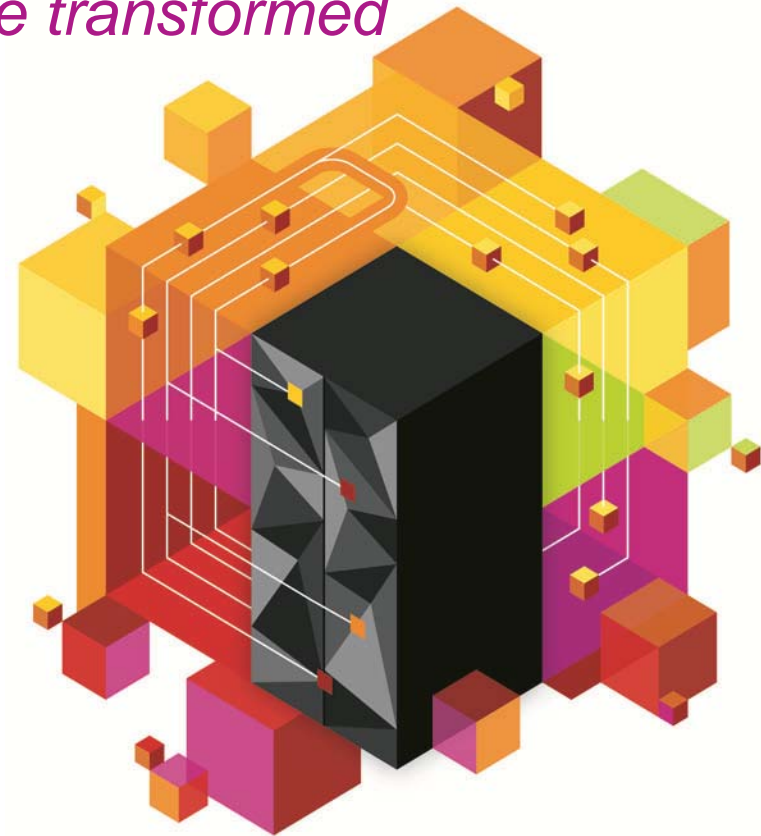


# System z Decision Management

*Where business rules and events are transformed*

Presenter – Title

Date





## Agenda

- ▶ Operational Decisions: the why and the what
- ▶ IBM Operational Decision Manager: the how
  - ▶ Synergy with decision management
- ▶ Adoption
- ▶ Operational Decision Manager use cases
- ▶ Next steps



## Agenda

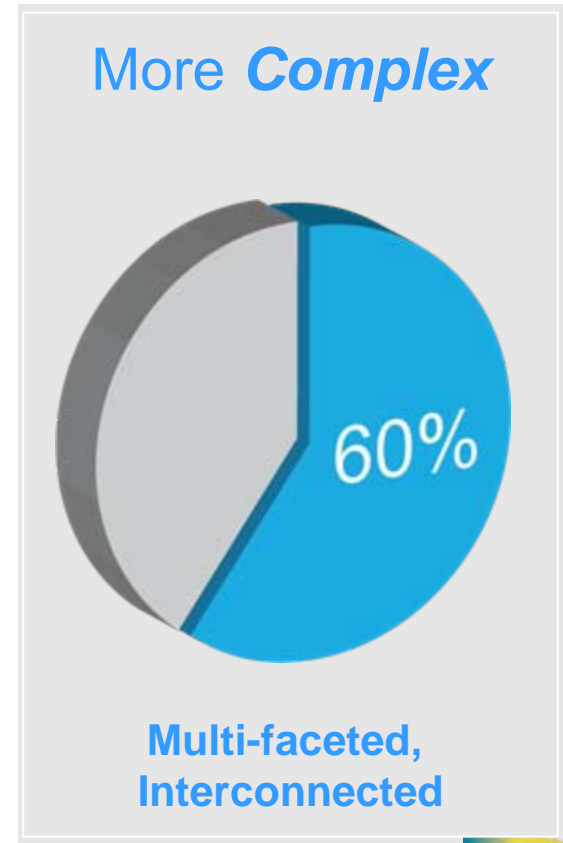
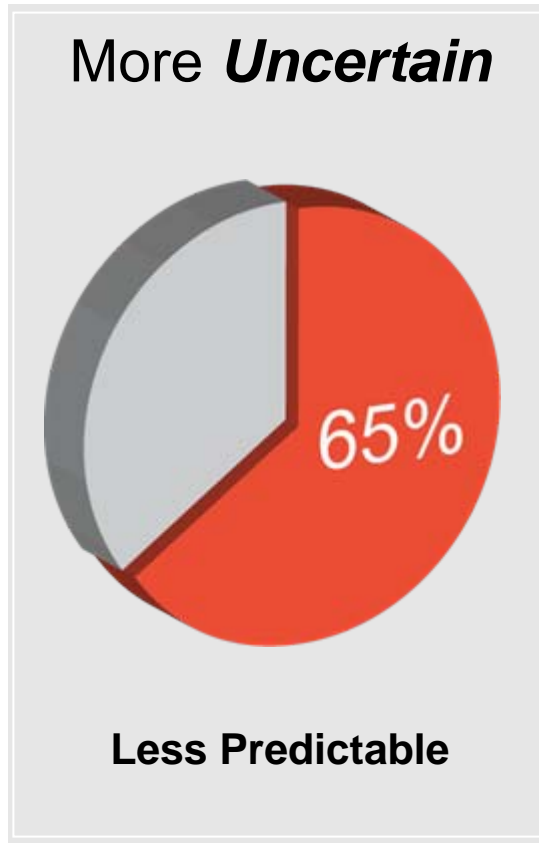
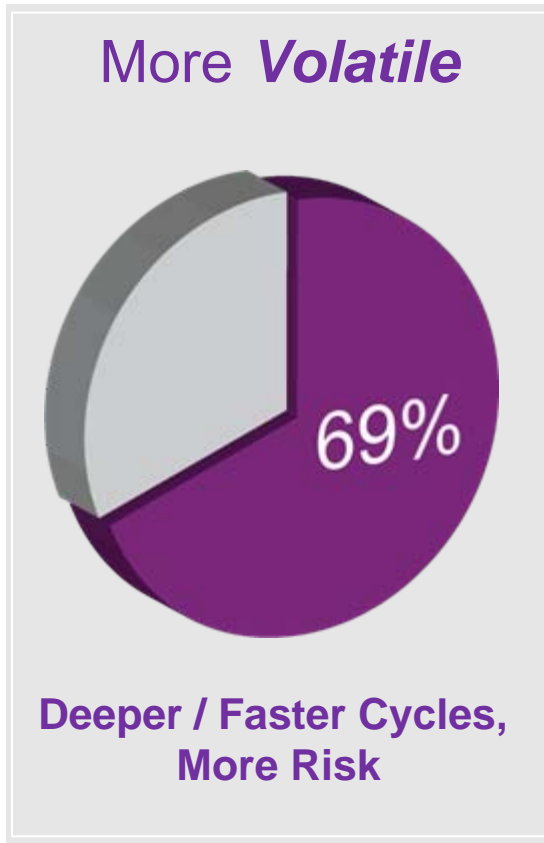
- ▶ Operational Decisions: the why and the what
- ▶ IBM Operational Decision Manager: the how
  - ▶ Synergy with decision management
- ▶ Adoption
- ▶ Operational Decision Manager use cases
- ▶ Next steps



# The business environment is increasingly dynamic

CEOs expect change to be more frequent and less predictable

To what extent is the economic environment different?



Percent of CEOs who answered “*To a large or very large extent*”

Source: IBM CEO Study 2010



## Why better decisions are critical to success

*Accurate, real-time decisions improve business performance and results*



Identify opportunities to *increase profitability*



Enforce consistency to *ensure compliance*



Leverage information to *manage risk*

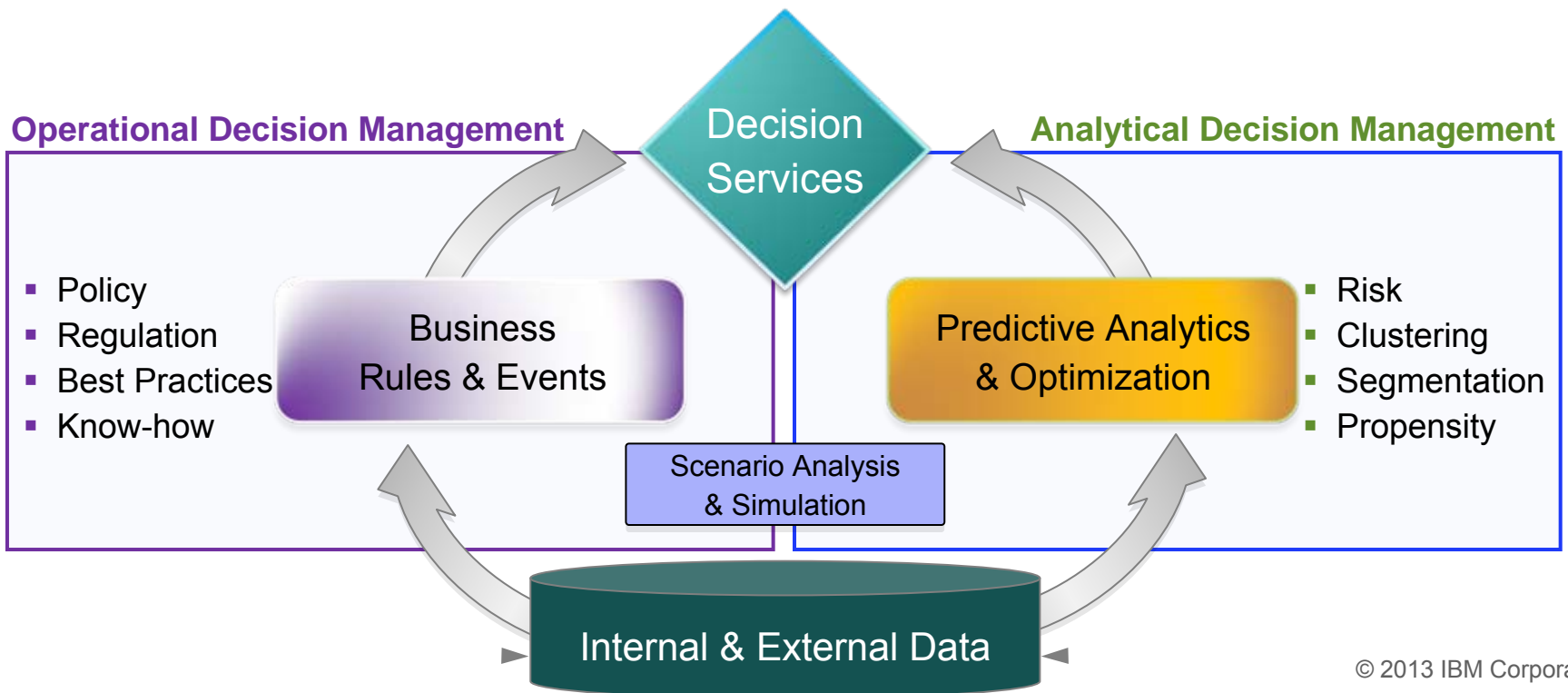
*“Decisions are what make strategy real and drive results and performance against metrics... decisions made about how to interact with partners, suppliers, customers, employees.”*

*James Taylor, “Becoming a Decision-centric Organization,” 2011*

# What is Decision Management?

Decision Management is a business discipline, supported by **operational** and **analytics** software, that enables organizations to automate, optimize and govern repeatable business decisions to improve the value of customer, partner and internal interactions.

Business Processes, Applications & Solutions



# Business rules and business events

## Business Rules

Primarily implements a decision model – given a snapshot view of data, determines best course of action at a specific point in a process or application

Main purpose is to automate a decision based on a combination of factors (business policies, regs, best practices)

If the **Passenger** is a **gold frequent traveler** and **flight distance** is more than 4000 miles and the **flight destination** is in Europe or Asia Then Add 10,000 points to the fidelity card of the **Passenger**

## Business Events

Primarily implements a time-based pattern detection model – correlating events as data is in motion

Main purpose is to determine what of interest is transpiring and coordinate one or more responses by other systems or generate alerts to people

If more than 2 **customer withdraws in an ATM** are done in the same day and the 2 ATMs are from 2 foreign countries Then **Investigate possible fraud** Reduce cash redraw max amount to 100\$



*Gartner characterizes Rules and Complex Event systems as complementary notions. The combination being required to implement intelligent decision management programs.*

## A quick example...

*Imagine an auto insurance company has 2 basic requirements for a new project:*



1. Provide more detailed coverage pricing, in real-time, and to make it dependent on a wide-array of business data.
2. Follow-up on potential customers who have declined a quote from any channel (web, call center, office) a certain number of times, and are not yet customers.





## Different scenarios have different requirements and different types of decisions

1. Provide more detailed coverage pricing, in real-time, and to make it dependent on a wide-array of business data.

- ✓ Adjust logic within an application
- ✓ Return a fixed-set of information
- ✓ Must be easy-to-use but have sophisticated governance

### Business Rules

2. Follow-up on potential customers who have declined a quote from any channel (web, call center, office) a certain number of times, and are not yet customers.

- ✓ Adjust logic across multiple applications
- ✓ Decision criteria is time-based
- ✓ Dependency on occurrence, and absence, of events

### Event Rules



# What the rules and events may look like

**if**  
**the driver** has completed drivers ed course  
**and** the number of accidents **the driver** has been involved is 0  
**then**  
 add a 2 % discount to 'Auto Quote Response' , reason: "Good Driver Discount" ;

	Vehicle Value		Deductible	Base Premium
	Lower	Upper		
1			\$250	\$ 36
2	\$ 0	\$ 4,000	\$500	\$ 33
3			\$1000	\$ 23
4			\$250	\$ 43
5	\$ 4,000	\$ 10,000	\$500	\$ 39
6			\$1000	\$ 27
7			\$250	\$ 47
8	\$ 10,000	\$ 30,000	\$500	\$ 41
9			\$1000	\$ 32
10			\$250	\$ 52
11	\$ 30,000	\$ 60,000	\$500	\$ 49
12			\$1000	\$ 40
13			\$250	\$ 62
14	\$ 60,000	\$ 100,000	\$500	\$ 59
15			\$1000	\$ 48

Business Rules

**if**  
 past occurrences of **web quote rejected** within 1 minute is at least 3  
**and**  
 past occurrences of **customer accepts web quote** within 1 minute is 0

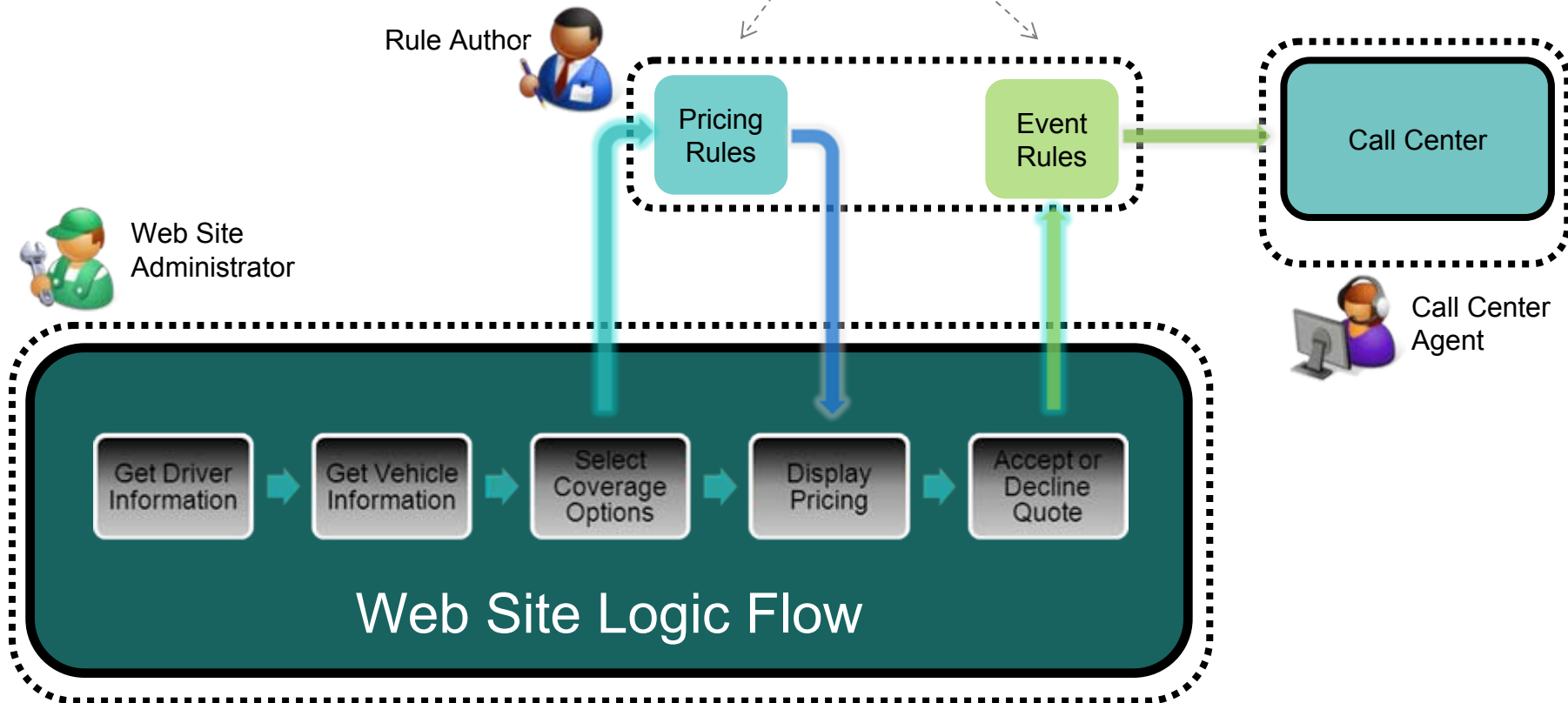
**then**  
 follow up quote request ;  
 refer customer to call center ;

Event Rule

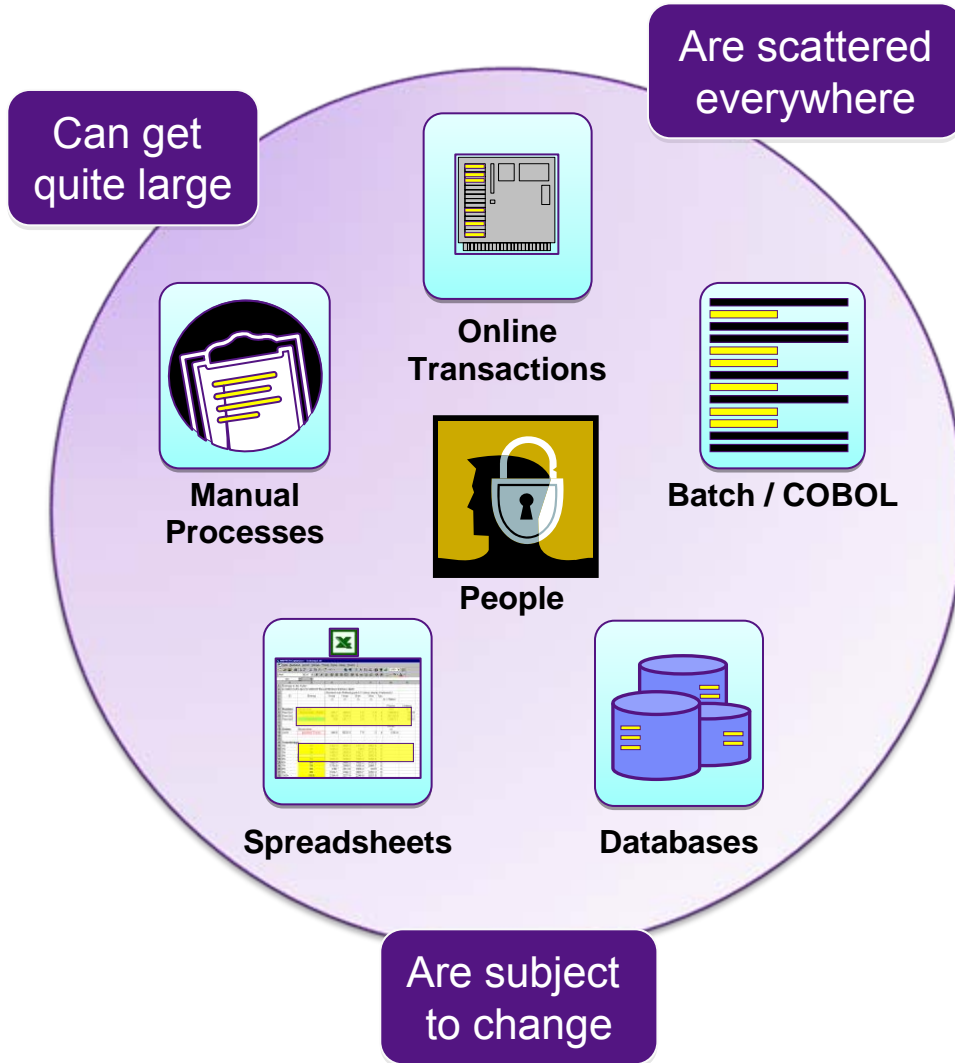


# Ownership is also important

## Operational Decision Management



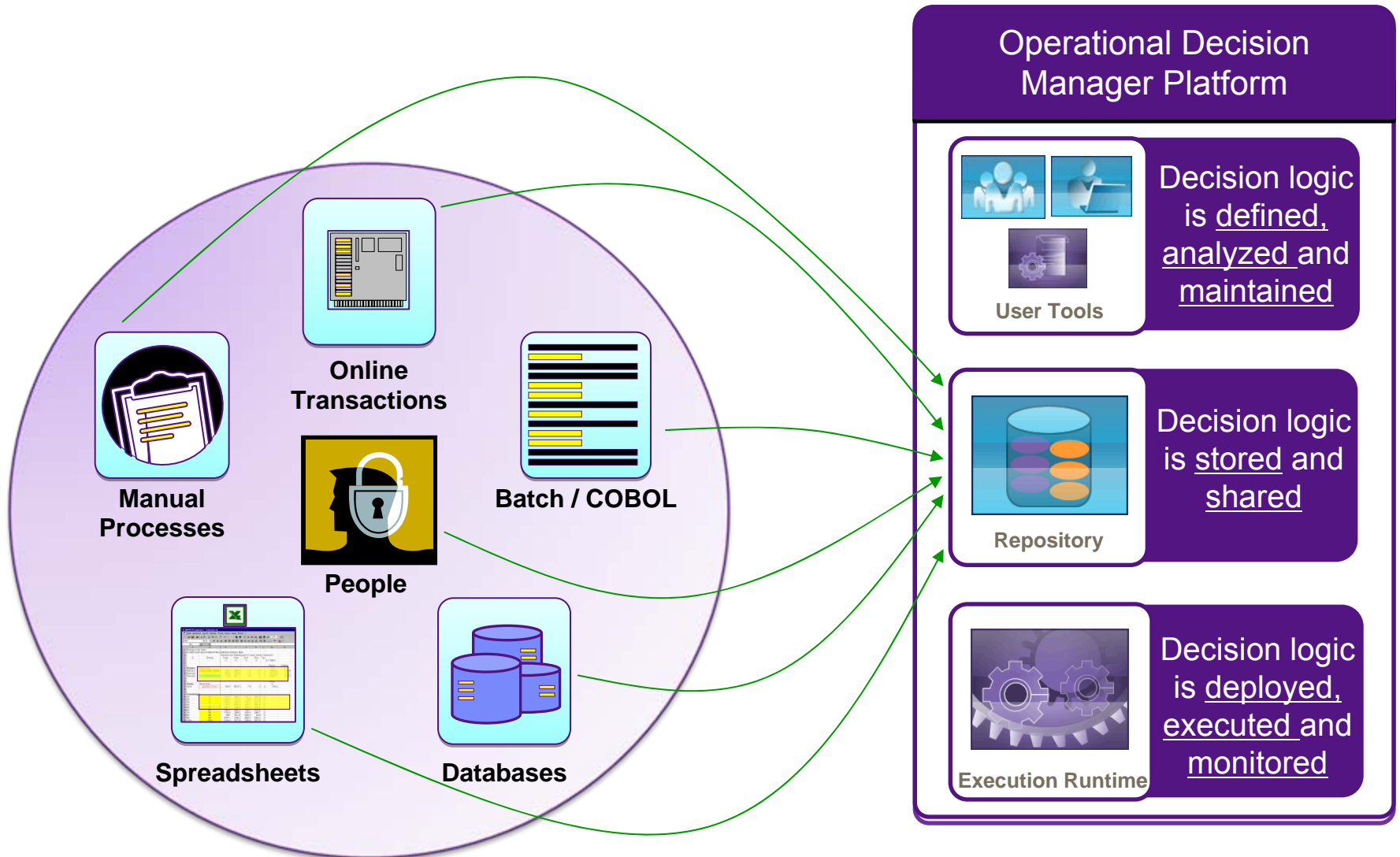
# Business Rules in organizations



## 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
  - No reuse of decision logic
- Gap between business analysts & IT administrators
  - Knowledge fades over time
- Lack of audit ability
- No easy way to test/simulate changes

# Operational Decision Manager approach





## Agenda

- ▶ Operational Decisions: the why and the what
- ▶ IBM Operational Decision Manager: the how
  - ▶ Synergy with decision management
- ▶ Adoption
- ▶ Operational Decision Manager use cases
- ▶ Next steps



# IBM Operational Decision Manager V8.0.1 enables business people to...



*Ensure the right decision is being made at the right time*

**→ *Visibility***



*Rapidly respond to evolving market demands, competitive actions and regulatory requirements*

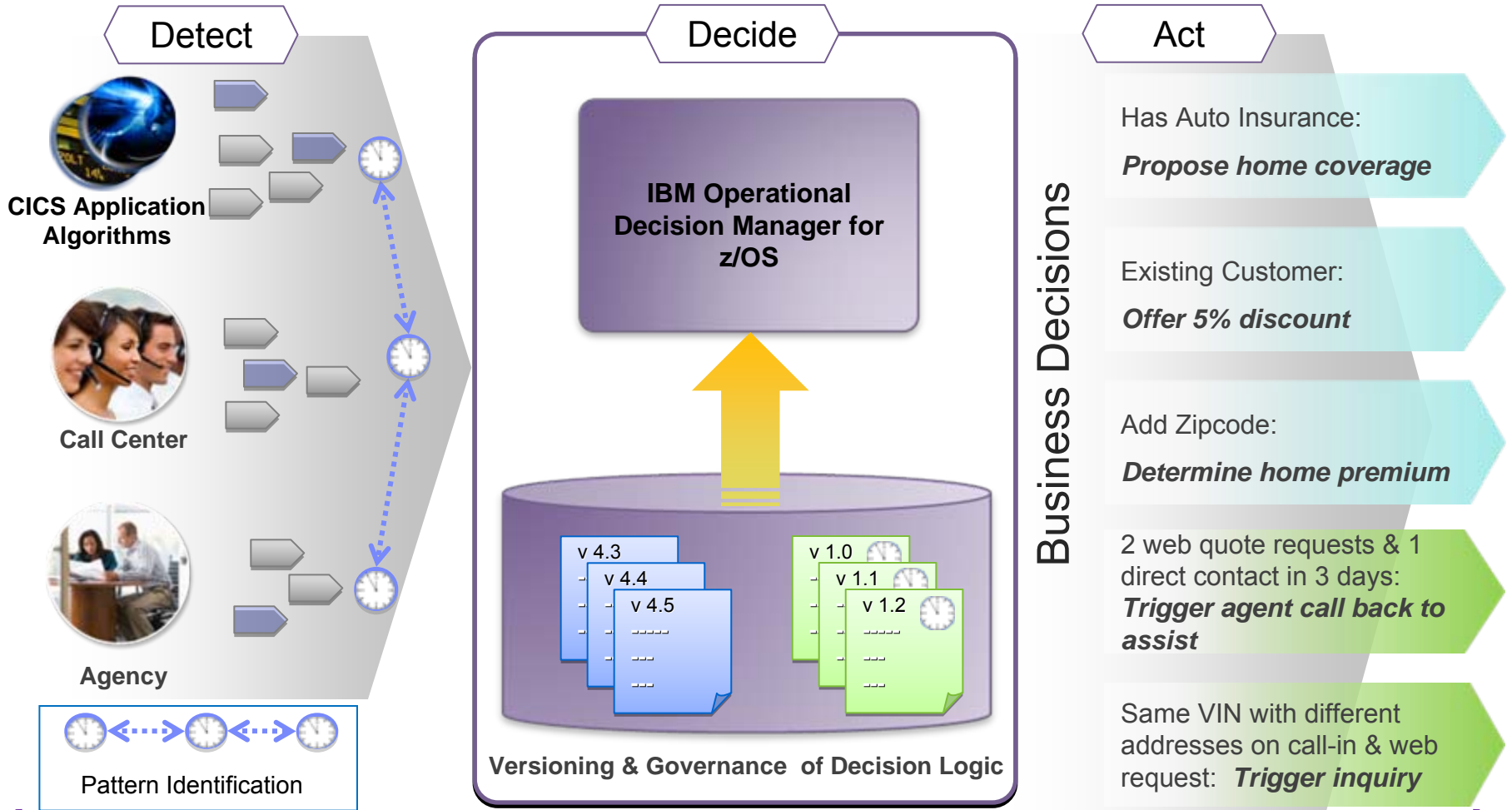
**→ *Collaboration***



*Ensure that business decisions are managed in a controlled environment*

**→ *Governance***

# Putting it Together – Business Events and Business Rules



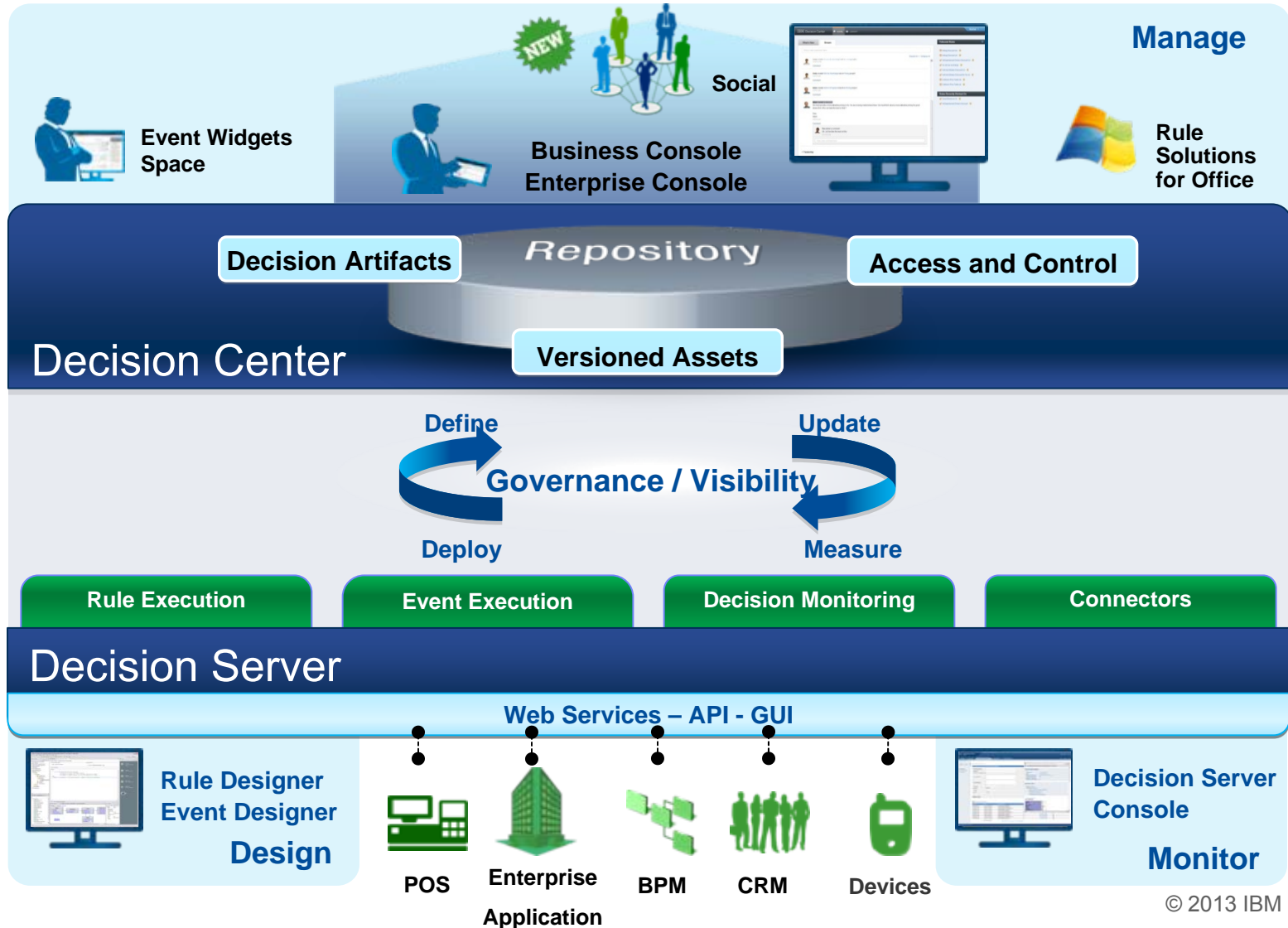
## IBM Operational Decision Manager for z/OS

Insurance use case: Customer acquisition



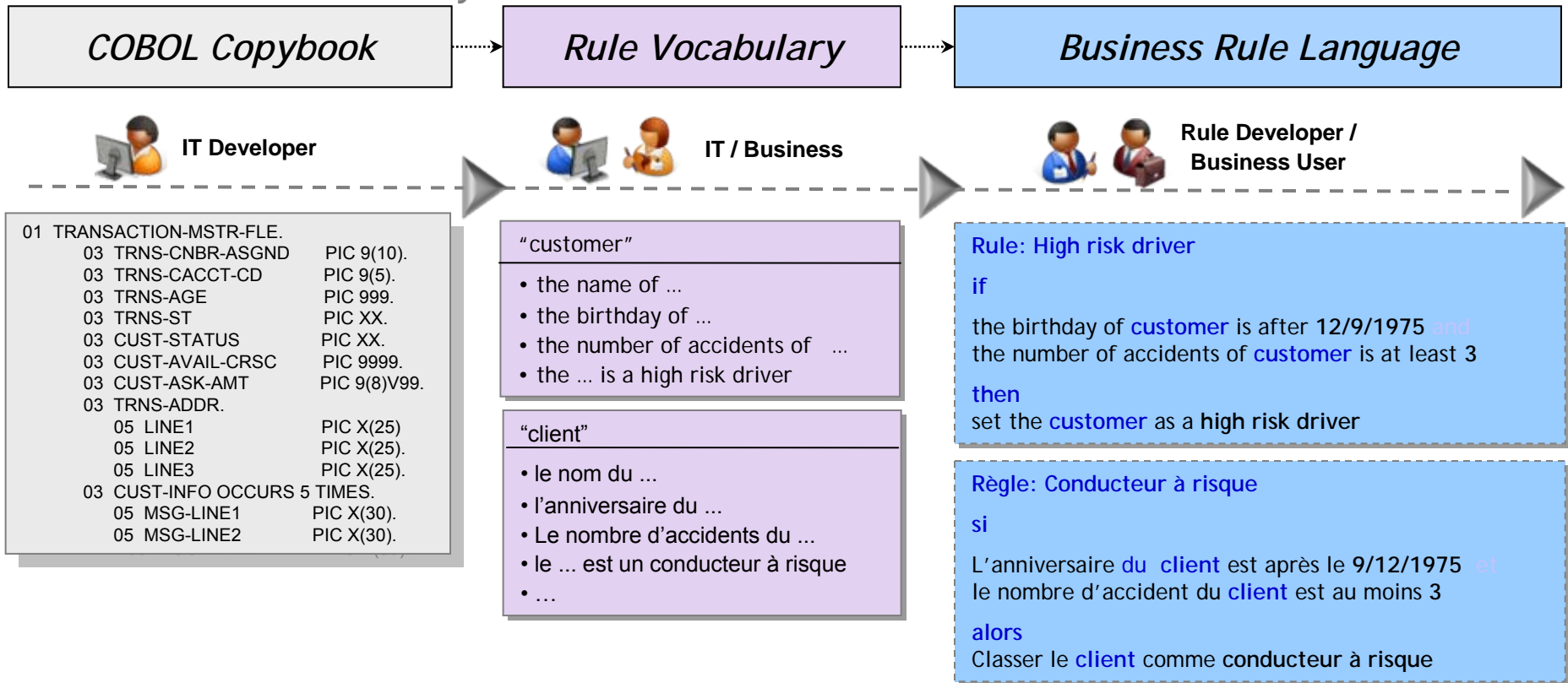
# IBM Operational Decision Manager

## Components



# Business Decisions stated in business language

*Customizable vocabulary*



*Empower business experts to manage and validate decision logic, eliminating delays in business*

# Decision Tables

	Grade	Amount of loan		Insurance required	Insurance rate
		Min	Max		
0	A	< 100,000		false	⊘
1		100,000	300,000	true	0.001
2		300,000	600,000	true	0.003
3		≥ 600,000		true	0.005
4	B	< 100,000		false	⊘
5		100,000	300,001	true	0.0025
6		300,000	600,000	true	0.005
7		≥ 600,000		true	0.0075
8	C	< 100,000		true	0.0035
9		100,000	300,000	true	0.006
10		300,000	600,000	true	0.0085
11		≥ 600,000		true	0.0145
12	Otherwise			true	0.022

**Actions**

**Built-in Gap/Overlap checking**

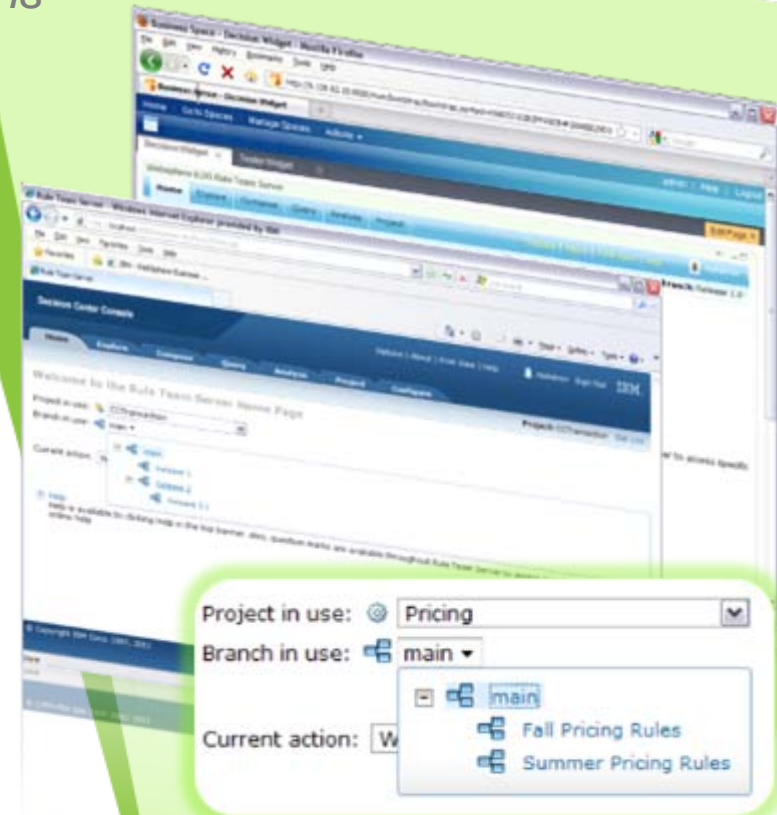
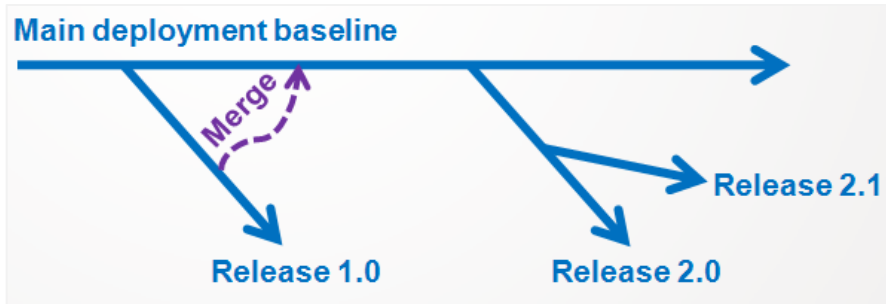
**Automatic Rule generation**

*if*  
**all of the following conditions are true :**  
 - the loan grade in 'the loan report' is "C"  
 - the amount of 'the loan' is at least 600000 ,  
*then*  
 set insurance required in 'the loan report' to true ;  
 set the insurance rate in 'the loan report' to 0.0145 ;

# Multiple release management

*Greater flexibility for deploying business decisions*

- Enable business users to make changes to a deployed rule application without interfering with work they are doing on an upcoming release
- Merge and diff between releases

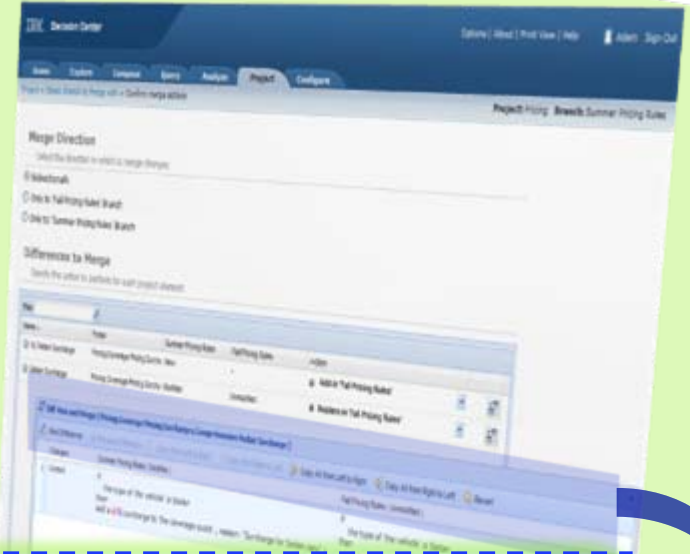


*Easily implement changes in distinct versions and better control how to merge them across different releases*

# Multiple release management visual support

*Improving ease and confidence of managing changes*

- Detailed **side-by-side graphical** difference highlights between releases
- **Multi-directional** merge from one release to another



Previous Difference | Copy from Left to Right | Copy from Right to Left | **Copy All from Left to Right** | Copy All from Right to Left

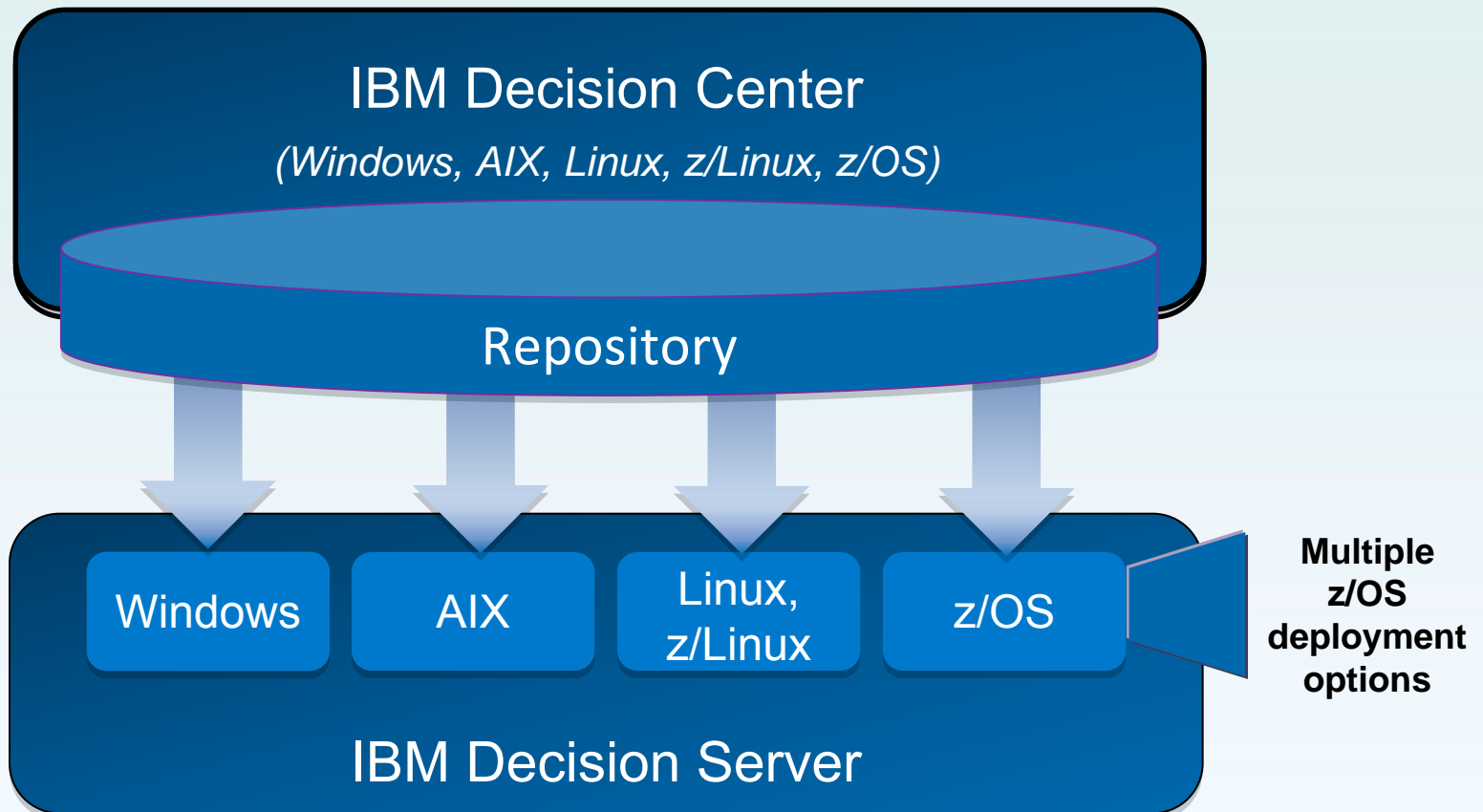
Summer Pricing Rules ( Modified )	Fall Pricing Rules ( Unmodified )
if the type of the vehicle' is Sedan then add a <b>4 %</b> surcharge to 'the coverage quote' , reason: "Surcharge for Sedan cars" ;	if the type of 'the vehicle' is Sedan then add a <b>3%</b> surcharge to 'the coverage

*Visually see and understand differences across releases and decide accordingly on how to perform merge between them*

# IBM Operational Decision Manager

*Runtime support*

Leverage a wide range of platforms to meet the varying needs of enterprise architectures



# Operational Decision Manager for z/OS

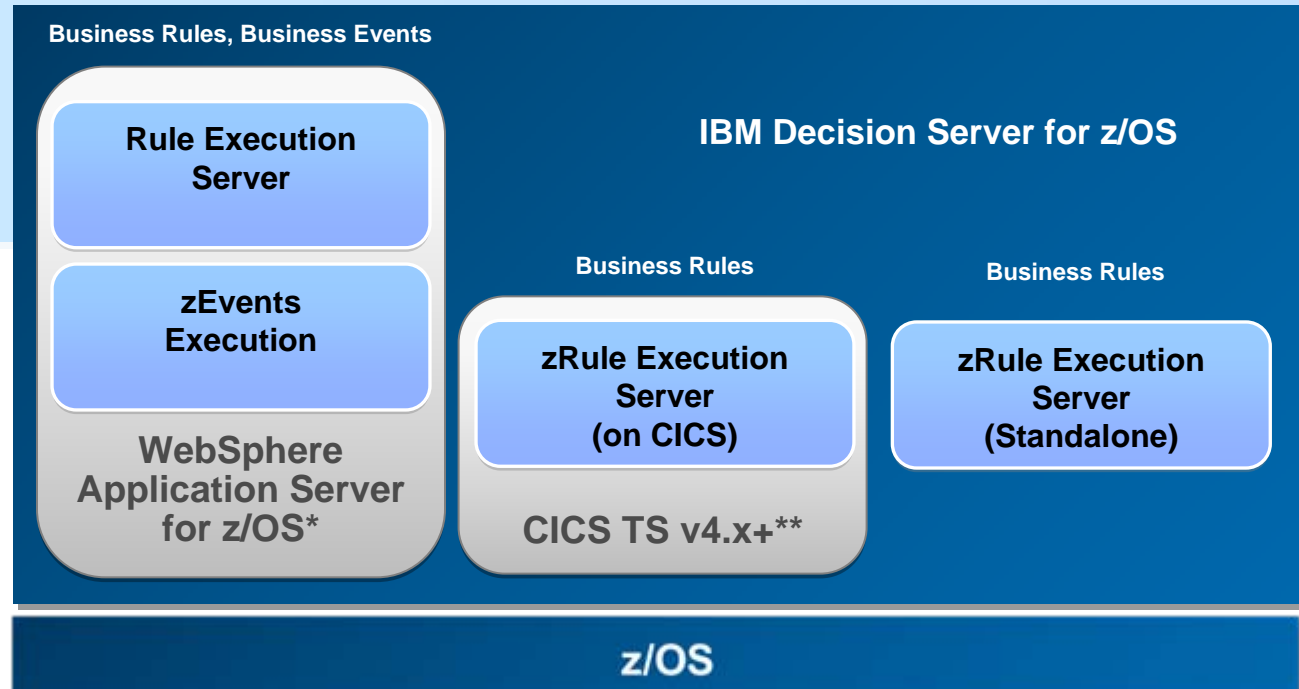
## Runtime options

Decisions can be invoked from existing CICS and IMS applications

Runtime support for COBOL data types

Flexible runtime deployment to fit any System z environment:

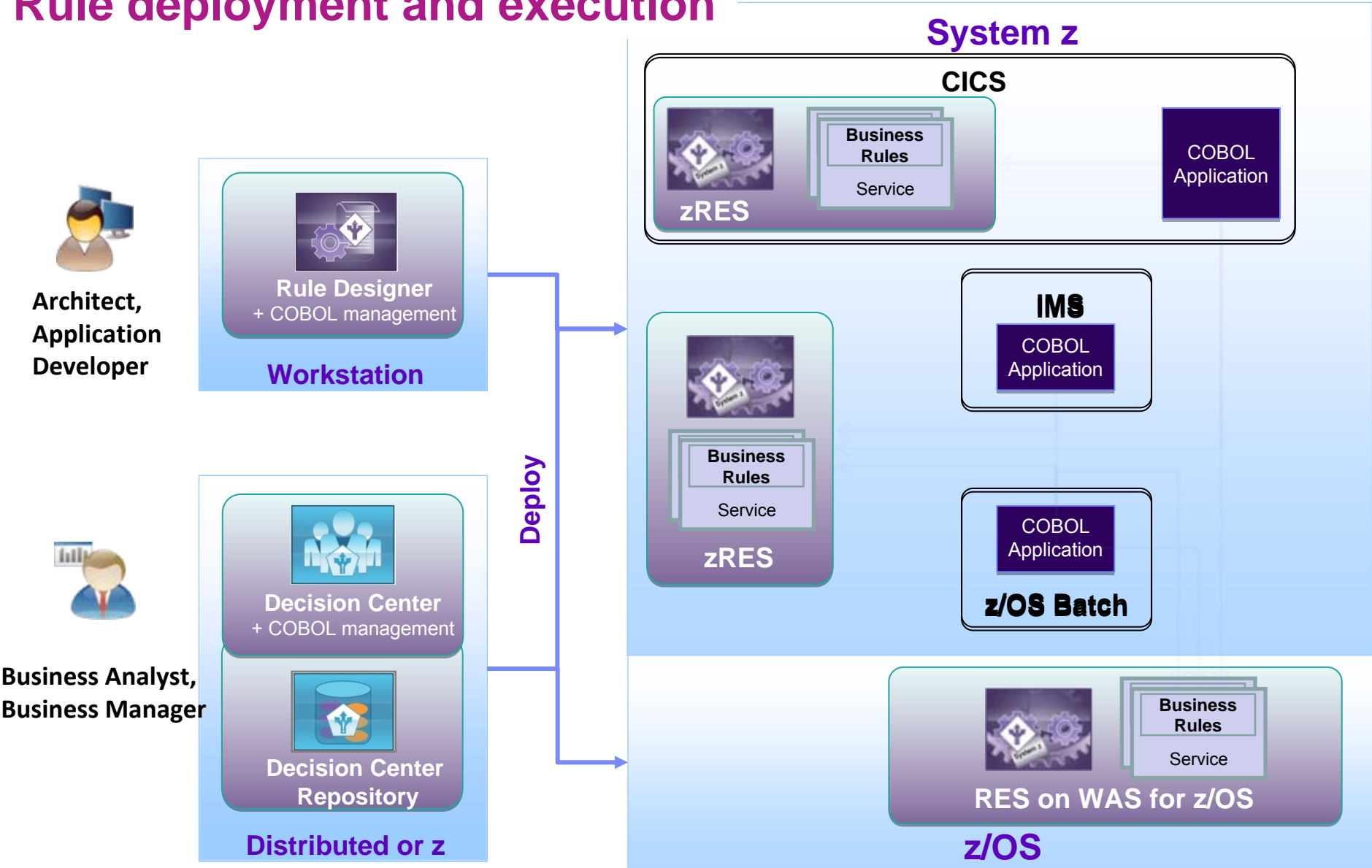
- Deployed on WebSphere Application Server for z/OS
- Deployed on CICS TS 4.x and above (JVM server environment)
- Deployed standalone to z/OS



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

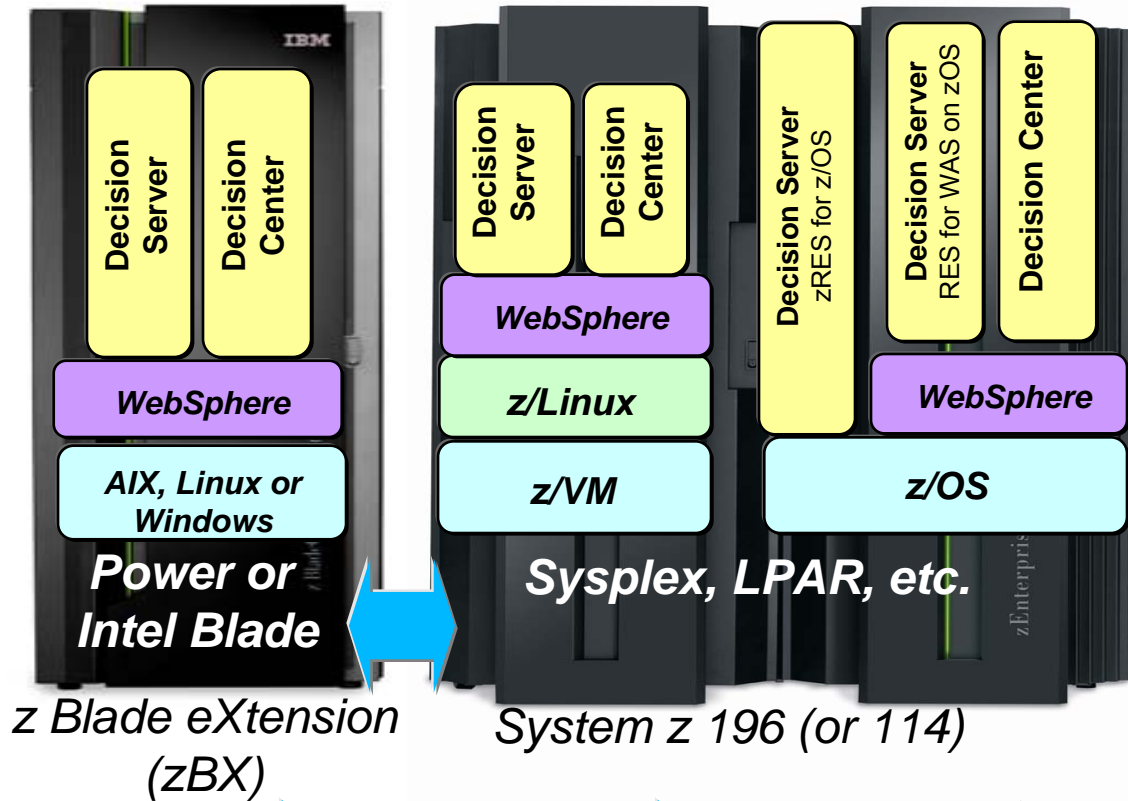
\*\* CICS Transaction Server licenses purchased separately

# Rule deployment and execution





# Deployment options for IBM ODM on System z



**Security**

**Safe**

**Safer**

**Safest**

**Application/Data Access**

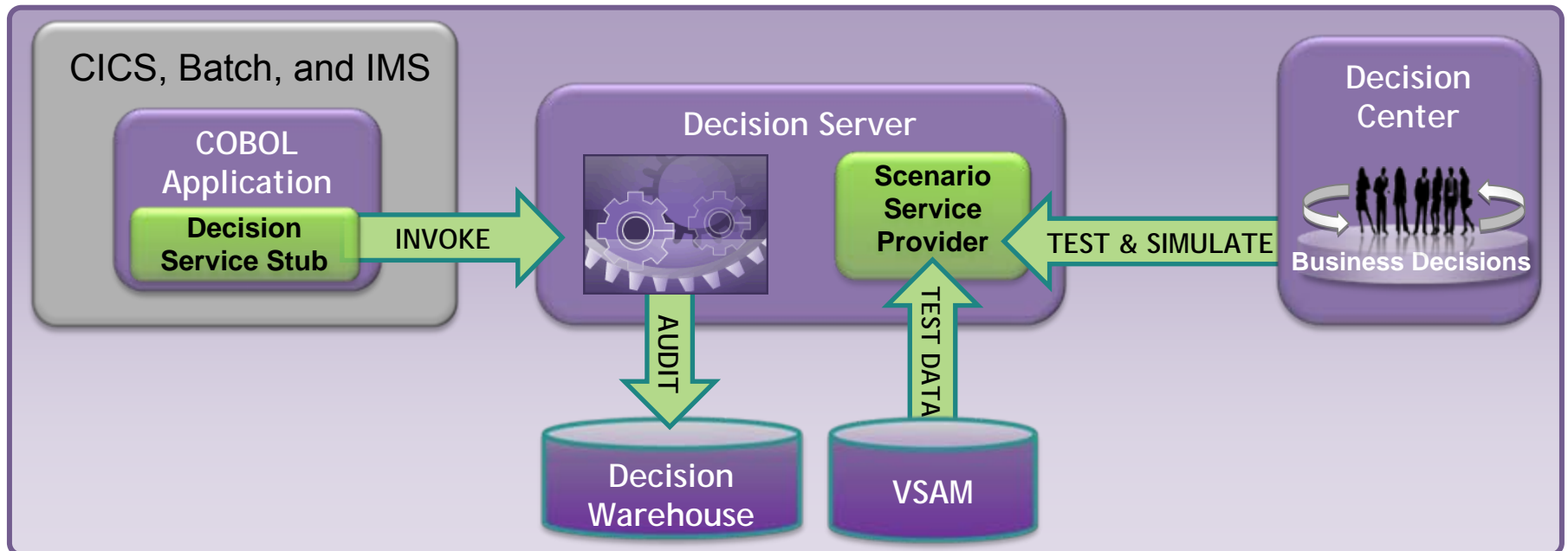
**Fast**

**Faster**

**Fastest**

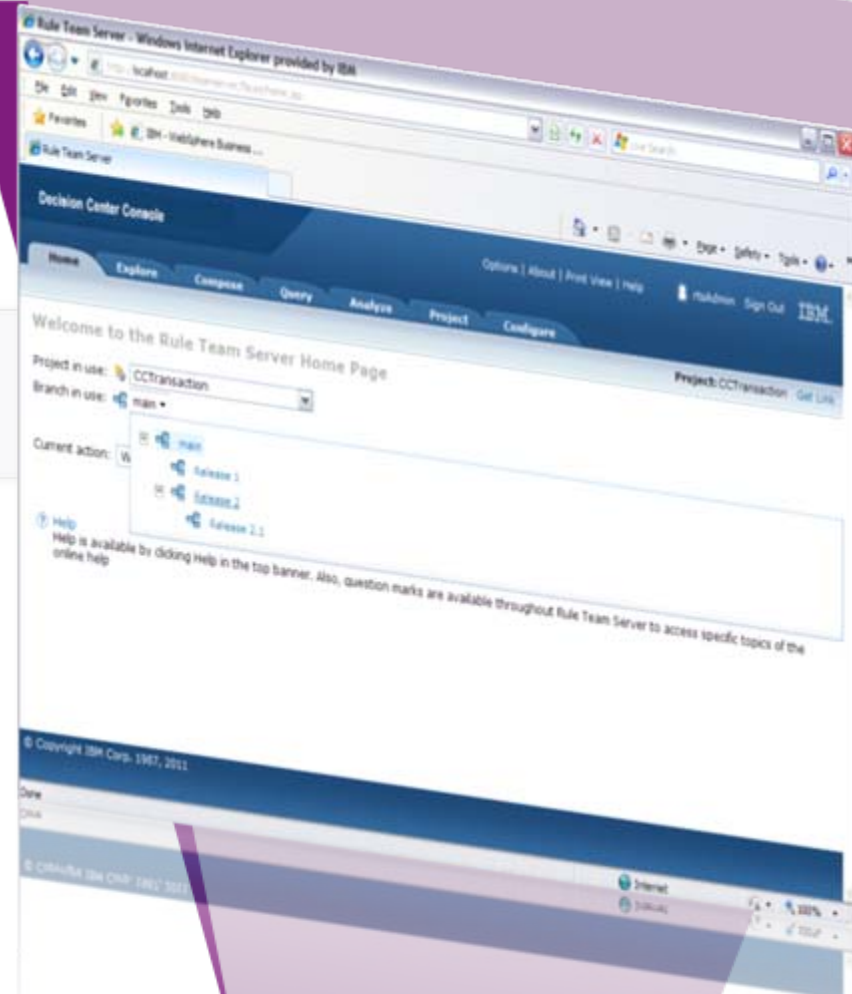
## Testing, simulation, and decision audit support for z/OS

- Run decision tests and simulations from Decision Center in
  - zRule Execution Server – Stand Alone
  - Rule Execution Server on WAS for z/OS
- Supplied sample for accessing test data from z/OS VSAM file
- Decision audit support available through Decision Warehouse capabilities
  - Support for Decision Warehouse in all z/OS Rule Execution Server deployment options



# The value of this solution for your z/OS applications

- IBM Operational Decision Manager enables organizations in every industry to make their business rules and business decisions clear, consistent and **expressed in business language** to be able to change when the business needs.
- Transformation or **modernization** of z/OS applications
- Ability to **react to change** (timely reaction to market and competitive changes)
- Overcome IT and Business mis-alignment – keep up and service **business requests**
- Eliminate resource drain on application maintenance – **reuse of business decisions** across applications and platforms



# Why modernize with decision management on z and why now?

## Modernization issues to resolve

1. **Consolidation of COBOL application portfolio**
2. **Be able to react to changes requested by business in days, not months.**
3. **Sharing rules across platform**
4. **Running parallel**

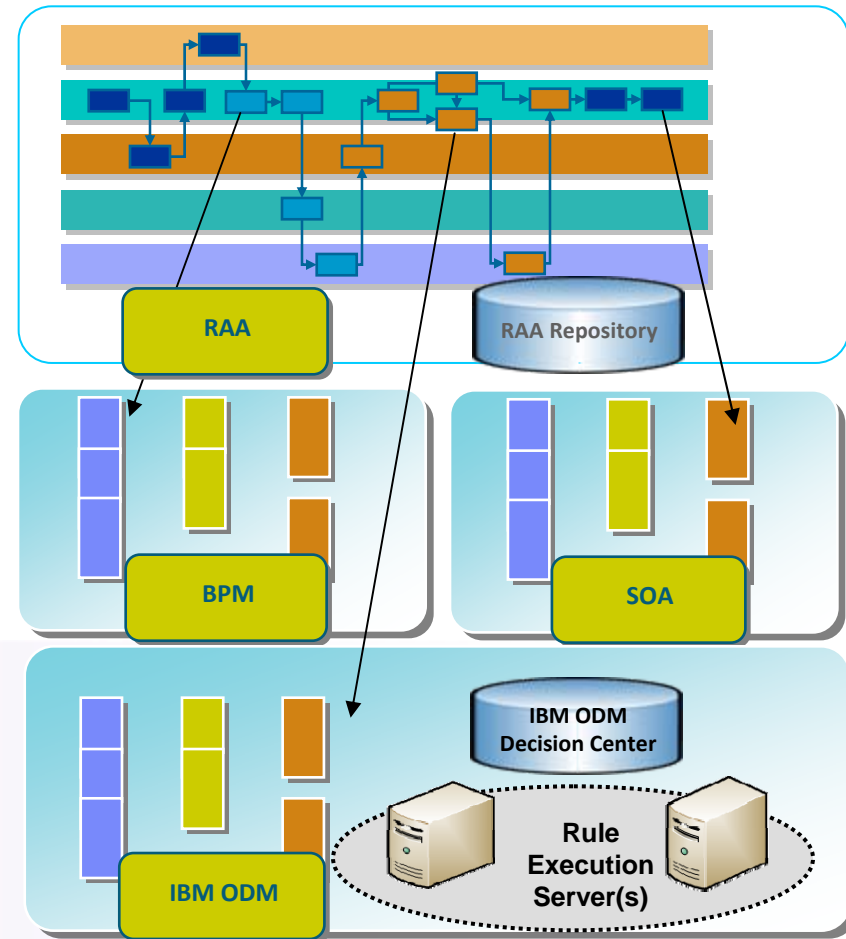
## Benefits of a BRMS

- ✓ **Cost savings**
  - More effective application development & maintenance with less business risk
  - Consolidation/restructure of existing applications, saving hardware & resources
  - Rule testing and simulation to ensure accuracy of changes prior to deployment which will minimize re-work
- ✓ **Changing ratio of source inventory to development skills**
  - Forcing need for formal processes with an on line electronic repository
- ✓ **Improved agility**
  - Decouple development and business rule lifecycles
  - New rules to enforce new business policies to multiple applications
- ✓ **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

# Rational Asset Analyzer with Rule Mining

## *Simplify identification of candidate business rules*

- For customers who ...
  - Want to be more responsive in supporting an organizations or business units requirements for change
  - Need to get a detailed, complete view of existing business processing and how it fits into today's architectures
- Business Value
  - Improve developer productivity
  - Lower development, training, and mining costs
  - Increase speed and completeness of modernization
- Key RAA Capabilities
  - Visualization of application architectures, programs, data, and their interactions
  - Powerful search and tracing via impact analysis
- Highlights of RAA with rule mining functionality
  - Identification of terms and synonyms
  - Search across portfolios for direct and indirect usage of terms and rules
  - Identify and persist coding constructs that are candidate rules
  - Ability to author structure rules with the IBM Operational Decision Manager rule editors for import to IBM Operational Decision Manager (IBM ODM)





## Agenda

- ▶ Operational Decisions: the why and the what
- ▶ IBM Operational Decision Manager: the how
- ▶ Synergy with decision management
- ▶ Adoption
- ▶ Operational Decision Manager use cases
- ▶ Next steps

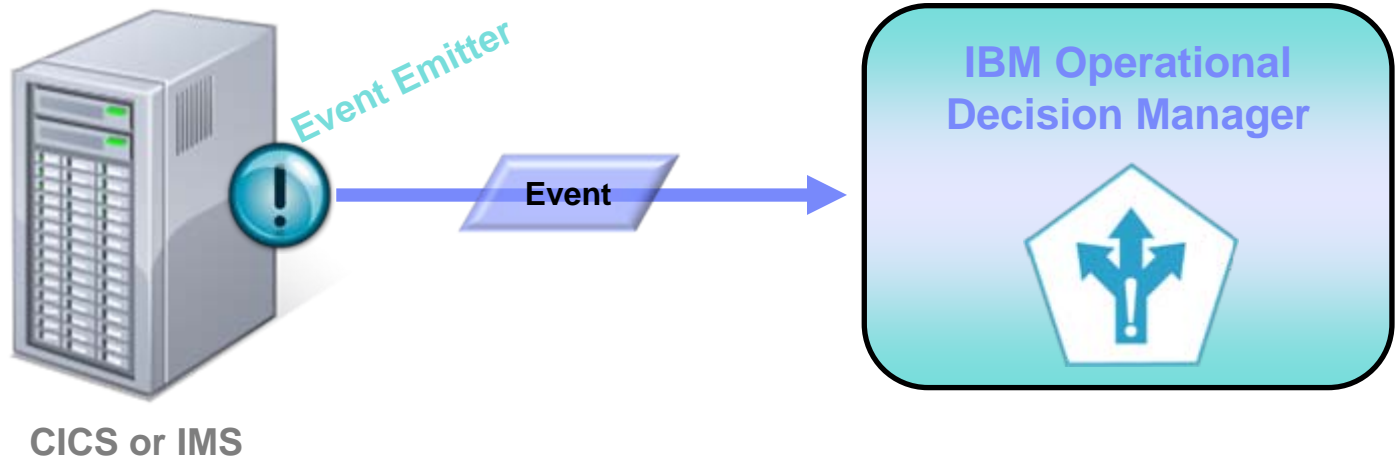


## Connectivity and integration

- ✓ **CICS**
- ✓ **IMS**
- ✓ **IBM Business Process Manager**
- ✓ **IBM Business Monitor**
- ✓ **Cognos BI**
- ✓ **Smarter Commerce**
- ✓ **Enterprise Service Bus**
- ✓ **Message Broker**
- ✓ **Analytical decision management (SPSS)**
- ✓ **InfoSphere Streams**
- ✓ **Unica**
- ✓ **Tivoli**
- ✓ **Event and Action Connectors**

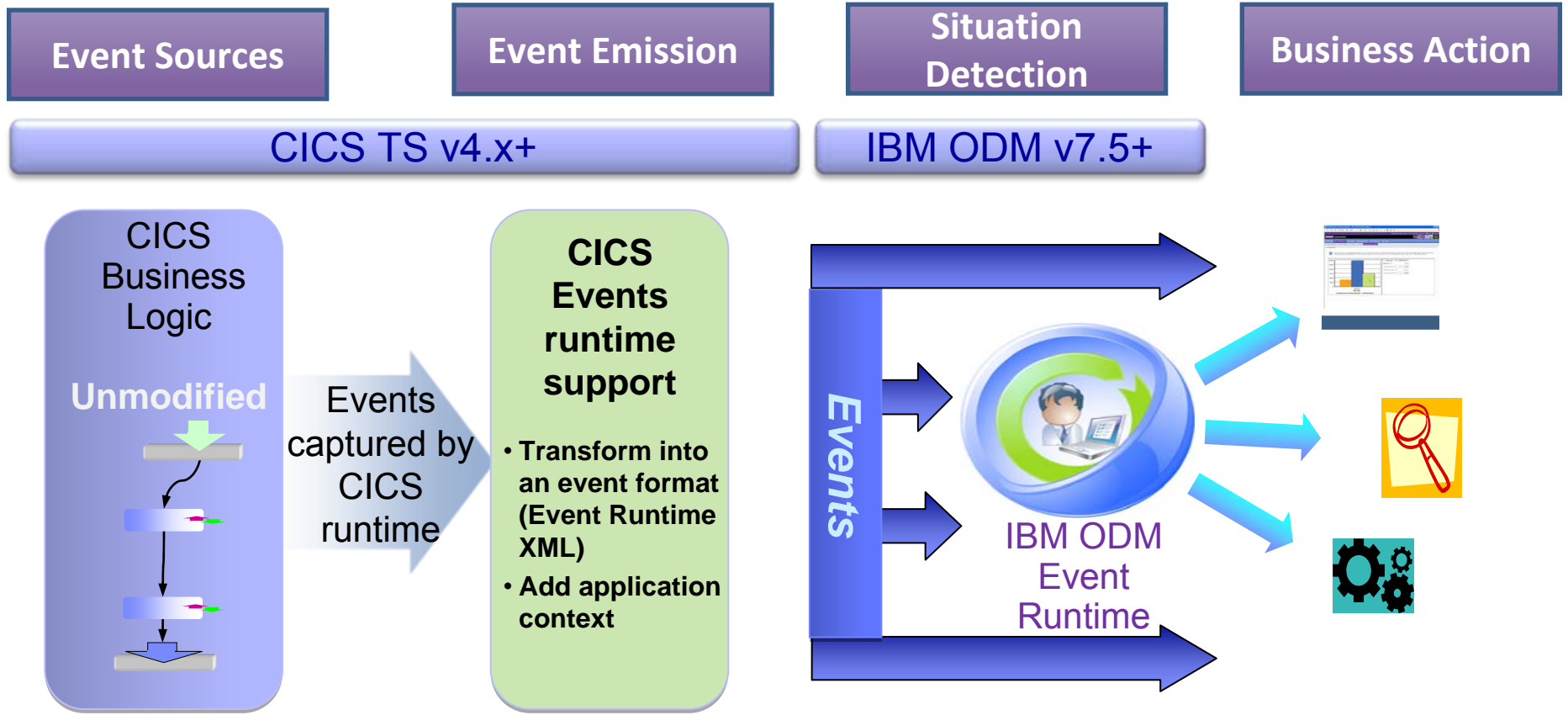
# CICS and IMS

*With a minor amount of configuration (not coding), events can be automatically generated to IBM Operational Decision Manager*





# Business event emission from CICS Transaction Server to IBM ODM

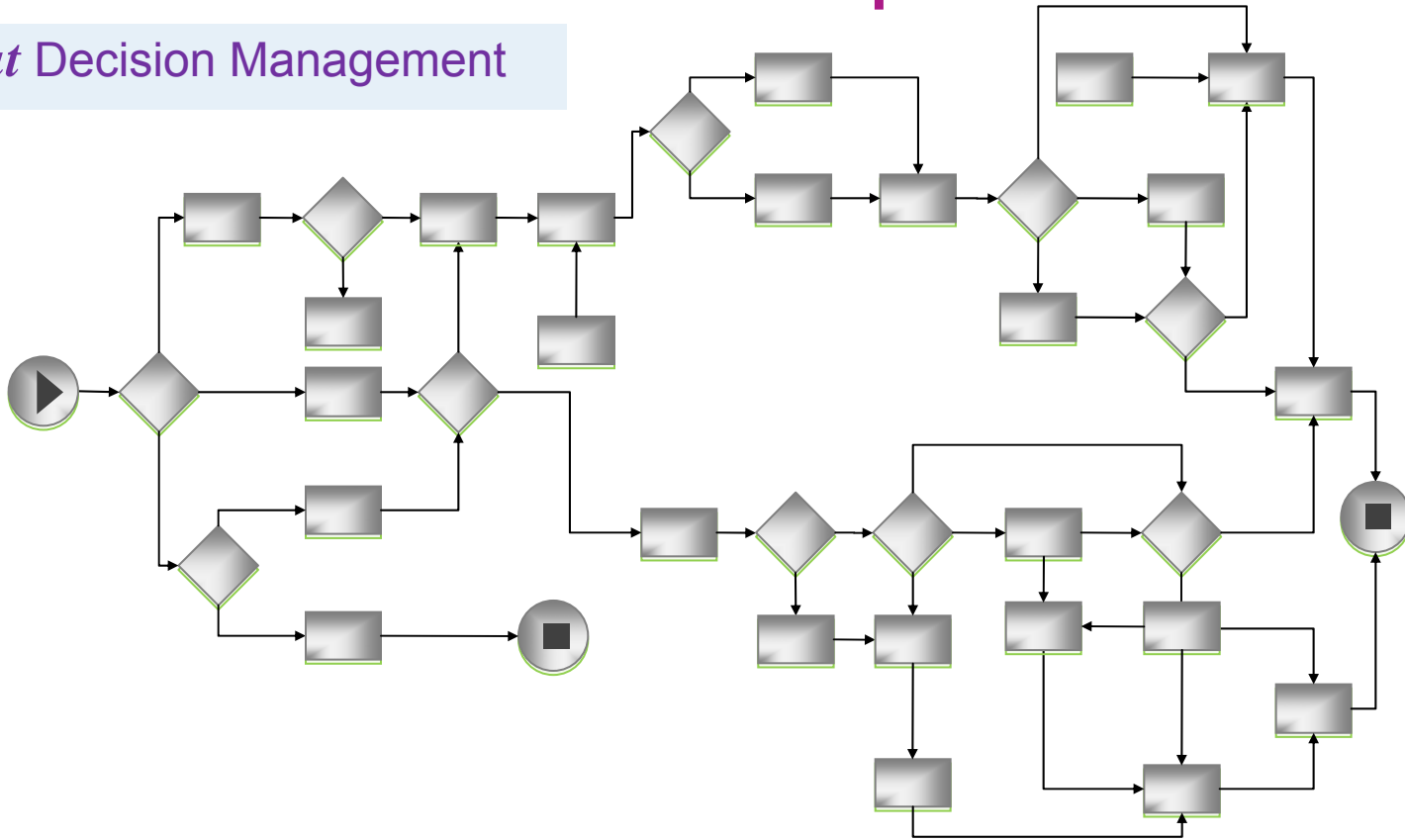


***CICS Events with IBM ODM help you to***

- ***Observe business applications***
- ***Recognize interesting or suspicious situations***
- ***Drive new processing***

# Decisions are often locked within processes

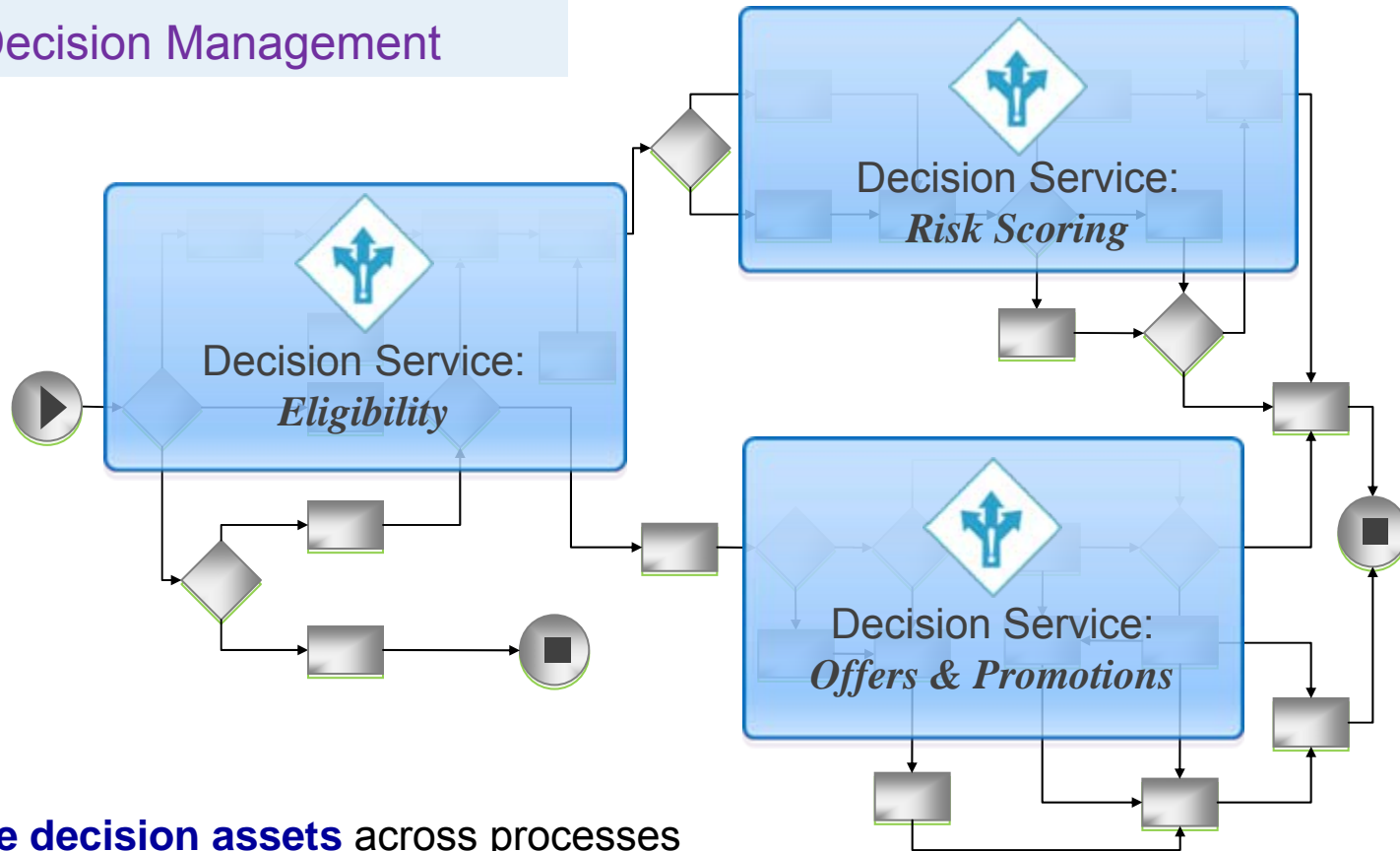
*Without* Decision Management



- 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

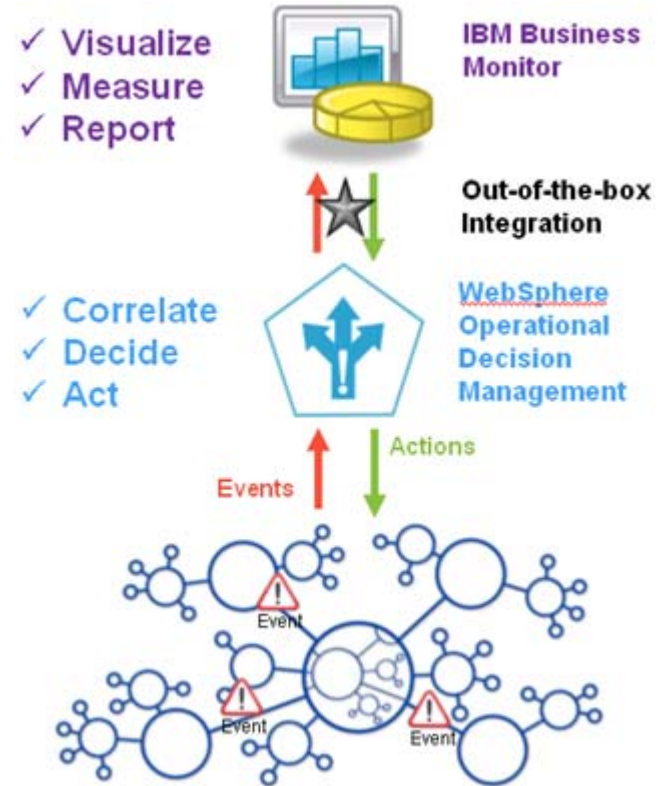
*With* Decision Management



- **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

# IBM Business Monitor provides additional visibility and insight

- Provides richer, more graphical reporting capabilities than what is available in IBM ODM
  - Rule execution data can be used to provide *business-level context*
- Native integration for sending and receiving of events and messages
- Execution data can be analyzed for trends – is following up with a customer producing real revenue or is it a waste of time?
- Allows rule execution data to be combined with other business system data for a consolidated view of metrics
- Additional capabilities for alerts or actions when a business situation occurs or is about to occur



Alert Manager							
Alert Name	Description	Owner	<input checked="" type="checkbox"/> Dashboard Alert	<input type="checkbox"/> Cell Phone	<input type="checkbox"/> E-mail	<input type="checkbox"/> Pager	Actions
Total loan amount too high	Total loan amount more than 5 million	admin	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



## Agenda

- ▶ Operational Decisions: the why and the what
- ▶ IBM Operational Decision Manager: the how
  - ▶ Synergy with decision management
- ▶ Adoption
  - ▶ Operational Decision Manager use cases
  - ▶ Next steps

## How can IBM ODM add value to your solution?

### ■ Are you a good candidate?

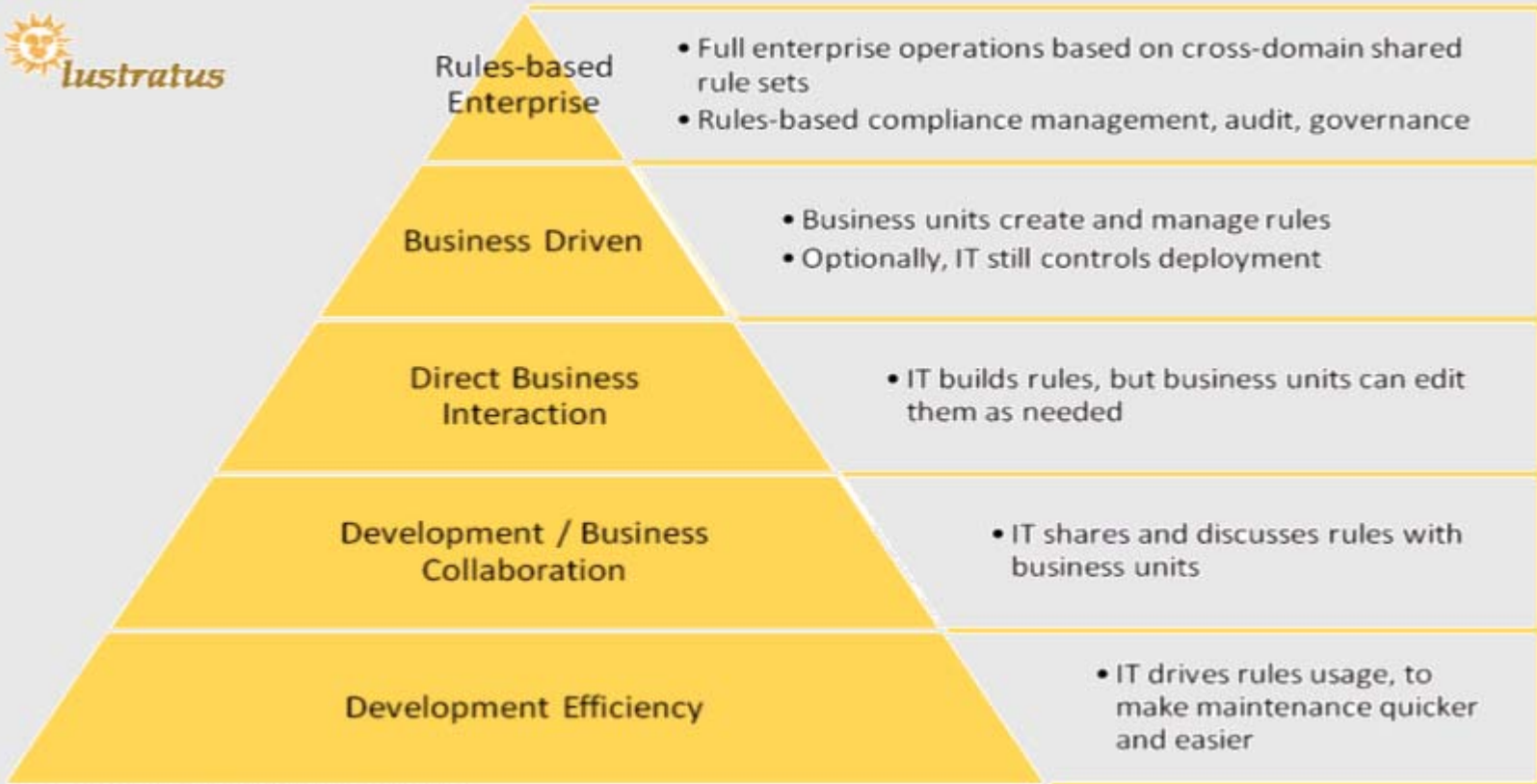
- Existing CICS, IMS, Batch and WAS z/OS Customers as well as existing JRules Distributed Customers

### ■ Questions to ask yourself...

- Are you able to quickly make the changes, that are required by the market, competition, and regulatory conditions, to your z/OS applications?
- Could your company benefit from having a central place to manage the decision logic (rules) for both business analysts and IT developers to facilitate rapid change and adaptation?
- How confident are you that the business policies you have in your system actually reflect your business needs? And that you are compliant with current regulations?
- Do you have the ability to reuse your existing rules assets to assemble and reconfigure applications rapidly so you can meet current and future requirements?



# Review of a business rule maturity model



Source: The Lustratus BRMS Maturity Model



## Agenda

- ▶ Operational Decisions: the why and the what
- ▶ IBM Operational Decision Manager: the how
  - ▶ Synergy with decision management
- ▶ Adoption
- ▶ Operational Decision Manager use cases
- ▶ Next steps



# IBM Operational Decision Manager helps solve many common business problems

*Identify opportunities to increase profitability*



- Personalized Product Recommendations
- Promotions & Loyalty Programs
- Automated Sales Commissioning

*Enforce consistency to ensure compliance*



- Claims Validation
- Payment Authorization
- Eligibility Determination

*Leverage information to manage risk*



- Underwriting and Credit
- Border Control
- Physical Infrastructure Monitoring

# Visa Europe Unifies Payments Across 36 Countries

*Scalable, automated payment authorization and settlement system*

## *Challenge:*

- Complex European market with multiple currencies
- Payment authorization & settlement across 36 countries
- Regulatory requirement to unify payments across countries

## *Benefits:*

- 3x faster time-to-market
- 25% cost reduction to maintain business logic
- Increased flexibility and responsiveness with business users managing the rules

## Decision Management Solution

- *Financial payments authorization & settlement system*
- *System handles 30,000 rules and 500 transaction types for 4,000 institutions*

*“Within 13 months we’ve made 60 rule changes... What [the system] gives us is tools that can put key capabilities into the hands of users. They become an integral part of the process, rather than mere consumers of it. That’s a tremendously powerful concept...”*

*~ Justin Snoxall, VP, Head of Development Services, Visa Europe*

# HealthNow Speeds Up Member Enrollment

*Speed to market gains of over 50% to roll out new programs*

## Challenge:

- Respond quickly to regulatory mandates
- Increase efficiency by streamlining internal processes
- Address growing complexity in healthcare

## Benefits:

- Reduce enrollment time and administrative costs
- Increased speed to market by 50%
- Greater consistency from externalized decision logic and process visibility

## BPM and Decision Management Solution

- *Member enrollment process to automate eligibility and coverage for new member applications*
- *Comprehensive audit trail of rules and decisions*

*“Providing innovative products and services while improving the availability, quality, and cost of healthcare is central to our corporate vision. WebSphere Process Server and ILOG JRules have enabled us to automate, optimize and monitor critical business decisions within our core processes.”*

*~ John Walsh, Chief Enterprise Architect, HealthNow New York Inc.*

# Business Events and Tivoli Success Story: Large U.S. Utility

*Streamlining operations and improving service*



**Challenge:** Maximizing investment in infrastructure modernization to connect silo operations and improve customer service

## What's smart?

- Intelligent Utility Network from IBM
- Phased implementation of advanced meter management
- Integrated network management using event correlation across grid and IT
- Coordinated real-time information flows for timely cross-organizational response

## Smarter Business Outcomes

- Streamlined operations
- Enabled new products and services to retail electric providers
- Improved transparency for effective communication and service to customers



## Agenda

- ▶ Operational Decisions: the why and the what
- ▶ IBM Operational Decision Manager: the how
  - ▶ Synergy with decision management
- ▶ Adoption
- ▶ Operational Decision Manager use cases
- ▶ Next steps



## Key takeaways

**Adapt** to change with increased speed & agility

*Intuitive natural language for specifying rules and events in a collaborative environment*

**Align** business units and IT with enhanced visibility & governance

*Integrated repository for reliable versioning and change control*

**Act** in real-time with high performance & reliability

*Robust runtime for mission-critical deployment*

IBM Operational Decision Manager

*Your business decisions.*

*Made by your business experts.*

*Delivered in real-time by technology.*

# Why IBM for Operational Decision Management?



## Unparalleled Expertise and Investment

- Expert consulting and implementation services for **fast realization** of business value
- Industry expertise to **customize solutions** for your specific industry

## Largest Customer Base

- **#1** in Business Rule Management Systems (BRMS) market share according to all leading analysts
- **#1** in Business Process Management (BPM) market share according to all leading analysts



## Strongest Ecosystem and Partner Network

- **800+** Business Partners authorized and certified to support customers
- Strongest global ecosystem including major global and regional system integrators skilled to provide **comprehensive solutions**

## Next steps



### See IBM Operational Decision Manager - *In Action*

- Go to [ibm.com/operational-decision-management/scenarios](http://ibm.com/operational-decision-management/scenarios) to see and hear customer videos and podcasts
- Schedule an online custom demo

### Learn what's possible - *Discovery Workshop*

On-site [workshop](#) with business and IT stakeholders to evaluate the applicability of decision management for your project



### Implement a real project in 10 weeks - *Quick Win Pilot*

- Demonstrate immediate value to your LOB end-users with your first 'Quick Win' in 10 weeks
- Accelerate the deployment of decision management using a proven, incremental approach and a [production-ready pilot](#)
- Collaborate with IBM experts on your first win



## Where can I find out more?

- <http://www.ibm.com/operational-decision-management>
  - [IBM Operational Decision Manager for z/OS](#)
- White papers & tech docs
  - [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](#)
- [IBM Operational Decision Management YouTube demo](#)
- [9 day-to-day decisions you can make better with Operational Decision Manager](#)
- [Good Decision! Decision Management blog](#)
- [System z pricing](#)



Thank You

