WebSphere Puts Business in Motion

Respond Quickly with Decision Management

Businesses React to Events

Call to the help desk

Inventory movement

Sale is made

Web site login

- They occur in real-time, not static data from a file or database

- The non-occurrence of an event can be significant

- Patterns or event relationships may exist

Businesses Run on Rules

Commission Payments. Who should get what, and why?

Is this possible fraud?

Is this customer eligible to receive this loan?

Should we offer a special promotion for our best customers?

Claims processing decisions.

Billing. Are there discounts, taxes, S&H?

Inventory movement. Anything need backfill?

Joint account opened might lead to other banking needs?

Toll not paid. Take a photo, ticket, check for other violations, or all of the above?

Utility Spikes may need attention

Incorrect login. How to handle?

Product configuration rules

Quotes requested. How to respond?

Determine if eligibility is met.

Should I do an up-sell/cross-sell offer?

Based on buying patterns, suggest xyz.

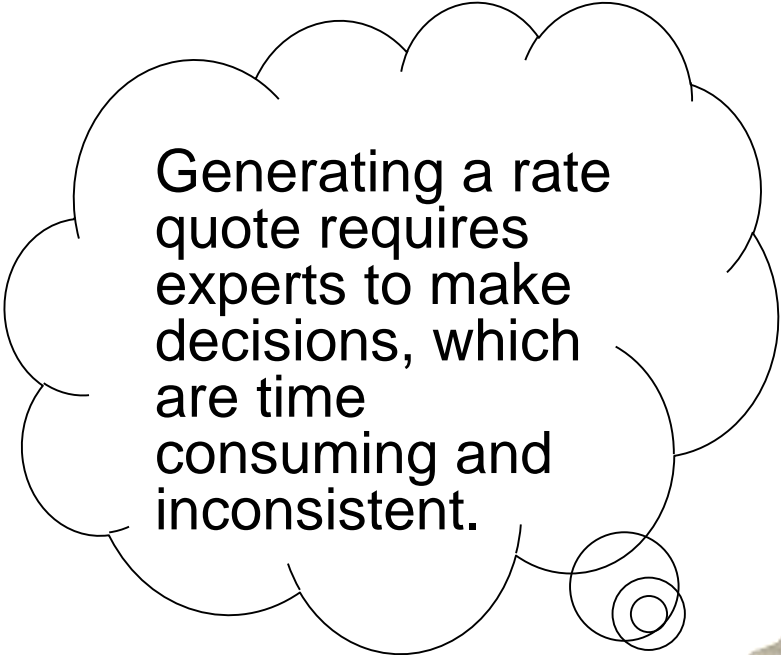**Did the customer fill out the form correctly?**

Order validation for a sale made

Risk assessment. Compute a credit score for this person.

Business Rules and Events can Make Your Business Processes Smarter

Use events to trigger a process for quicker action

Change the process flow based on adaptable rules instead of hard coding them into your application

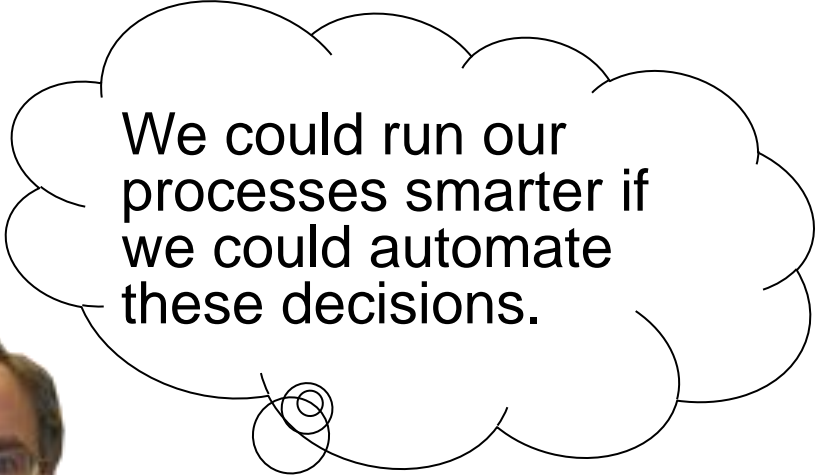Replace a human task with an automated decision for greater speed and quality
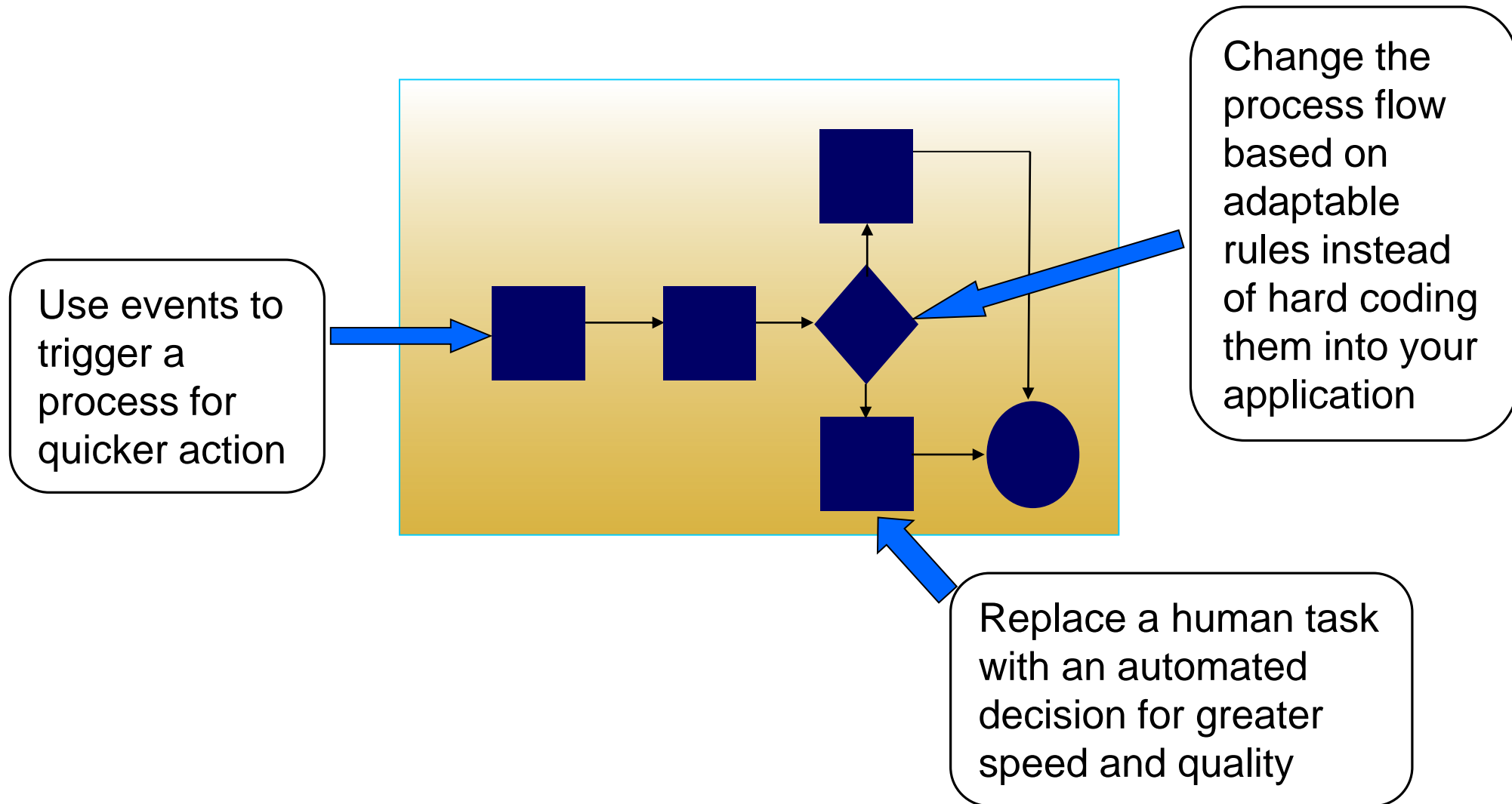
Service Oriented Finance Needs to Make its Processes Smarter

Customers ask for quotes on automobile insurance policies. Service Oriented Finance must decide how much to charge in order to get the business but still make a profit.

Generating a rate quote requires experts to make decisions, which are time consuming and inconsistent.

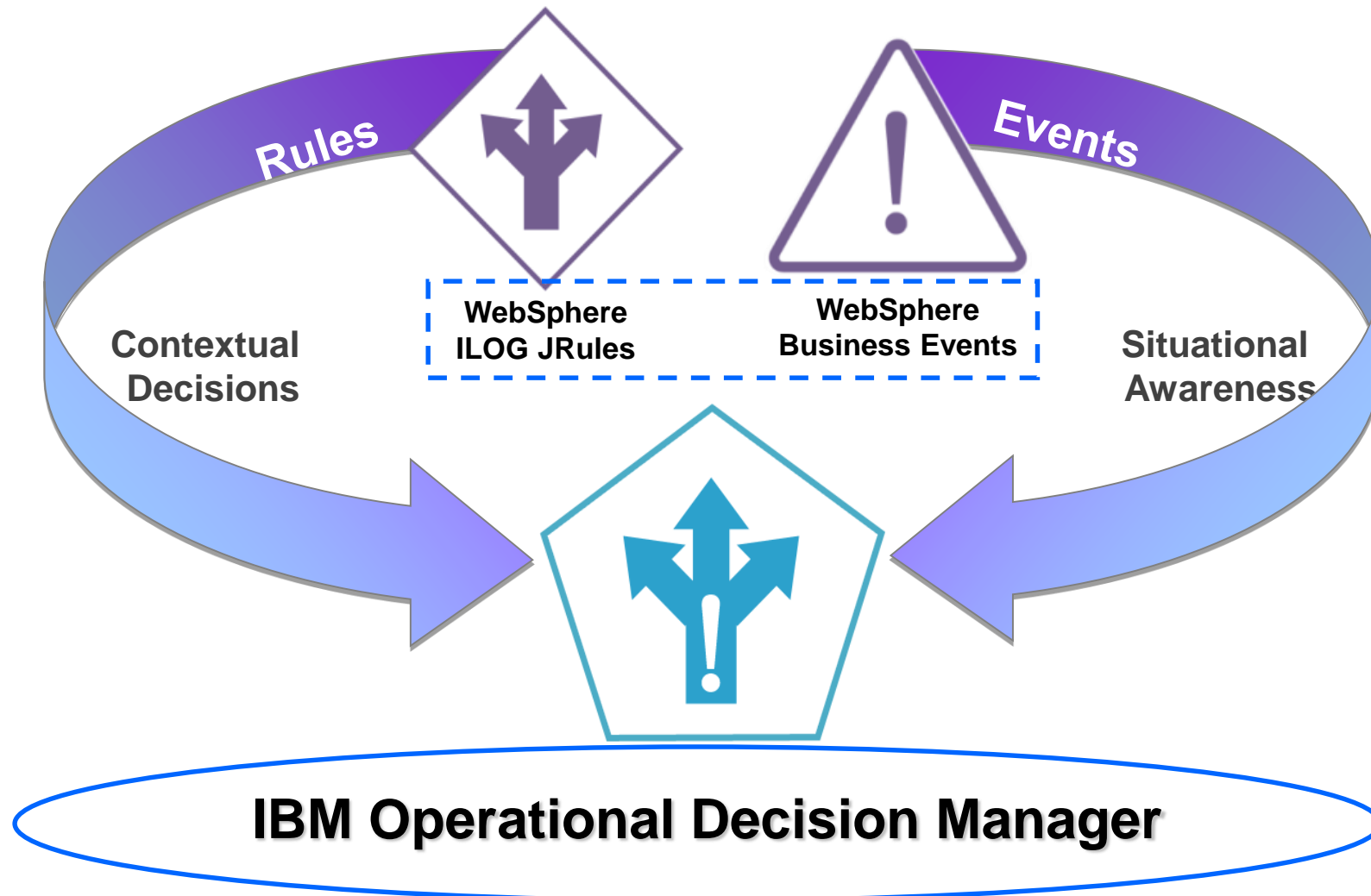We could run our processes smarter if we could automate these decisions.

**Policy
Business Expert**

Automated, Quick Decisions are Smarter

- Personal decision making is time consuming

- Business experts cannot focus on key decisions because they spend their time making less important decisions

- Decision making by non-experts is error prone and inconsistent

- Understanding how a decision was made is often impossible

- Changes to rules requires training for decision makers

- "Human speeds" cannot keep up with the flow of events

Automating decision management is required

IBM Operational Decision Manager Captures Rules and Events

Rules

Events

Contextual Decisions

WebSphere ILOG JRules

WebSphere Business Events

Situational Awareness

IBM Operational Decision Manager

An integrated solution offers a consistent approach to automating business decisions

Can My Decision Management Solution Help Me Detect Possible Fraud or Identity Theft?

Customers sometimes dispute claims, and not all turn out to be valid. I wish we could detect earlier when a dispute might indicate fraud or identity theft.

IBM can discover, filter, and correlate large numbers of events automatically so that you can act on patterns of interest.

Business Expert

IBM

Create Your Event Filters without Programming

A browser-based tool (Decision Center Console) is used for building business event correlations without programming

Natural language event **filter** to only select business events of interest
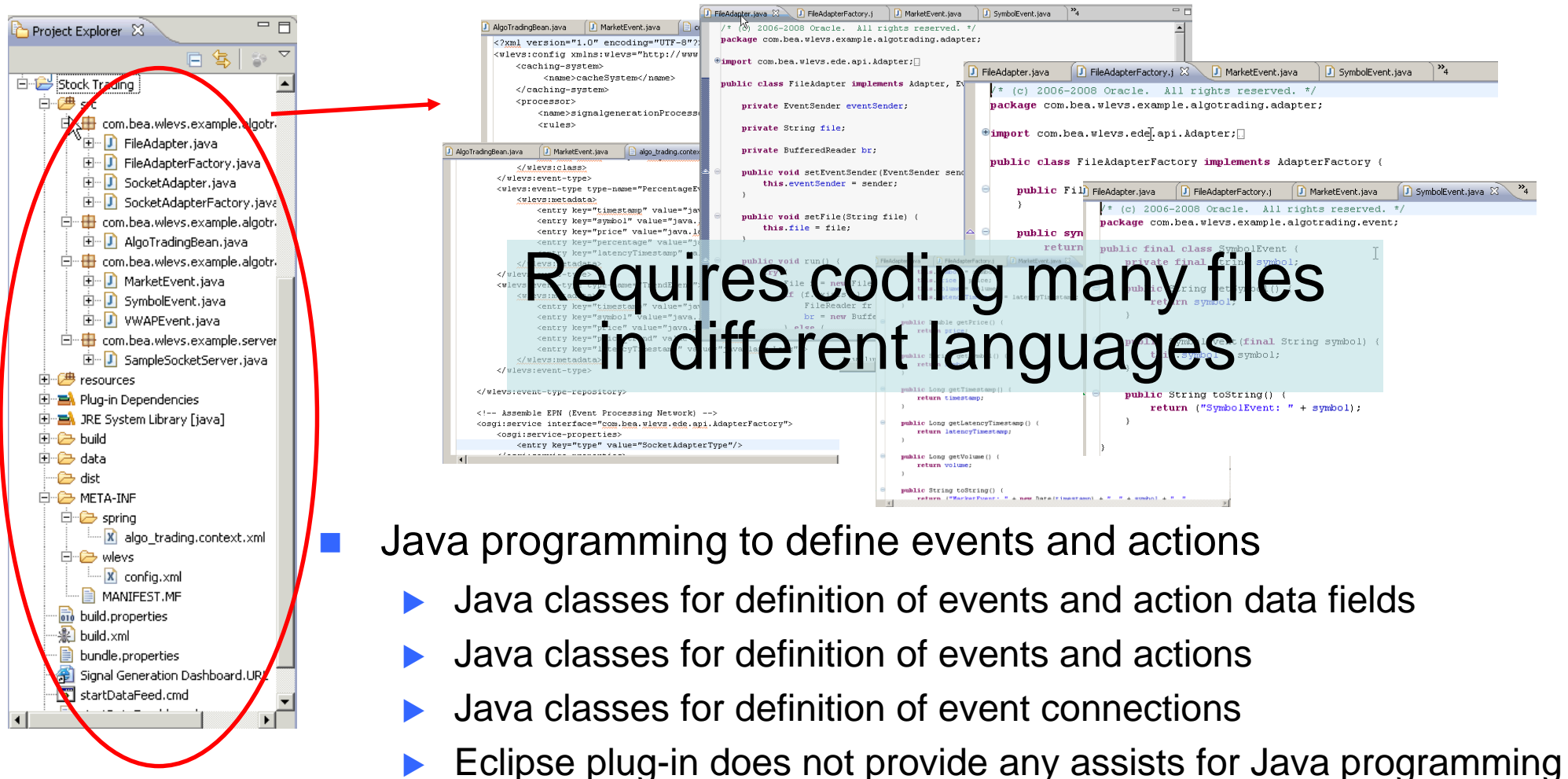
A **correlation event rule** determines if the received event should send an action

When this event is received

Use this filter to ignore unwanted events

Send this action

Oracle Complex Event Processing Requires a Highly Technical Programming Environment

Requires coding many files in different languages

- Java programming to define events and actions
  - Java classes for definition of events and action data fields
  - Java classes for definition of events and actions
  - Java classes for definition of event connections
  - Eclipse plug-in does not provide any assists for Java programming

- CQL (continuous query language) programming for queries on data stream
- EPL (event processing language) programming to define rules for event correlation
- XML programming for event flow to tie adapters and events together

IBM's Business Events are Simpler to Build and Deploy than TIBCO's

	IBM	TIBCO Business Events
Interface	Browser-based interface with customizable dashboards and reports.	IT Eclipse interface. Highly technical IDE and coding makes it complex.
Support	Intuitive graphical interface used by IT or business users.	Used by developers.
Development	Defining logic is point-and-click. Logic is a reusable object.	Logic is a block of code that you edit.
Test	Browser-based point and click testing with easy "what-if" creation.	Testing via command prompt scripts and logs. Complex scripts needed to do "what-if".
Deployment	One-click publish to deploy in seconds.	Multiple Eclipse steps to deploy. Command prompt to compile EAR and redeploy (restart) takes minutes.

Intelligent Operational Decision Management Applies Your Best Expertise to Every Decision

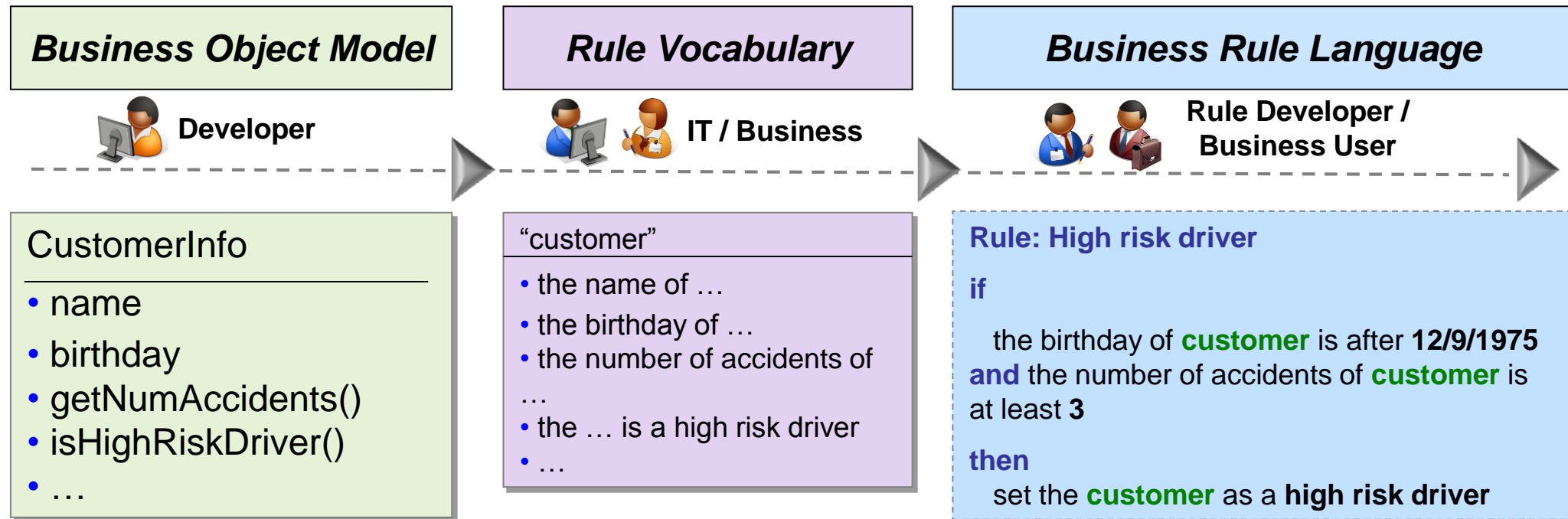How can I capture my team's expertise so that I can make intelligent decisions?

Let me show you how your business experts can easily capture, collaborate, and manage their knowledge with automated rules.
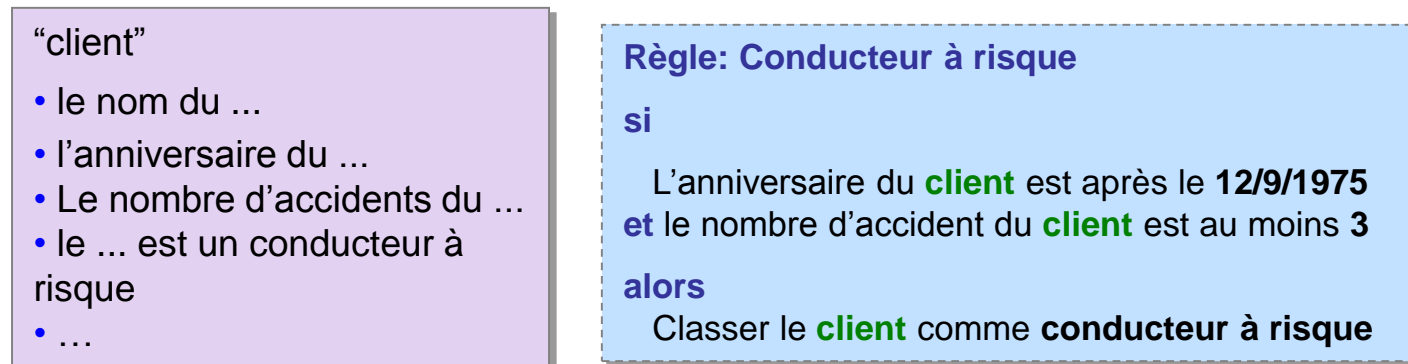
VP Credit Card Services

IBM

Business Experts Can Create Rules Easily Using Natural, Not Technical, Language

Business Object Model

Developer

CustomerInfo

- name
- birthday
- getNumAccidents()
- isHighRiskDriver()
- …

- Automatic rule vocabulary generation
- Vocabulary localization
- Consistent execution language

Rule Vocabulary

IT / Business

"customer"

- the name of …
- the birthday of …
- the number of accidents of …
- the … is a high risk driver
- …

Even work in your native language

"client"

- le nom du ...
- l'anniversaire du ...
- Le nombre d'accidents du ...
- le ... est un conducteur à risque
- …

Business Rule Language

Rule Developer / Business User

Rule: High risk driver

if

   the birthday of **customer** is after **12/9/1975** **and** the number of accidents of **customer** is at least **3**

then

   set the **customer** as a **high risk driver**

Règle: Conducteur à risque

si

   L'anniversaire du **client** est après le **12/9/1975** **et** le nombre d'accident du **client** est au moins **3**

alors

   Classer le **client** comme **conducteur à risque**

Harness the Expertise of Business Experts and IT Experts Through a Shared Rule Environment

All I have to do is capture my expertise!

Business Expert

I'll test the rules and events to ensure that they do what we say they should.

Rule Tester

Decision Center

I'll set up the environment, access events, and specify rule interfaces.

Repository

I'll make sure that the rules and events don't conflict with others. Then I'll deploy them to the decision server.

Administrator

Developer

Decision Server

Business Experts Can Capture and Manage Rules with Little Support from IT

- Business experts take control of creating and updating rules

- Create rules using natural, not technical language (even your own language!)

- Eliminate mis-interpretation of rule requirements

- Make changes in days or weeks instead of months

- IT experts ensure application availability, reliability, and development

Collaborate to Speed Development

- In real time, experts can exchange comments and receive change notifications on rules that interest them

Demo: Easily Create a Business Rule with IBM Operational Decision Manager

- Using a natural language approach, a business user will author a rule in his area of expertise

- The business user will seek feedback on his rule from fellow experts

Business Users Cannot Easily Define Rules with Oracle Business Rules

- A programmer must define rules using Java-like syntax

- No repository for rules, so stakeholders cannot easily collaborate

- Rule authoring and deployment depend on IT developers

- No rule templates to simplify and aid in rule consistency

- No ability to maintain rules off-line in Microsoft Word and Excel

- Separate interfaces with Oracle Complex Event Processing and Oracle Business Rules result in a less productive environment

Mobile Adapter for Worklight and REST API's Enable Decisions that Utilize Mobile Specific Features

```
if the code name of the policy of 'the customer' is "bronze"
and the distance between 'the customer' home and 'current location' is less than 20
then
    add "WARNING: You are at "
    + the distance between 'the customer' home and 'current location' +
    " kms from your home which is less than 20kms, towing is not covered in your policy"  to the location report of 'the report' ;
```

Decisioning on pure mobile data like geo-location

Mobile application behavior managed by business rules

```
OK    Assistance

◻ General Information

WARNING: You are at 11.92 kms from
your home location: Tow services are
not included in your policy (under
20kms from home)

Low battery level detected. Click on
proceed to allow us to organize
assistance for you.

[Proceed]

◻ Recovery

Tow services not included

◻ Policy cover

Your deductible is $1.500

◻ Policy summary
```

```
if
    it is not true that 'the battery status' is plugged and the level of 'the battery status' is less than 10
then
    add "Low battery detected. You will receive an SMS with those instructions so that you can use it later"
    to the alert report of 'the report' ;
```

Rules Need to be Managed Effectively

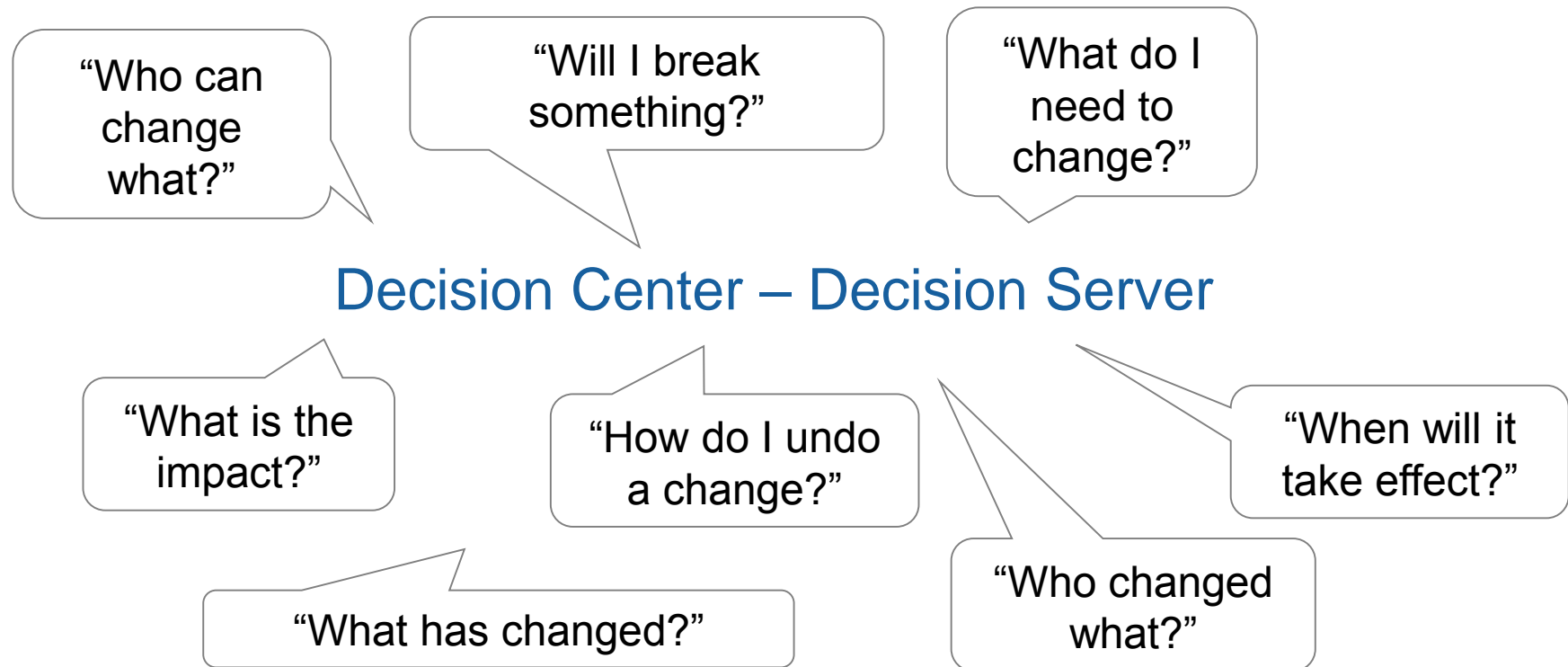How can we manage and check all of our rules when they're developed by different experts?

IBM allows teams to work together safely and effectively.

**Policy
Business Expert**

IBM

With IBM, You can Lower Risk with Safe and Predictable Decision Management

"Who can change what?"

"Will I break something?"

"What do I need to change?"

Decision Center – Decision Server

"What is the impact?"

"How do I undo a change?"

"When will it take effect?"

"What has changed?"

"Who changed what?"

Oracle's technical approach to rule deployment and versioning leaves business users out of rule management. Quality checks are manual and error prone for detecting rule conflicts.

IBM Delivers the First Comprehensive Rule Management Governance Solution on the Market

- Rule author within a Change Activity
- Compare release, activity snapshots
- Compare versions of rules, decision tables

- Test plans, results are documented
- Review and audit using **Timeline** (shown below)

Activity Timeline

Release Timeline

Rule Timeline

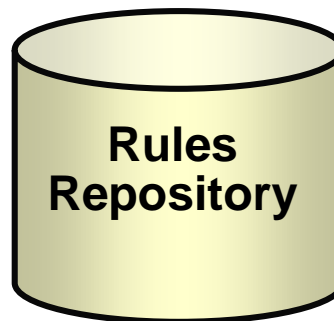# Demo: Ensure that Rules do Not Conflict

- Teams may produce rules that conflict with each other
- IBM Operational Decision Manager automatically can detect rule conflicts so that they can be resolved

Team A

Team B

Rules
Repository

Administrator

I'll check for rule conflicts.

JBoss Drools Provides Limited Rules Testing, Management, and Governance

	IBM	JBoss Drools
Rule Management and Governance	Rulesets are deployed and managed through a central server. Has rules governance.	No centralized ruleset management. No rule service versioning.
Test	Check rule conflicts. Assess business impact of rule changes.	No consistency checking. No simulation support.
Reporting	Document rulesets with detailed reports.	No rule reporting.
Deployment	Deploy rules into production without interrupting rule engine execution	Hot deployment of rule services not recommended in production.

Common Benefits of Decision Management Solutions

- Automation
  - Makes decisions without sick days, vacations, and coffee breaks
  - Reduces labor costs and processing time

- Quality
  - Make decisions with the best expertise
  - Reduce lost revenue due to errors, angry customers

- Focus
  - Allow experts to spend more time on the most difficult decisions
  - Experts spend more time on the most profitable decisions

- Transparency
  - Understand how decisions were made
  - Save time, money, and headaches trying to assign blame

- Consistency
  - Change rules without re-training
  - Eliminates inconsistencies and down-time

You do Not Need Many Rules or Decisions to Justify a Decision Management Solution

- The number of decisions is a key factor. Even a relatively low number of daily decisions can benefit from automation

- Eliminating costly mistakes saves much more money than just reducing the time to make the decision

- The number of rules is only a minor factor in the savings

Cost Breakdown

$20K
$181K
$47K
$498K

Hardware
Software
Design
Implementation

Savings Breakdown

$70K
$22K
$352K
$720K
$648K

Automation
Quality
Focus
Transparency
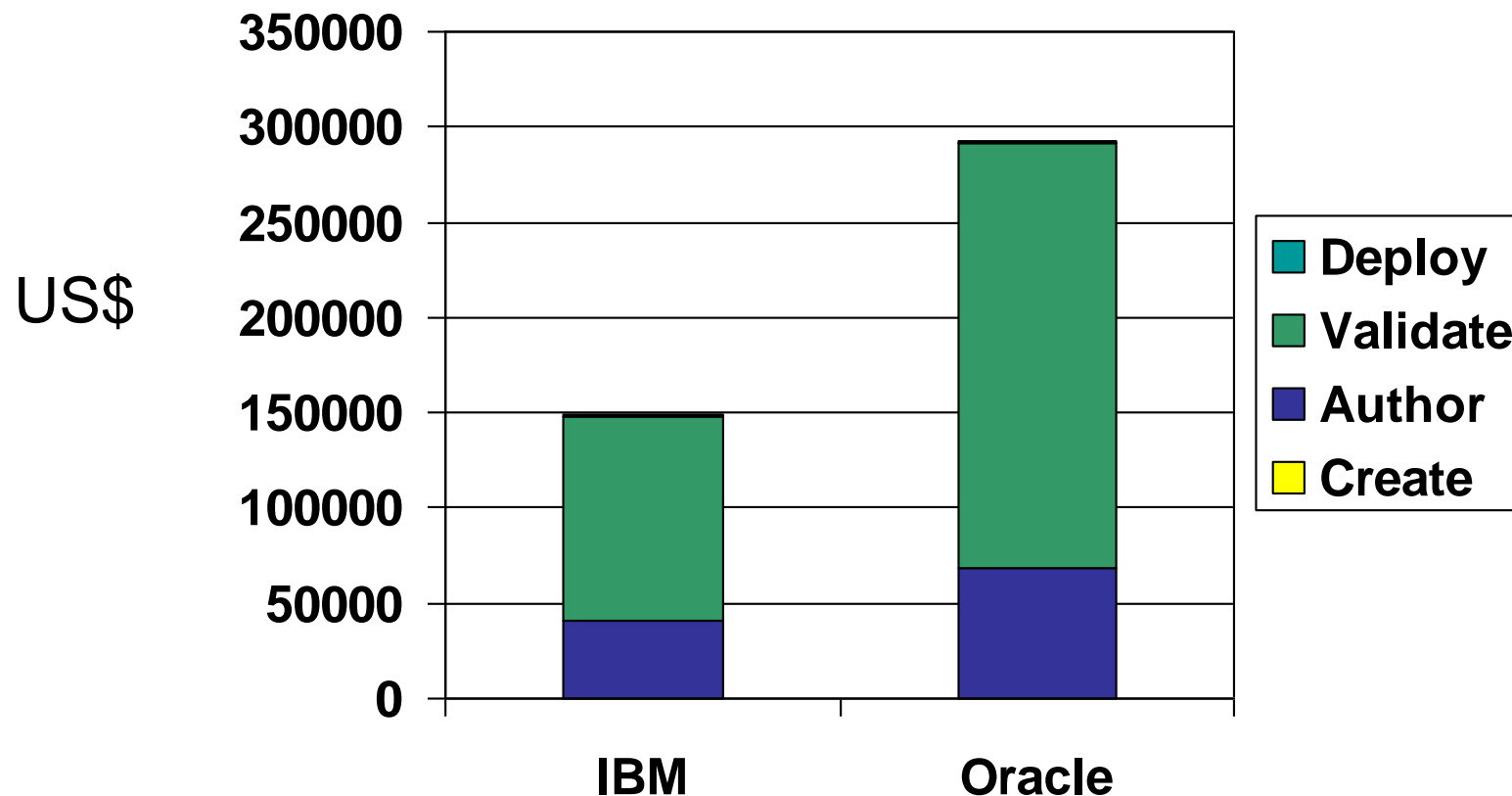Consistency

Respond Quickly With Decision Management

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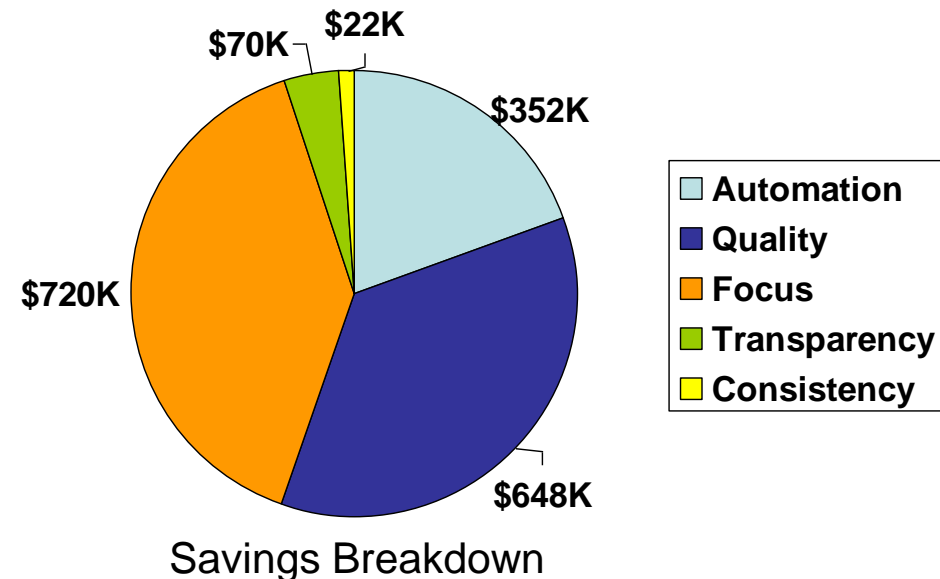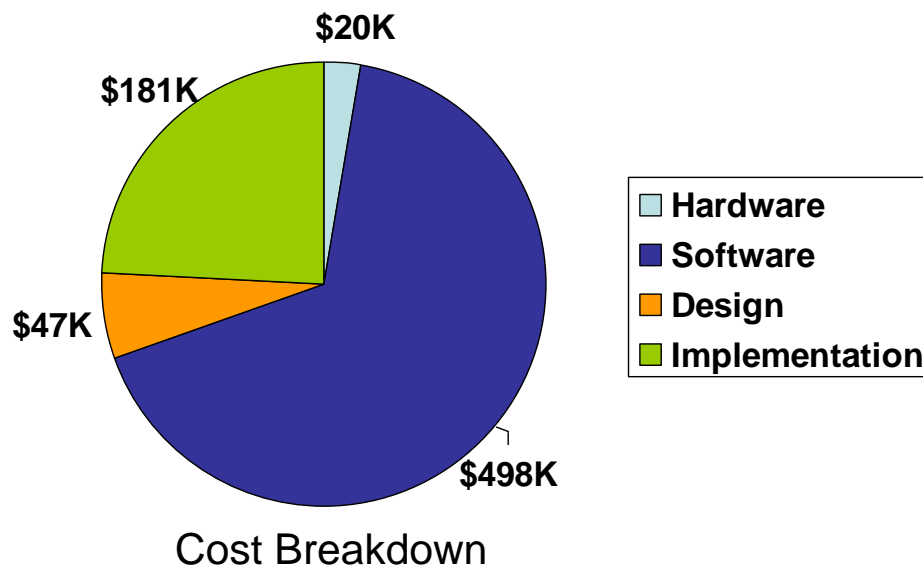
… And the Investment Payback is Fast
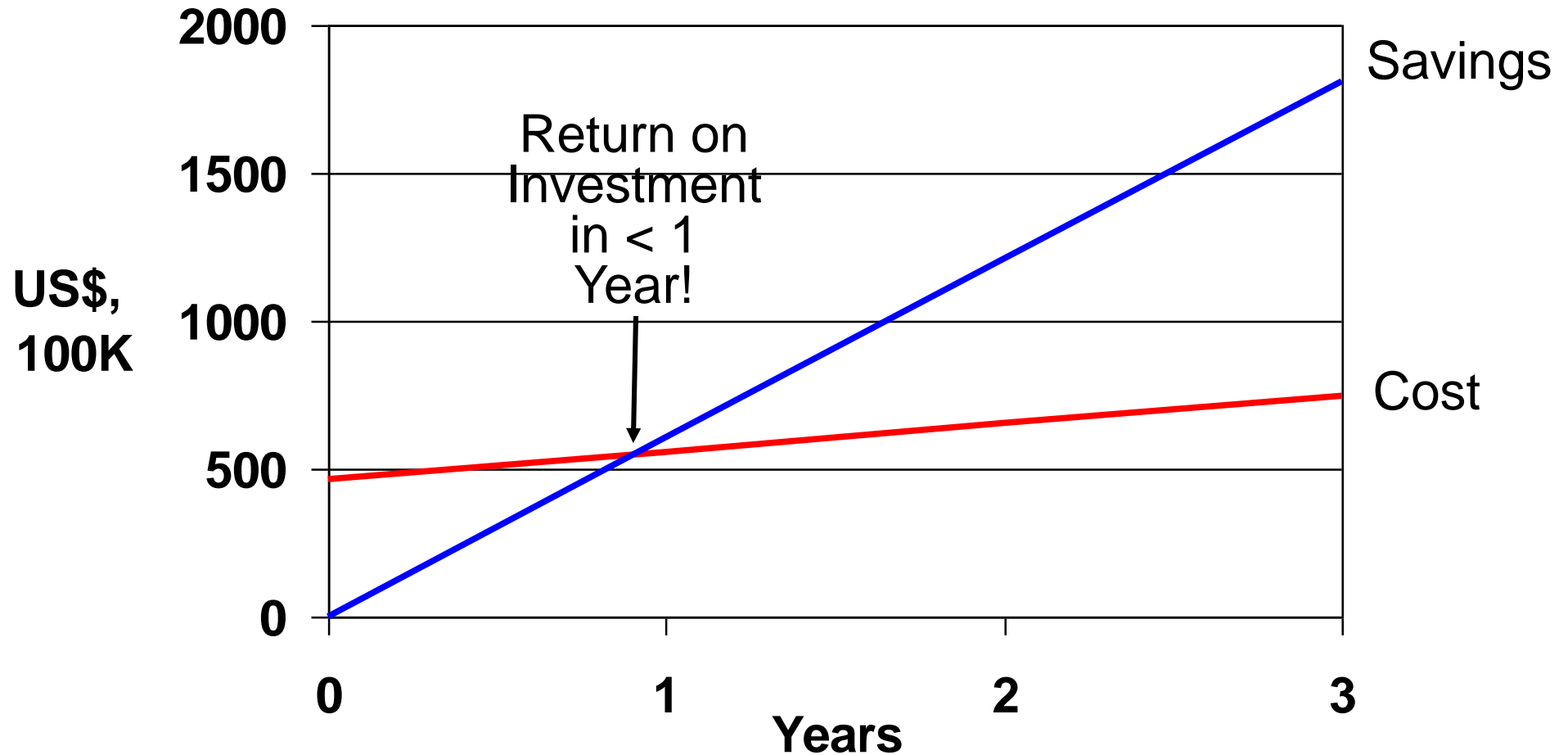
Results based on IBM internal study as of 03/06/2012.
Cost calculations are based on publicly available U.S.
list prices; prices will vary by country.

Developing Rules with IBM Costs Half that of Oracle

- In an internal study, IBM developed a labor cost model capturing actual development times for authoring, testing, deploying and maintaining 1200 rules

- Many IBM benefits like rule management were not quantified, yet IBM still came out ahead

US$

Legend:
- Deploy
- Validate
- Author
- Create

Chart y-axis: 0, 50000, 100000, 150000, 200000, 250000, 300000, 350000

X-axis categories: IBM, Oracle

Respond Quickly With Decision Management

Swiss Customs Streamlines Tariff Calculations for Border Control

The Challenge:

- Facilitate trade while reducing threat of illegal goods
- Enforce customs regulations consistently
- Increase the effectiveness of 2,500 customs officers

The Benefits:

- Scalable system validates 200,000 customs declarations daily
- 96% of declarations are processed automatically
- Customs officers update the rules to keep pace with changing regulations
- Pre-validated customs declarations allow faster, but better, border checks

Why Invest in Decision Management with IBM? Consider Our Triple "A" Rating!

- **Adapt** to rapid change
  - ▶ Common business language for line of business to quickly improve decisions without waiting on IT
  - ▶ Unified environment to manage rule and event definitions
  - ▶ Hot deployment accelerates change implementations

- **Align** across Business and IT
  - ▶ Non-technical decision language improves communication and provides visibility across the business
  - ▶ Centralized repository for team collaboration
  - ▶ Runs on various platforms, including natively on z/OS for the mainframe
  - ▶ Intuitive testing and simulation allow business to validate changes

- **Act** with precision and reliability
  - ▶ Events and rules integration to decide *when* and *what* to do
  - ▶ Versioning and release management for reliable change governance
  - ▶ Automated and optimized, with a high performance runtime to support mission-critical decision services