



*The future runs on System z*

## **IBM Websphere ILOG Business Rule Management System (BRMS)**

**Adapting business rules in CICS  
applications quickly and with confidence**



Rapid change. New competition. Unprecedented opportunity

You can't just work harder

You can't just spend money for more resources

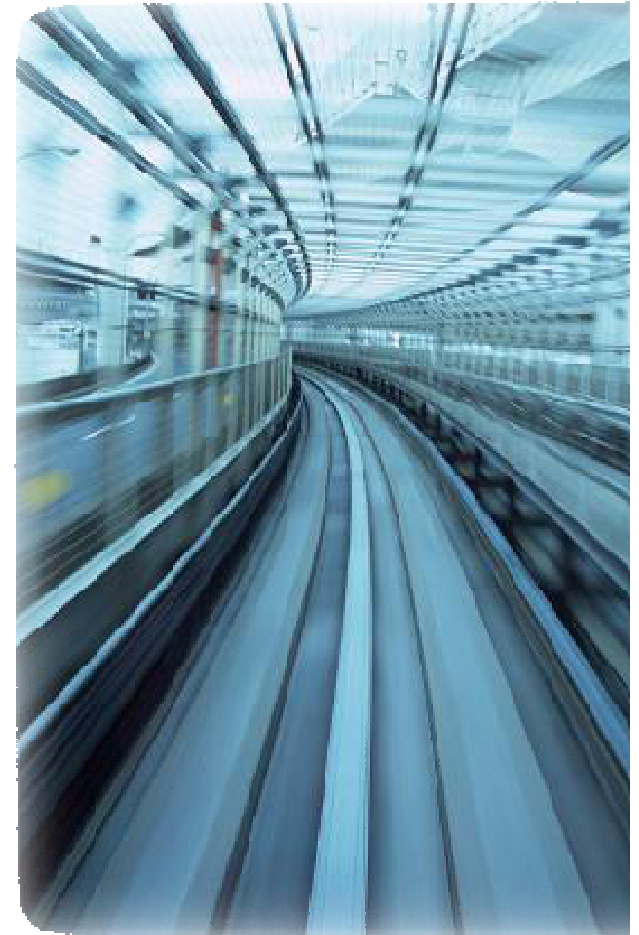
You must Work Smarter



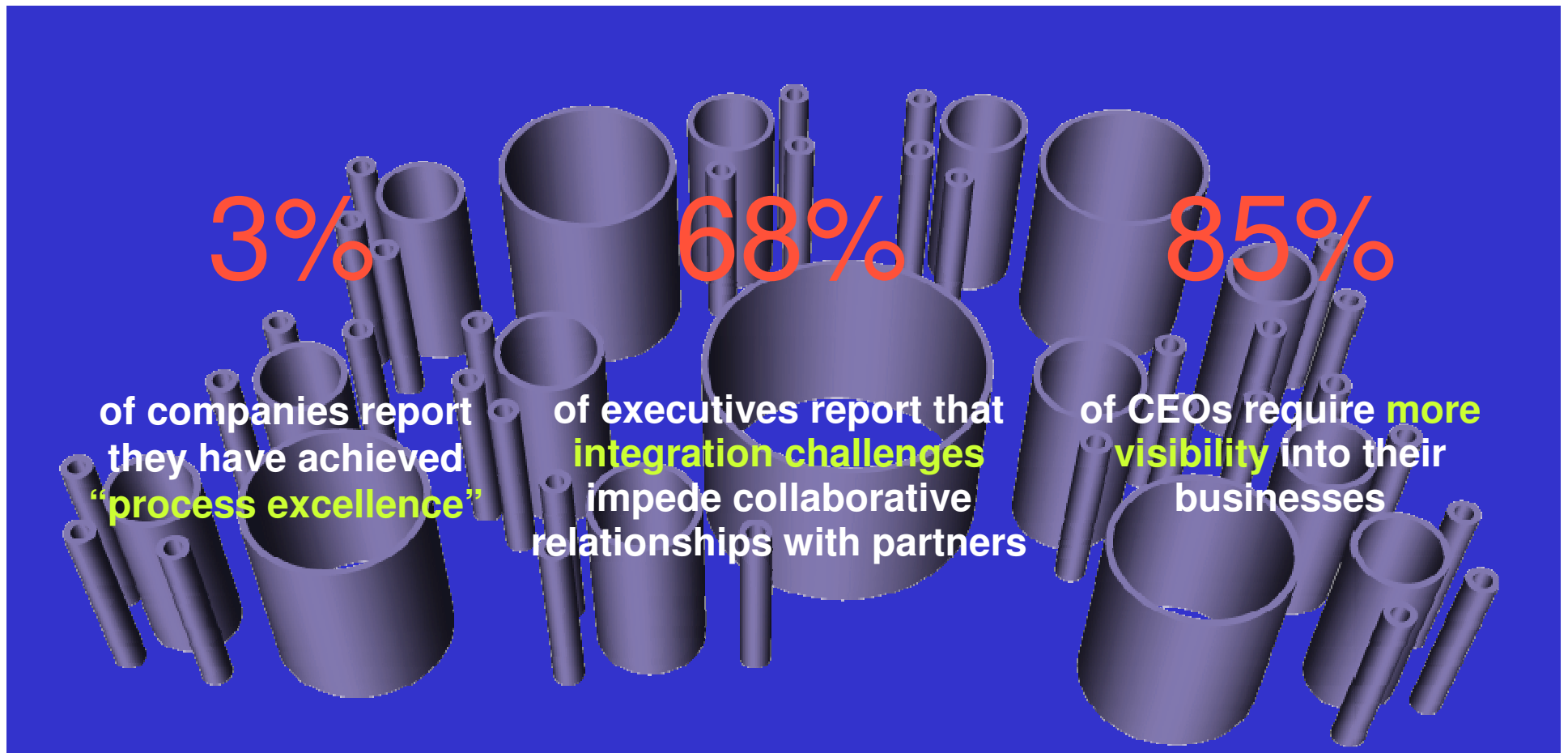
# We face the challenge of accelerating market shifts

- Rising consumer expectations compel improvements in speed and personalization
- Rapid swings in economic and commodity markets highlight lack of adaptability
- Lower barriers to entry in a digital, flat world, enable fast and easy access by new competitors

How do businesses evolve



# Achieving a dynamic business network presents challenges



***Businesses are restrained by organizational silos and rigid IT systems***

## ...and tremendous opportunities

A large bank  
reduced redundant  
process activities by

60%

An air freight company  
reduced partner  
integration time by

50%

A retailer gained real-time  
inventory visibility across  
500+ outlets and reduced  
data integration costs by

20%

***Break down silos to increase business agility  
and embrace the dynamic network***

## Flexible process automation increases agility and enables rapid change

- Improve agility and time to market
- Manage rule based decisions
- Incremental application modernization



***Business rules to drive flexible process automation***



# Business Decisions are Everywhere...



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We need to add a validation step to meet the requirements of the new regulation.

Let's create a special promotion for our best customers.



Can we automate approvals for this type of order?

And Changing Frequently





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# 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

```
MFdef __MCR__  
/*  
  Before performing any socket operation (like retrieving hostname  
  in test_common_variables we have to call WSASocket  
  */  
{  
  WSADATA Wsadata;  
  IF (SOCKET_ERROR == WSASocket (0x0101, @Wsadata))  
  /* errors are not read yet, so we use english text here */  
  my_message(MSAS_FAILED, "WSASocket failed", MFC00);  
  wsireg_abort();  
}  
endif /* __MCR__ */  
if (test_common_variables(MYSQL_CONFIG_NAME,  
  argv, argv, load_default_groups))  
  wsireg_abort(); // will do exit  
test_signals();  
if (tcp_specialflag & SPECIAL_NO_PRIOE)  
  my_thread_setprio(pthread_self(), CONNECT_PRIOE);
```

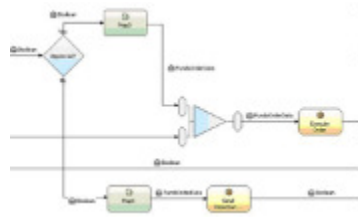
Applications



Documents



People



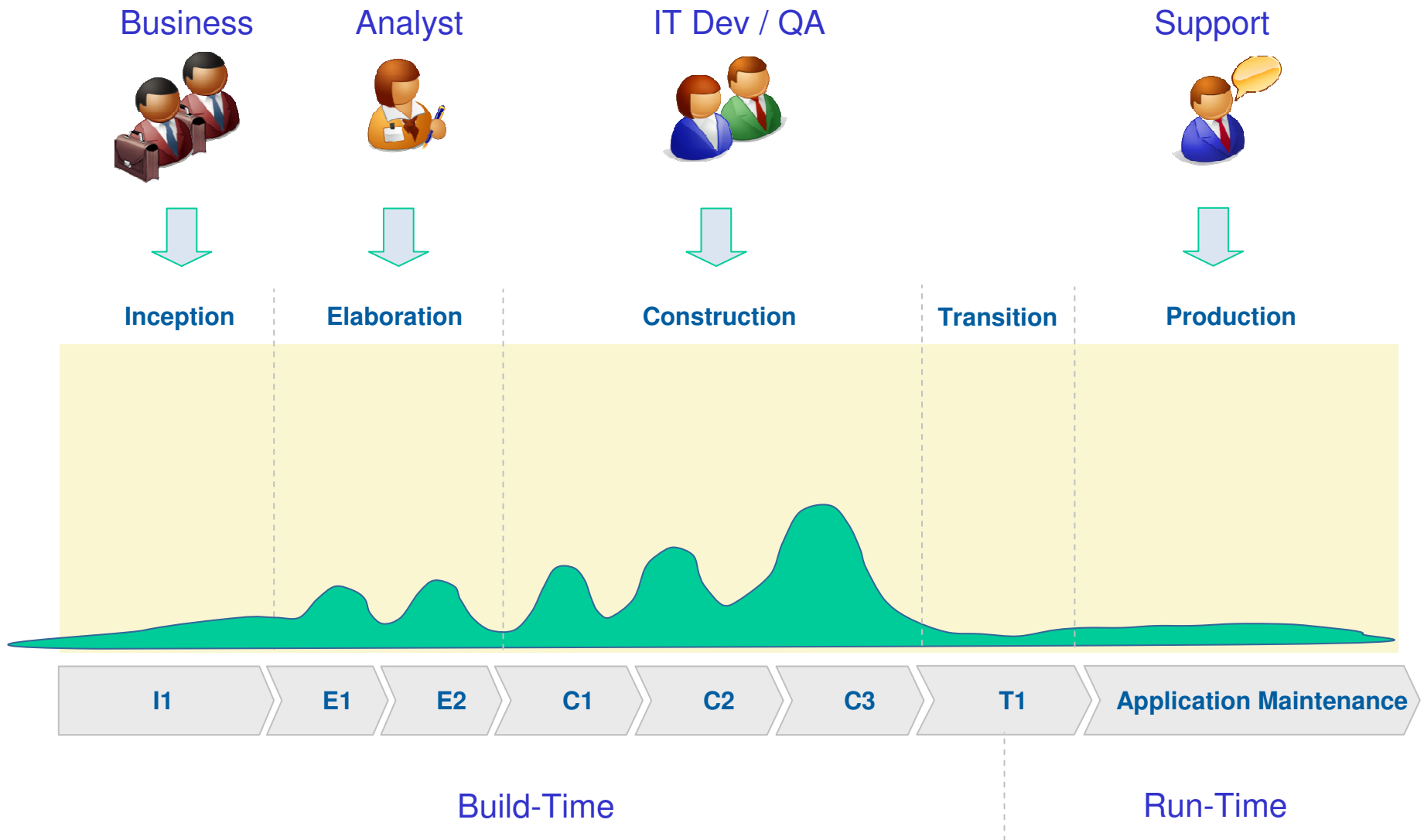
Processes

## 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

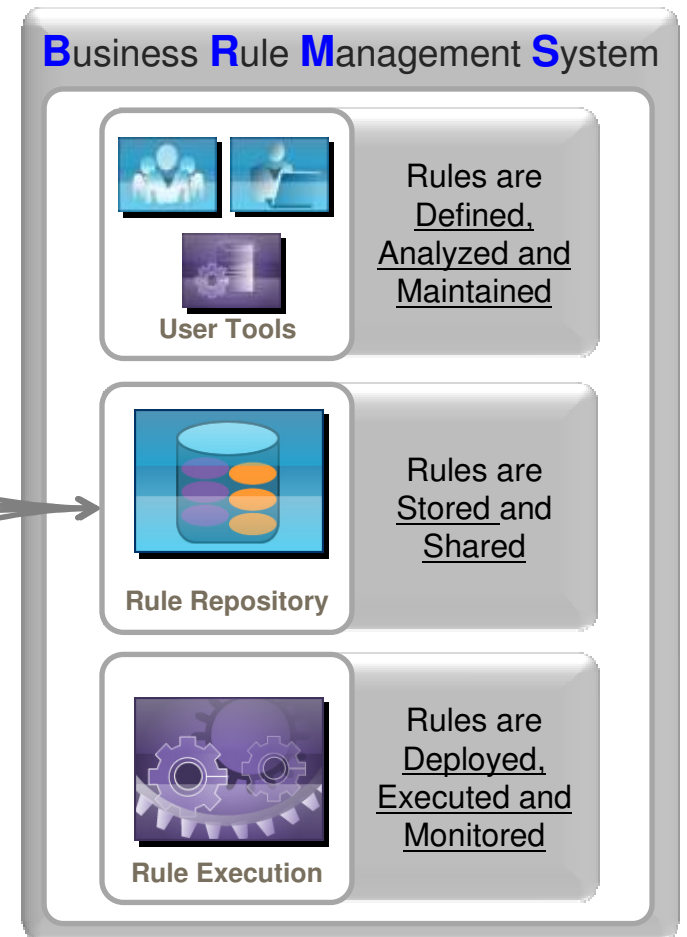
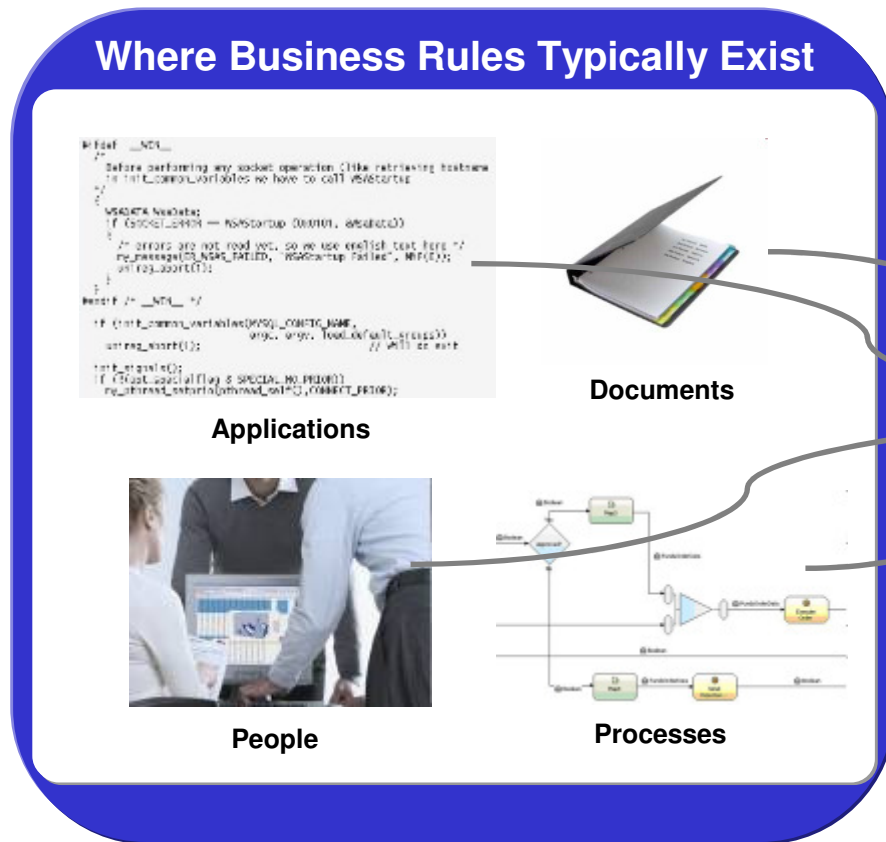


# Traditional Software Lifecycle



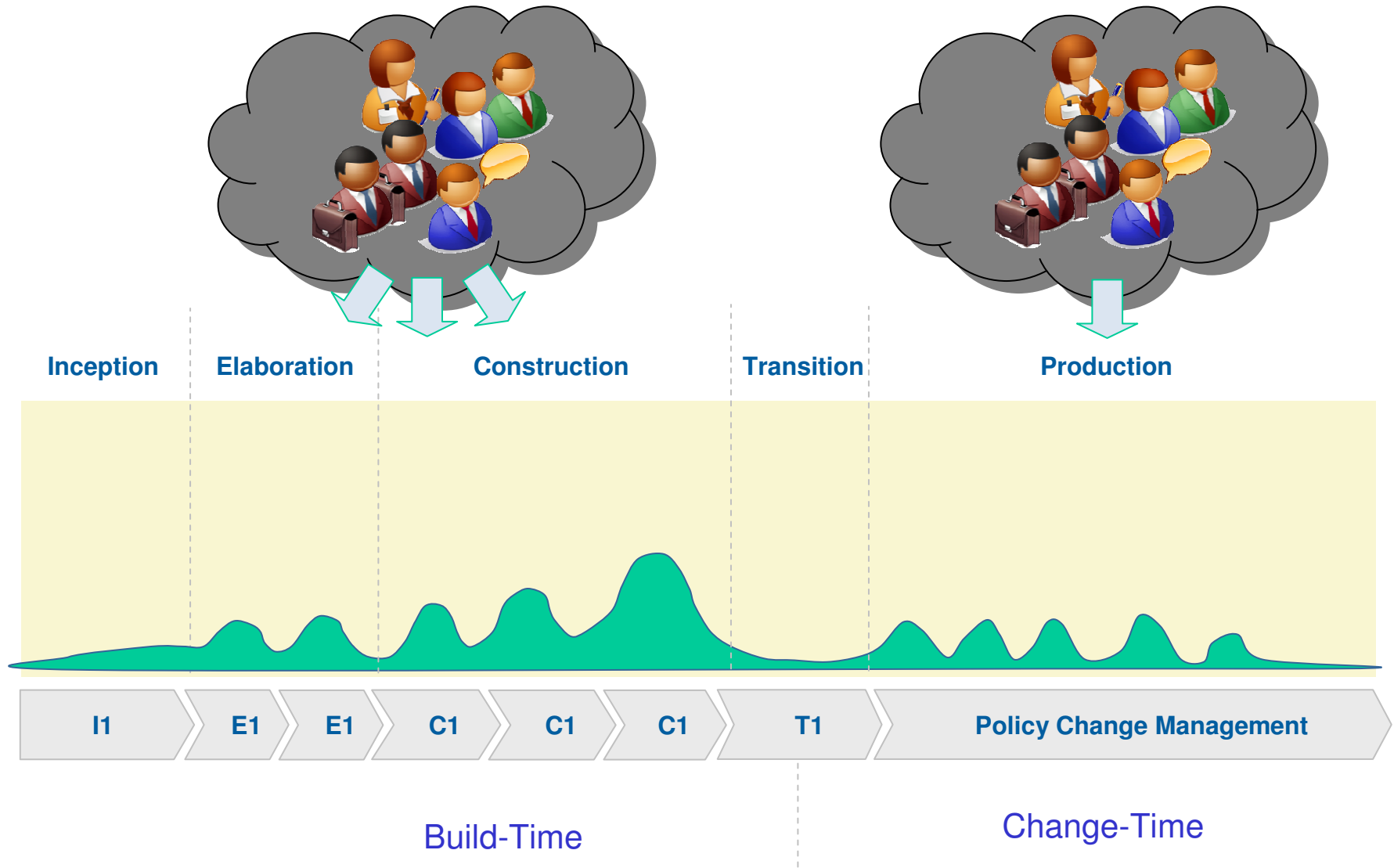
# Manage and Automate Decision Logic with BRMS

- Make decision logic accessible to Business and IT
- Reduce maintenance time & cost
- Increase decision automation
- Eliminate decision silos – drive consistency
- Create an audit trail for decisions & decision logic



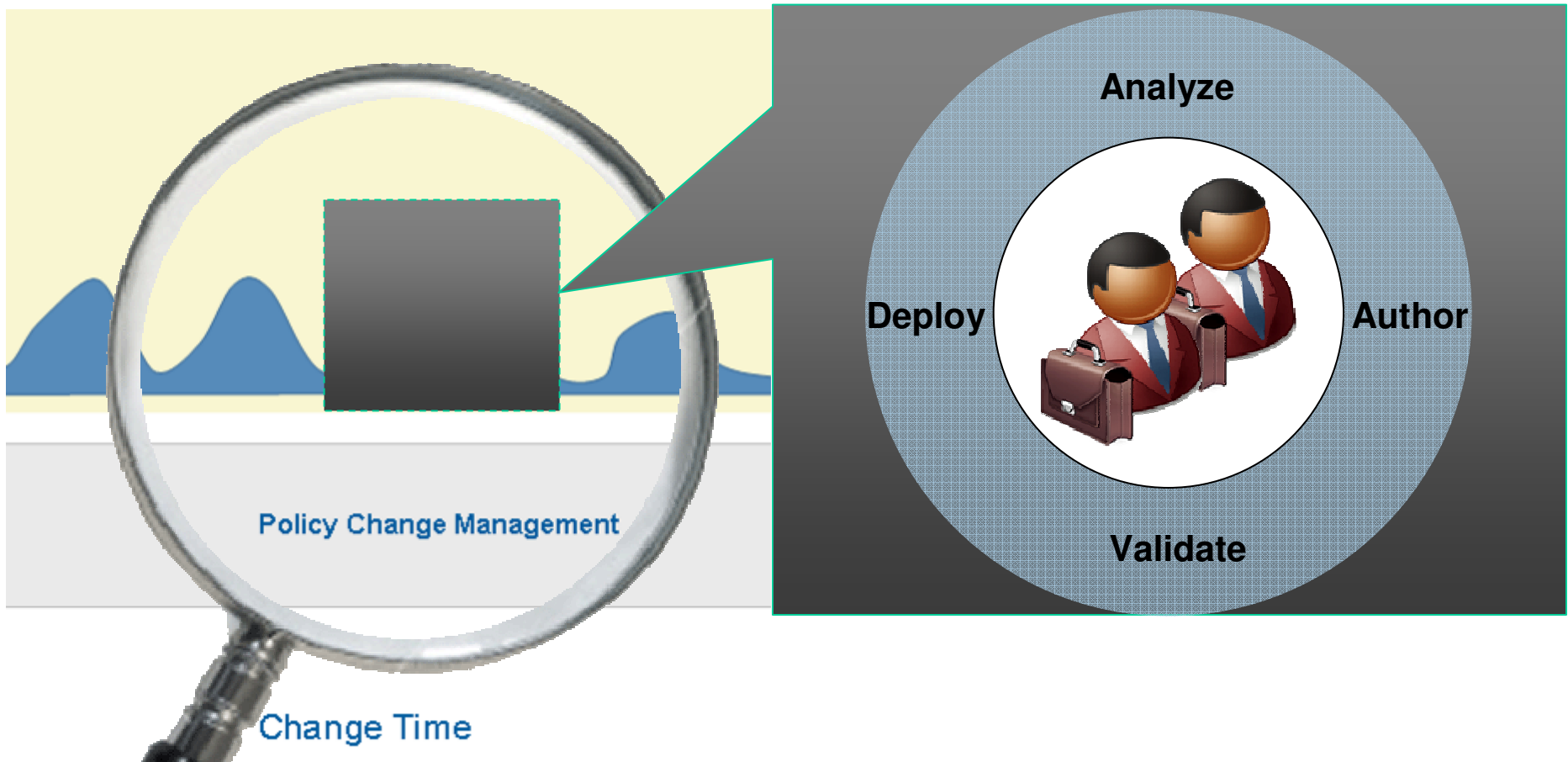


# BRMS Software Lifecycle



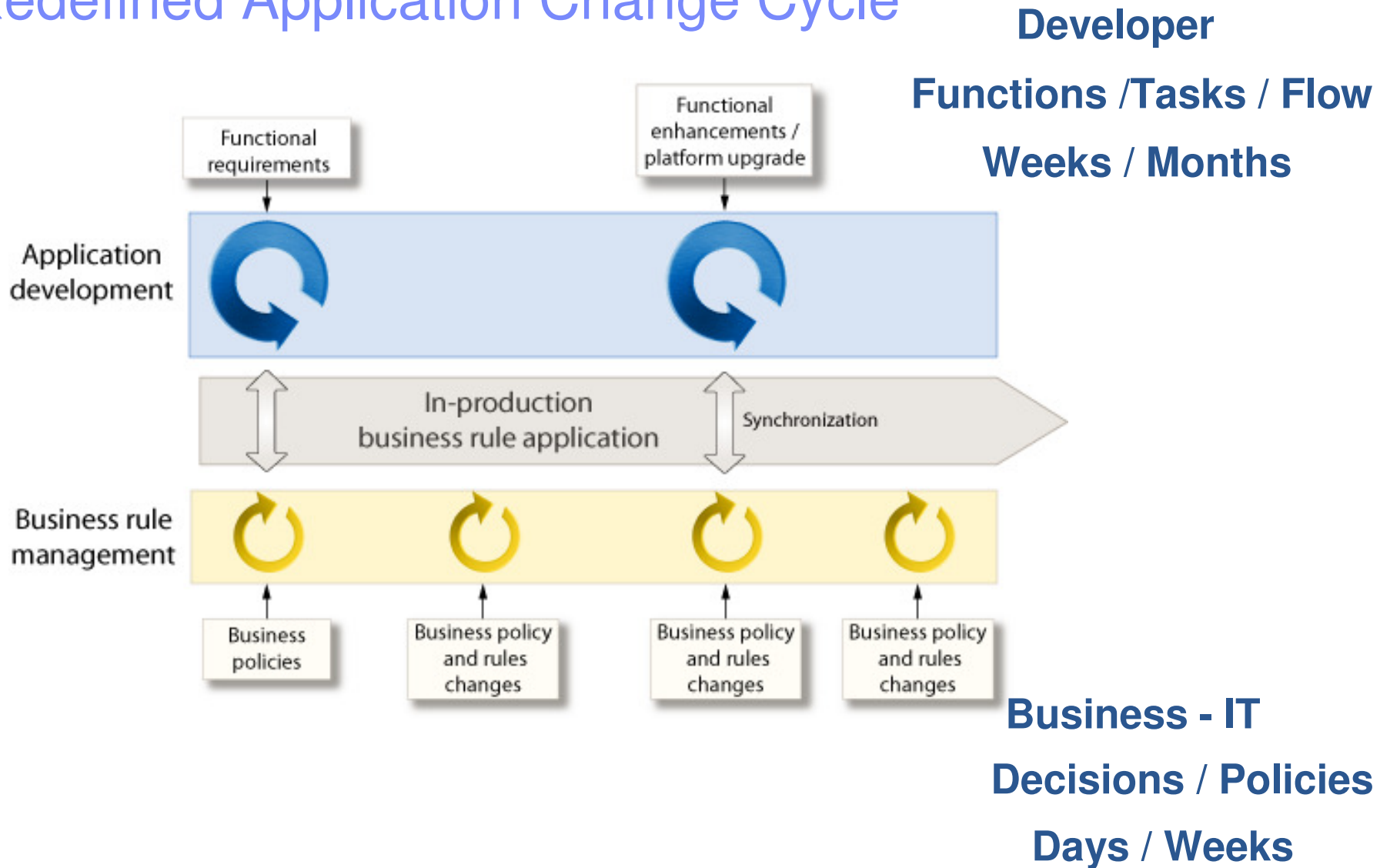
# Business Rule Maintenance Lifecycle

Making the change process Easy, Safe and Predictable





# Redefined Application Change Cycle





## Examples of Decisions Suitable for BRMS Solution

### Banking

- Loan Origination
- Credit Decisioning
- Sales Advisory
- Payments
- Accounting

### Insurance

- Claims Processing
- Underwriting
- Quoting
- Rating
- Commissioning

### Capital Markets

- Automated Trading
- Trade Order Management
- Accounting
- Compliance KYC / AML
- On Boarding

### Public Sector

- Claims Processing
- Entitlement and Benefit calculation
- Fraud Detection and Management
- Screening and Targeting

### Telecom

- Offer Configuration
- Order Management
- Fraud Detection and Management
- Loyalty Programs
- Network Monitoring

### Transportation and Travel

- Promotions Management
- Loyalty Programs
- Customer Service
- Billing
- Contract Management

### Retail

- Online recommendation
- Campaign Management
- Order Management
- Pricing

### Manufacturing

- Order Management
- Billing
- Contract Management



# ILOG BRMS Case Study

## Challenge

- The company was missing revenue by not being able to present the right offer at the right time when a customer was on-line.
- Decision logics were scattered and inconsistent across channels.
- Poor customer experience: branch staff would sometimes try to cross-sell to clients who did not qualify for the additional credit, resulting in negative client experience

## Solution

- Create an ILOG BRMS based cross-sell/up-sell solution
- Decision support throughout generation of personalized & qualified offers
- Cross-channel (branches, call centers, etc.), cross-product & customer centric
- Agile solution from both business & IT standpoints!

## Business Benefits

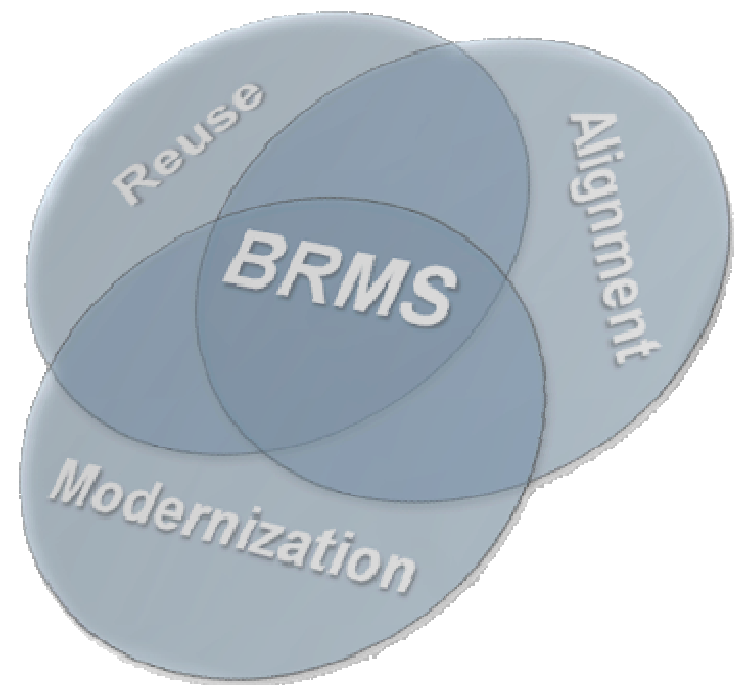
- Improved client relationship – acquisition, retention & wallet-share
- Accelerated ROI
  - Increased revenues - \$14M in approved bookings in 2.5 months
  - Significantly increased cross-sell offers: from 13% to 40%
  - Significantly increased acceptance from 3% to 20%-30%
- Instant updates of rules fully managed by business users.

***One of the Largest Financial Service Providers in the World Dramatically Increases Revenue through Cross-sell/Upsell***

## Manage rule based decisions

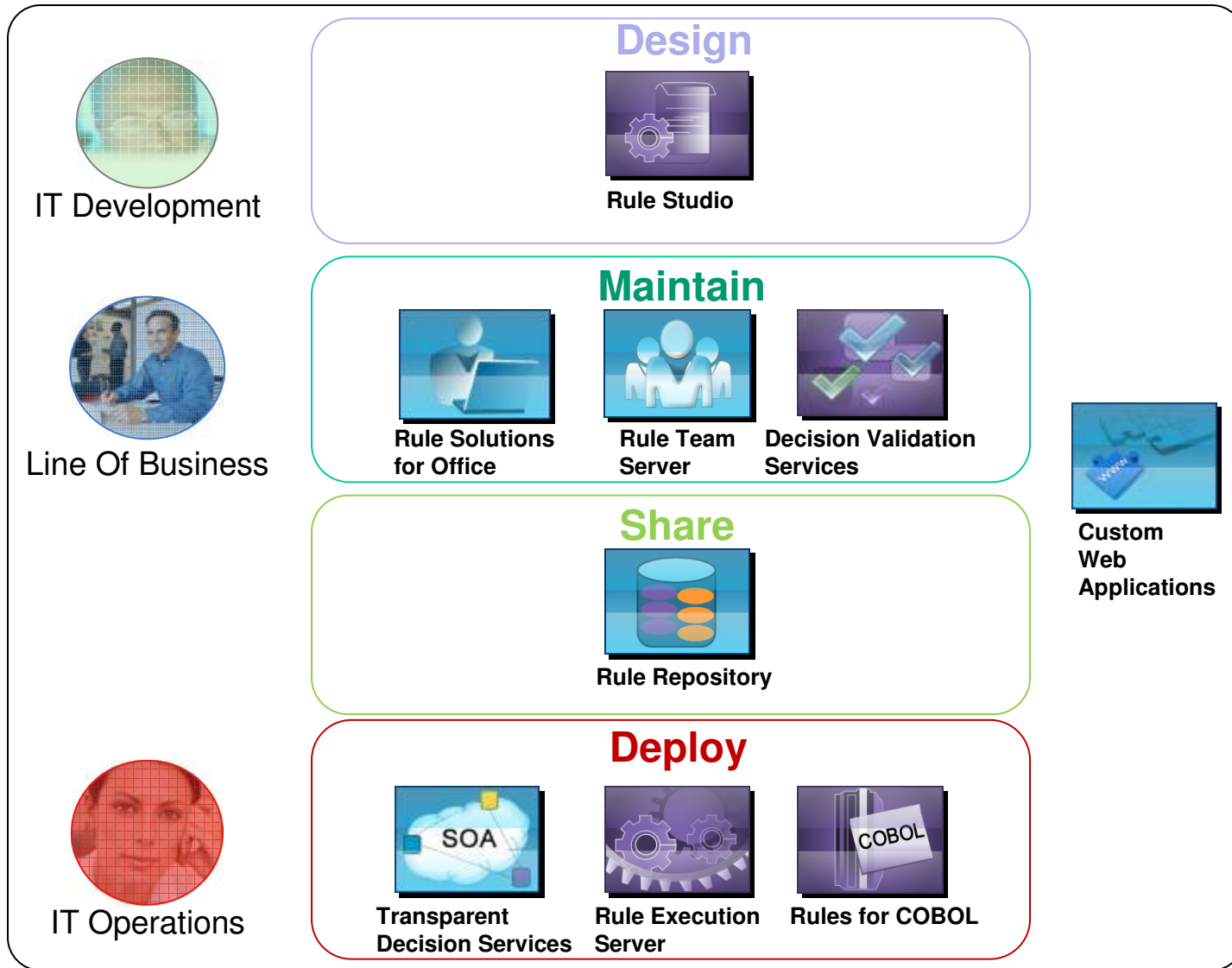
ILOG BRMS is *the IBM technology* for creating, maintaining and implementing decision services...

- Allows for easy implementation and reuse of business rules
- Provides a convenient communication channel between IT and business teams
- Improved regulatory compliance
- Consistency in applying business decisions across applications





# WebSphere ILOG JRules BRMS





# Intuitive Rule Authoring Environments

if  
the one way driving distance of the vehicle coverage request [x] is more than ▼ 50 [x]  
and the type of the vehicle is Sport Utility Vehicle

then  
add a ▼ \$ 25 [x] surcharge to [x], reason: ▼ <enter a value> [x]

Coupe  
Pickup Truck  
Sedan  
Sport Utility Vehicle  
Sports Coupe

Point & Click

|    | Gender | Is Married? | Is Graduate? | Age       |                          | Dollar    | Surcharge                |                          | Reason                   |                          |
|----|--------|-------------|--------------|-----------|--------------------------|-----------|--------------------------|--------------------------|--------------------------|--------------------------|
|    |        |             |              | Min       | Max                      |           | Adjustment Type          |                          |                          |                          |
| 0  | male   | false       | false        | ≤ 23      |                          | 23        | surcharge                | Driver Profile Surcharge |                          |                          |
| 1  |        |             |              | 24        | 30                       | 18        | surcharge                | Driver Profile Surcharge |                          |                          |
| 2  |        |             |              | 31        | 35                       | 10        | surcharge                | Driver Profile Surcharge |                          |                          |
| 3  |        |             |              | ≤ 23      |                          | 15        | surcharge                | Driver Profile Surcharge |                          |                          |
| 4  |        |             |              | 24 30     |                          | 10        | surcharge                | Driver Profile Surcharge |                          |                          |
| 5  |        |             |              | 31 35     |                          | 5         | surcharge                | Driver Profile Surcharge |                          |                          |
| 6  |        | true        | false        | false     | ≤ 23                     |           | 18                       | surcharge                | Driver Profile Surcharge |                          |
| 7  |        |             |              |           | 24                       | 30        | 14                       | surcharge                | Driver Profile Surcharge |                          |
| 8  |        |             |              |           | 31                       | 35        | 10                       | surcharge                | Driver Profile Surcharge |                          |
| 9  |        |             | ≤ 23         |           | 15                       | surcharge | Driver Profile Surcharge |                          |                          |                          |
| 10 |        |             | 24 30        |           | 10                       | surcharge | Driver Profile Surcharge |                          |                          |                          |
| 11 |        |             | 31 35        |           | 5                        | surcharge | Driver Profile Surcharge |                          |                          |                          |
| 12 |        |             | female       | false     | false                    | ≤ 21      |                          | 16                       | surcharge                | Driver Profile Surcharge |
| 13 |        |             |              |           |                          | 22        | 27                       | 10                       | surcharge                | Driver Profile Surcharge |
| 14 |        |             |              |           |                          | 28        | 33                       | 6                        | surcharge                | Driver Profile Surcharge |
| 15 | ≤ 21   |             | 12           | surcharge | Driver Profile Surcharge |           |                          |                          |                          |                          |

Decision Tables

edit table preconditions | edit table | 0 - 15 | 15 - 30 | All

Editor

Operator the age of the driver is at most ▼ 21 [±] SUBMIT

| Attribute                       | Range                                   | Weight(%) | Score | Reason Code |
|---------------------------------|---|-----------|-------|-------------|
| Months since last bankruptcy    | 1 ≤ Months since last bankruptcy < 2    | 100       | 0     | NB          |
|                                 | 2 ≤ Months since last bankruptcy < 3    |           | 20    | NB          |
|                                 | 3 ≤ Months since last bankruptcy < 4    |           | 150   |             |
| Number of bankruptcies          | 1 ≤ Number of bankruptcies < 2          | 30        | 100   |             |
|                                 | 2 ≤ Number of bankruptcies < 3          |           | 50    |             |
|                                 | 3 ≤ Number of bankruptcies < 4          |           | 0     | NB          |
| Number of Foreclosures          | 1 ≤ Number of Foreclosures < 2          | 20        | 100   |             |
|                                 | 2 ≤ Number of Foreclosures < 3          |           | 30    |             |
|                                 | 3 ≤ Number of Foreclosures < 4          |           | 0     | NB          |
| Number of 30 days Late Payments | 1 ≤ Number of 30 days Late Payments < 2 | 5         | 100   |             |
|                                 | 2 ≤ Number of 30 days Late Payments < 3 |           | 60    |             |
|                                 | 3 ≤ Number of 30 days Late Payments < 4 |           | 30    | 30P         |
| Number of 60 days Late Payments | 1 ≤ Number of 60 days Late Payments < 2 | 15        | 100   |             |
|                                 | 2 ≤ Number of 60 days Late Payments < 3 |           | 80    |             |
|                                 | 3 ≤ Number of 60 days Late Payments < 4 |           | 30    |             |

Scorecards

Decision Trees

```

    graph TD
        Root(( )) --> T1[Too many tickets]
        Root --> D1{Driver's Ed}
        Root --> T2[Driver's Ed]
        
        T1 --> D2{ }
        D2 --> D3{ }
        D3 --> D4{ }
        
        D1 --> D5{ }
        D5 --> D6{ }
        
        T2 --> D7{ }
        D7 --> D8{ }
        D8 --> D9{ }
    
```

Operator the number of traffic tickets the driver has received is at least ▼ = [4] SUBMIT

# Rules Authoring Delivered to Business

The image displays two overlapping screenshots of Microsoft Office applications demonstrating RuleDoc integration.

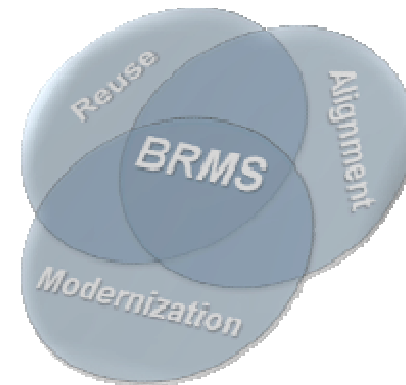
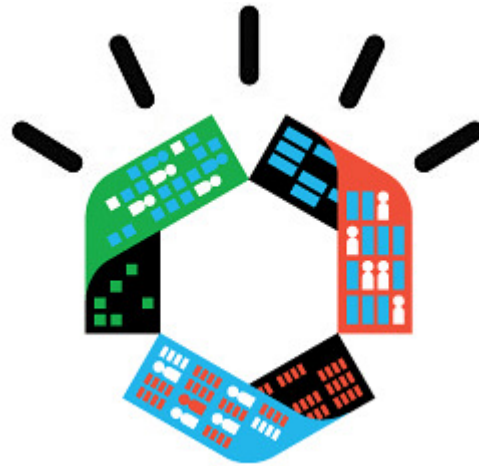
**Microsoft Excel (Eligibility.xlsx):** The 'Decision Table' tab is active. The table has columns A through F. Row 3 shows a rule for 'New Hampshire' with a minimum age of 23 and a maximum age of 70. The result column (F) contains the text: 'The customer's age is below the minimum for rent in New Hampshire. The customer is eligible to rent in New Hampshire. The customer's age is past the maximum for rent in New Hampshire.'

| City          | Min | Max | Result  |
|---------------|-----|-----|---|
| New Hampshire | 23  | 70  | The customer's age is below the minimum for rent in New Hampshire. The customer is eligible to rent in New Hampshire. The customer's age is past the maximum for rent in New Hampshire. |
| Rhode Island  | 21  | 70  | The customer's age is below the minimum for rent in Rhode Island. The customer is eligible to rent in Rhode Island. The customer's age is past the maximum for rent in Rhode Island.    |

**Microsoft Word (Word Tutorial - copied.docx):** The 'Rules' pane is open, showing a 'RuleDoc Outline' and 'Rule Properties'. The 'RuleDoc Outline' lists several rules, including 'Compute the Base Rate', 'Check the Eligibility for the Default', 'Define the Pricing of the Default', 'Check the Eligibility for the Long Term', and 'Define the Pricing of the Long Term'. The 'Rule Properties' pane shows a 'Problem List' with the message: 'The word "true" is expected in place'.

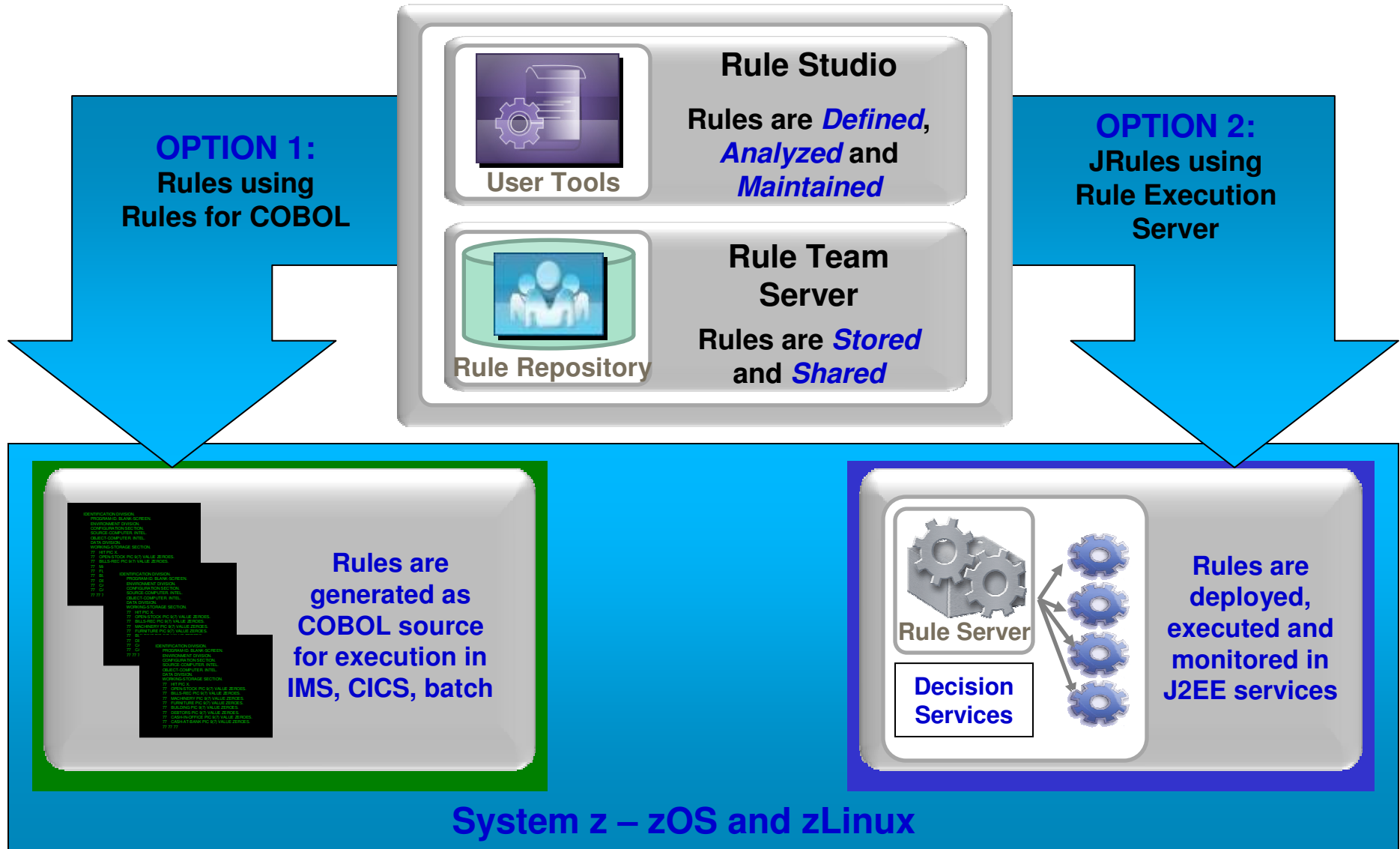


# Transforming the Enterprise through Smarter Work



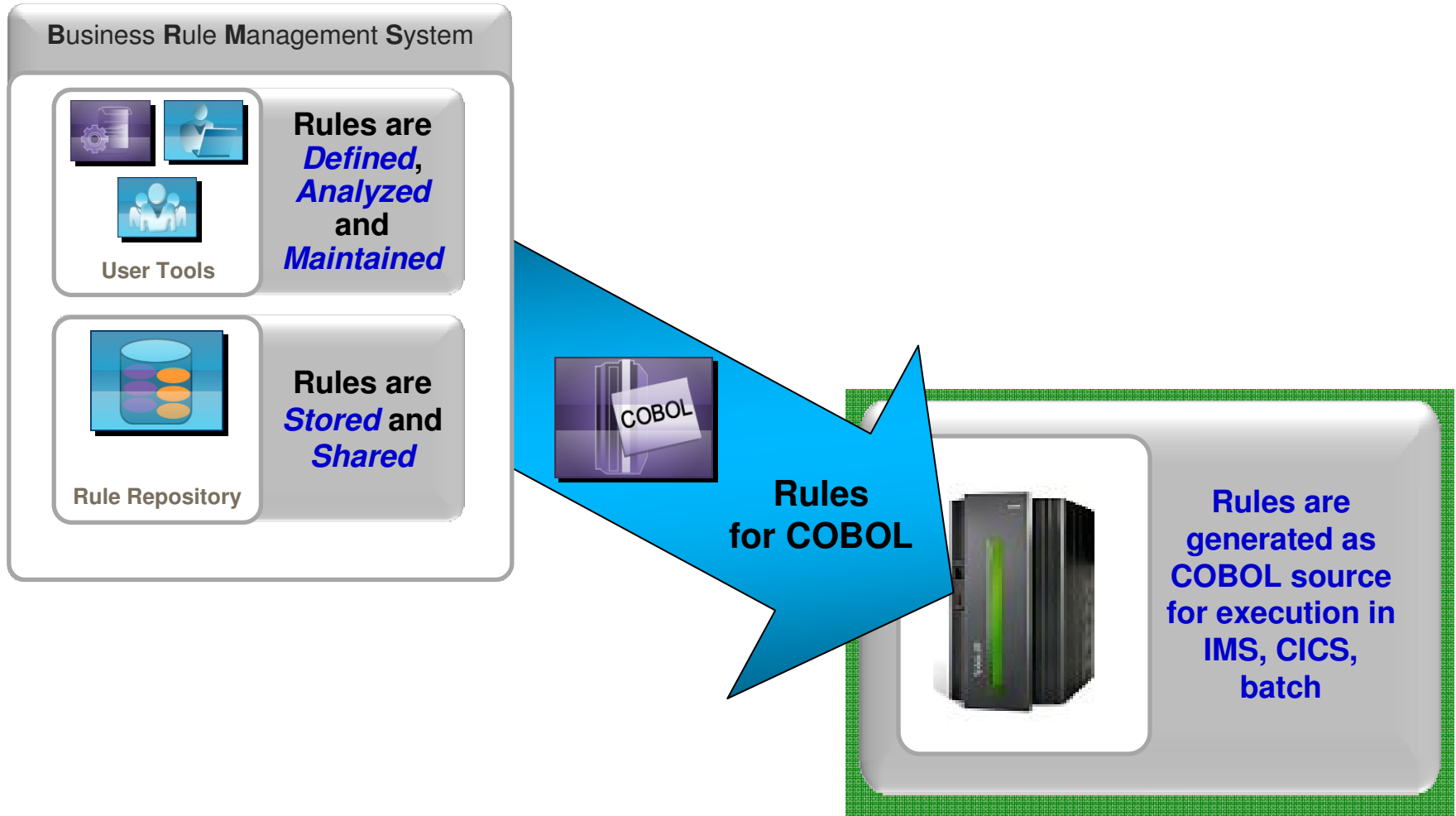
- Embrace new technologies while leveraging existing assets
- Enable assets to become smarter and more agile
- Leverage the strengths of CICS

# ILOG BRMS System z Options





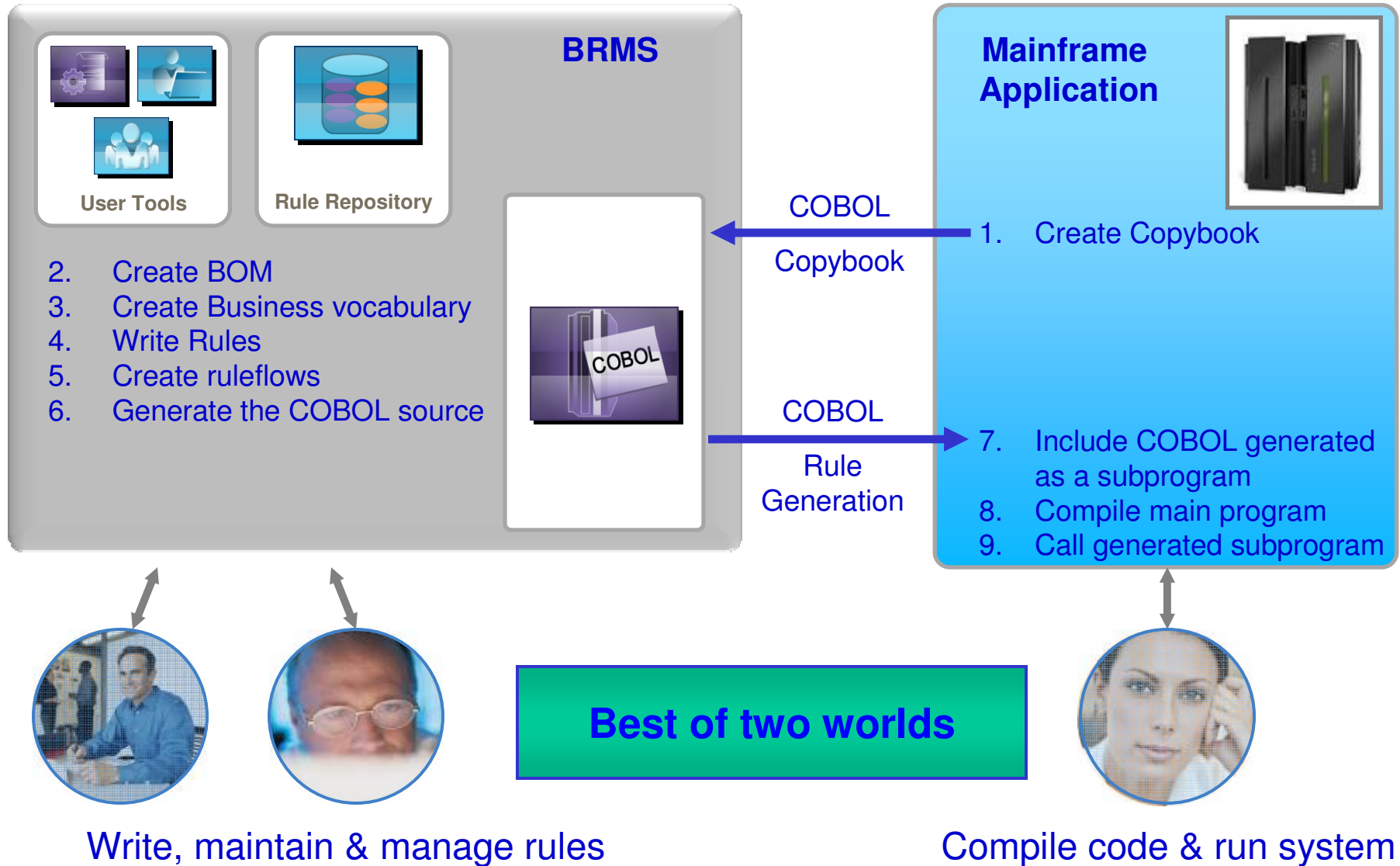
# Rules for COBOL







# Overview of Rules for COBOL





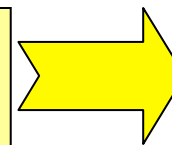
# Improve Agility

## Challenge

Marketing VP needs to react to change to market in a timely manner but new offers take a long time to introduce because of an IT backlog and systems very difficult to work with.

## Solution

- Author rules to extend CICS COBOL applications to produce business behaviours when new orders are placed
- Business managers can quickly identify and understand what business decisions to change
- Simplifies modernization by introducing change in a single place
- minimize risk and disruption.



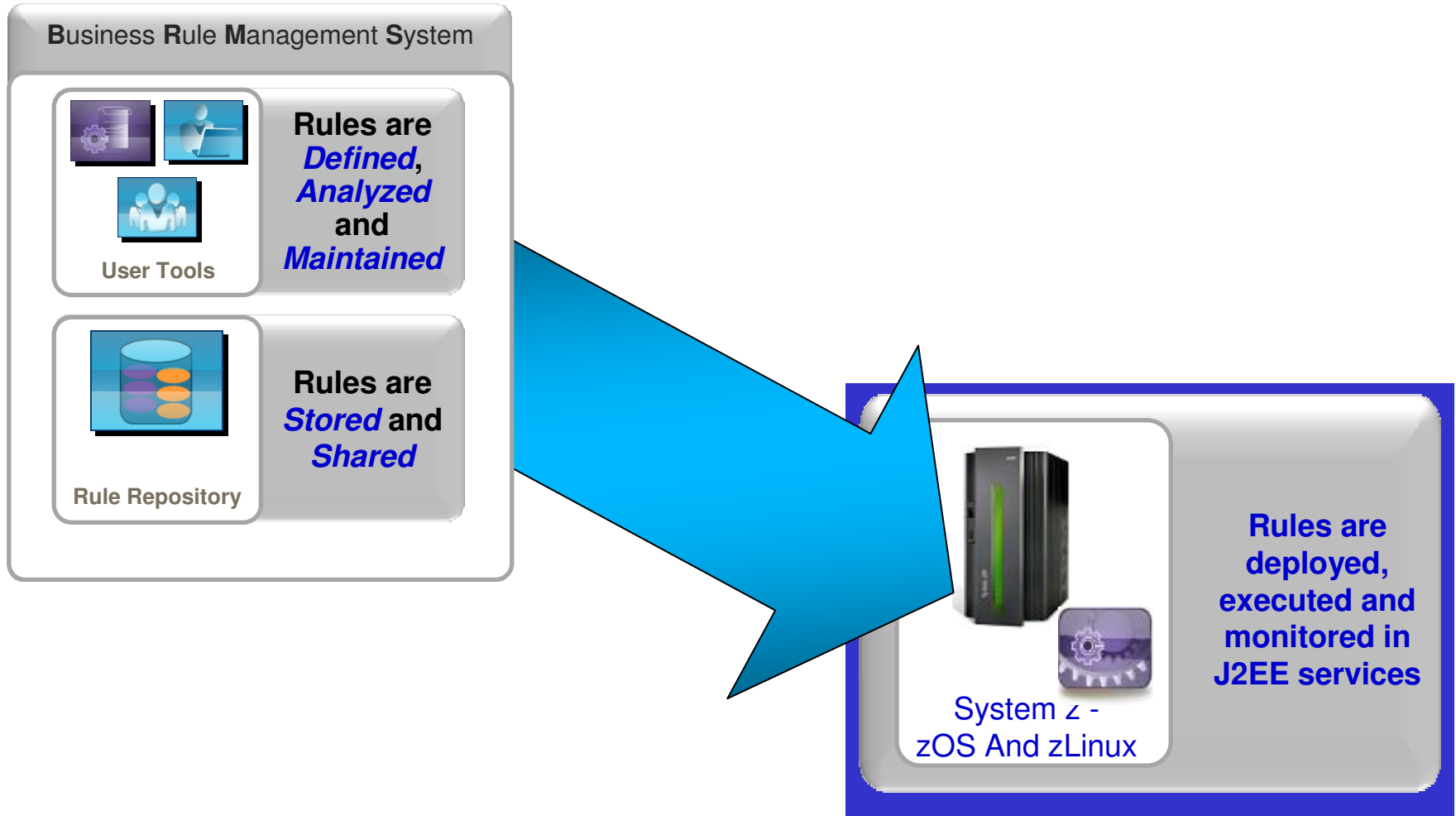
**Rule Studio**  
*Eclipse-based Rule IDE*  
*Rule design & development*

## Business Value

Timely modification of offers to increasing competitive edge  
Reduced risk, cost and time to implement change

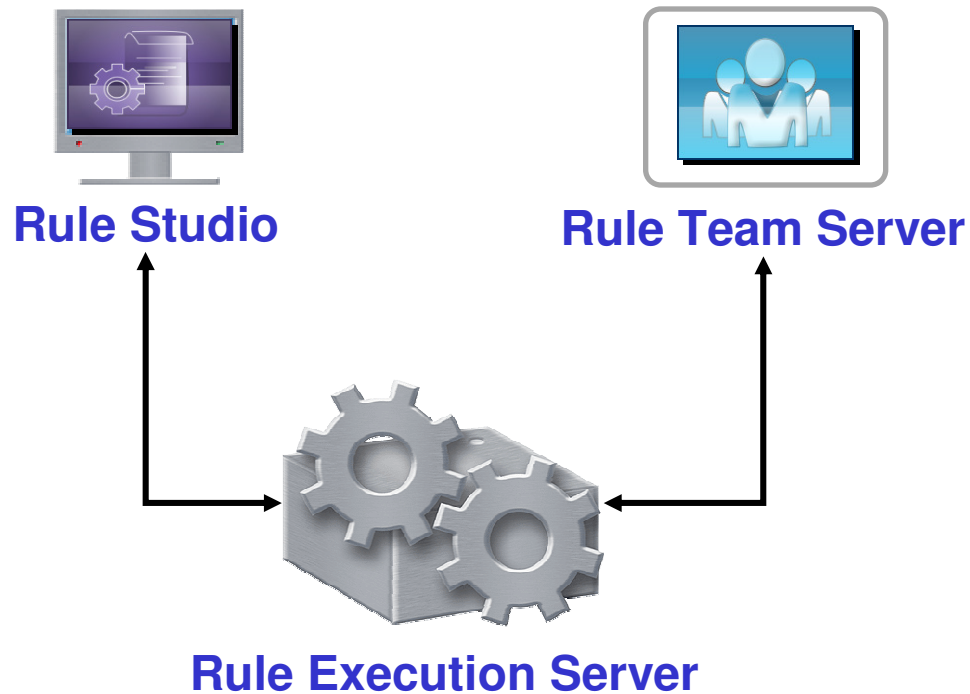


# ILOG BRMS for System z



# Rule Execution Server

## Managed Rule Service Execution



- Scalable
- Manageable
  - Auditable
- Easy To Integrate



# Adapt to Accelerate Time to Market

## Challenge

LOB needs to adjust credit rules to reduce business risk of a lending application.

## Solution

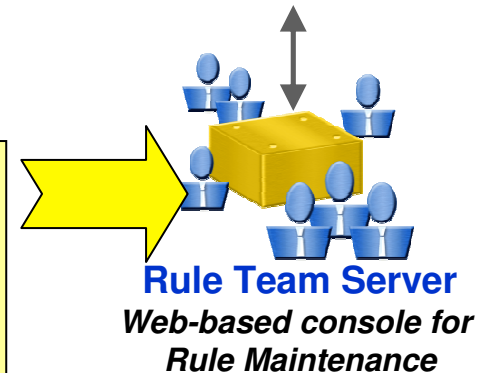
- LOB users make rules adjustments in Rule Team Server and deploy changes to CICS applications
- Avoid and application change cycle.
- Puts LOB in control of the business changes



**Business Professional**

- Author
- Review
- Deploy

**Business Rule Management**



## Business Value

Immediately reduces risk with a auditable change management process



# Innovate by incremental modernizing applications

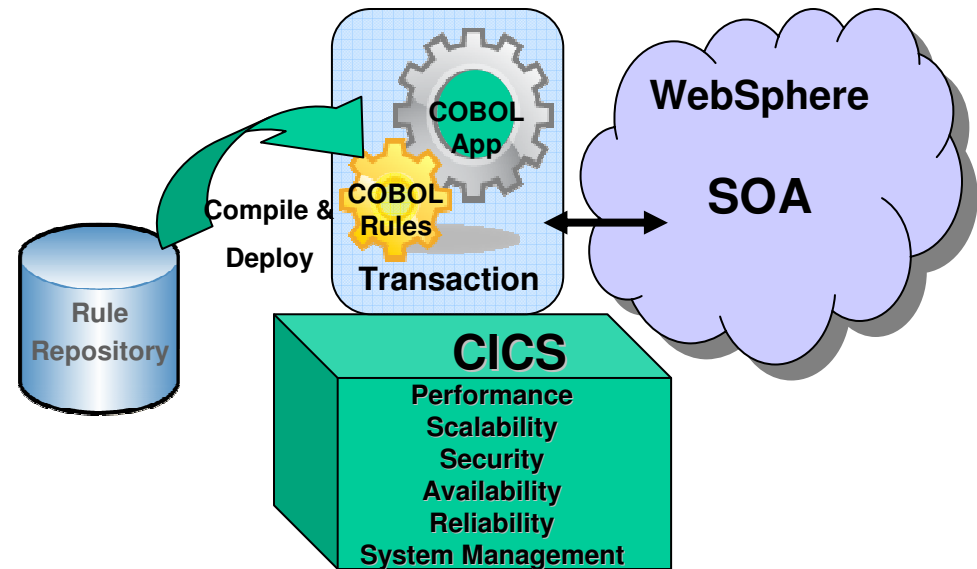
## Challenge

### IT Executives

Reduce the load on staff from LOB requests to change systems behavior. Needs to reduce cost of application maintenance and meet SLAs.

## Solution

- Incrementally modernize CICS applications with a phased approach to externalizing business logic with focus on bridging to SOA.



## Business Value

- Compliment SOA roll out across solutions and simplifies modernization by introducing change in a single place
- Reduced risk, cost and time to implement change in proven applications

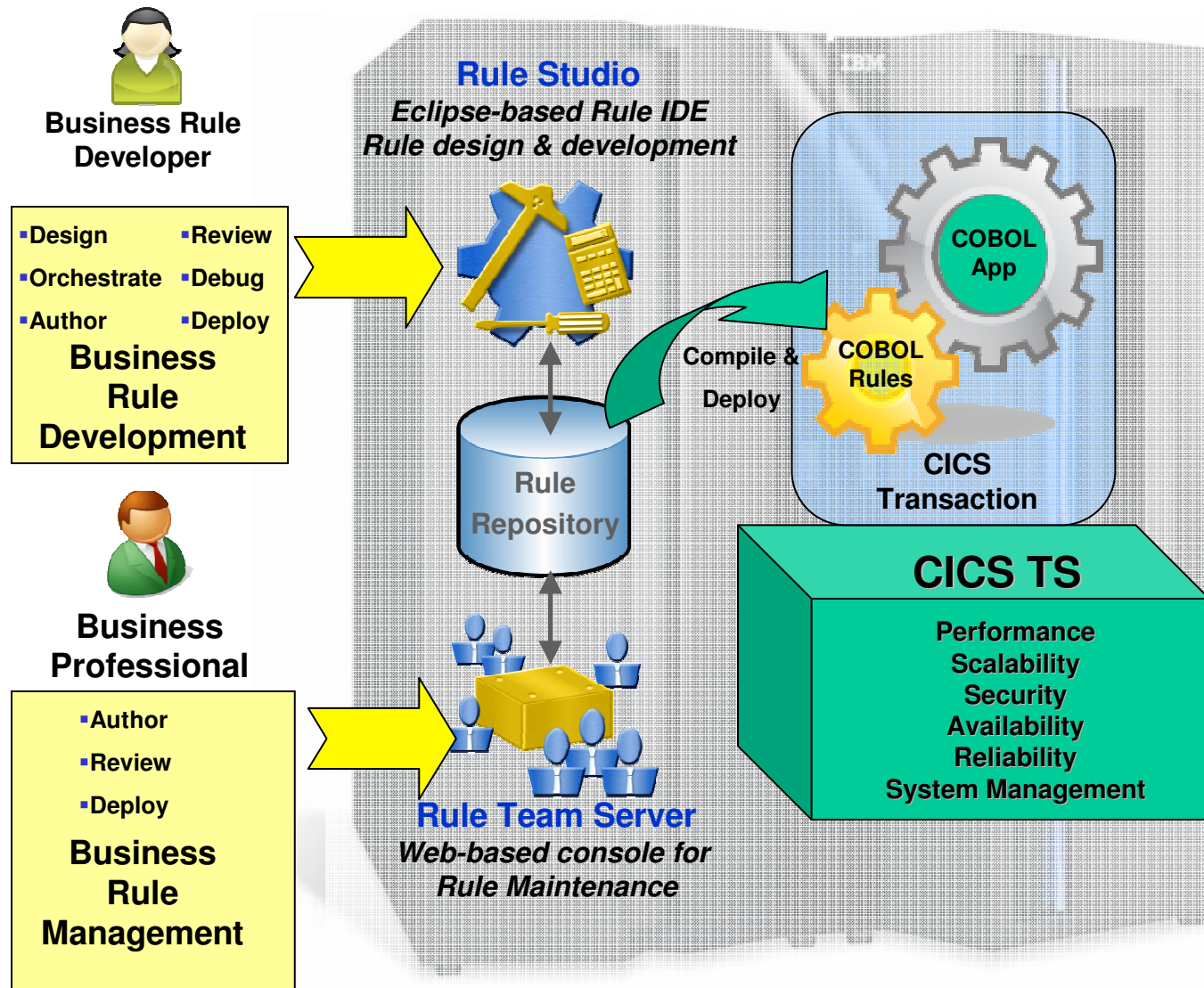
## Incremental application modernization

- Faster turnaround of business rule changes with rule-based application management
- Seamless legacy-to-rules migration
- Closes Knowledge Gap
- Controlled Migration Path to Modernized z Architecture





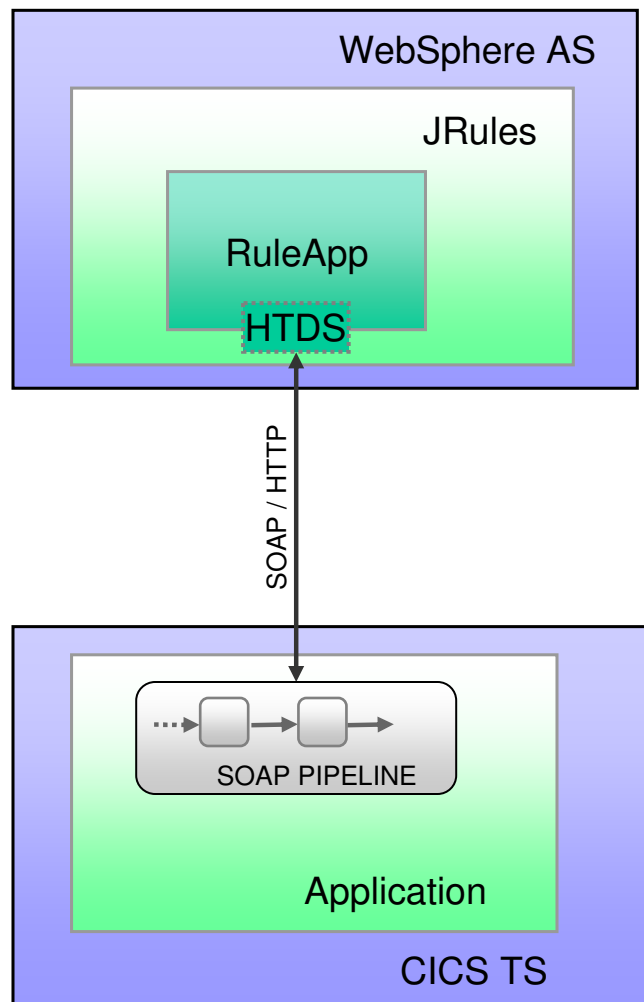
# ILOG JRules help CICS customers become more agile







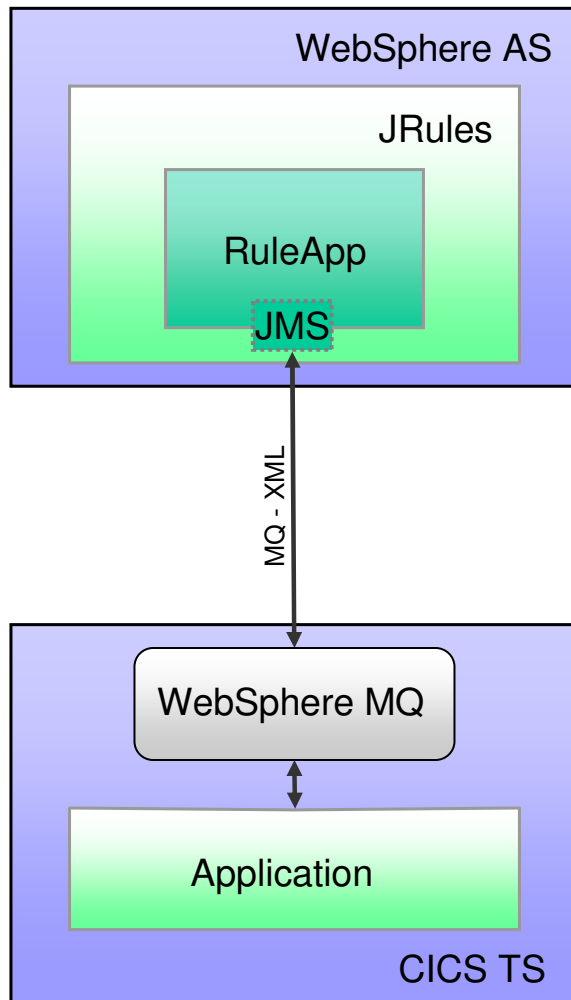
# CICS calling JRules via Web Service



- CICS calls a Transparent Decision Service hosted in WAS.
- WAS has full Rule Team Server and Rule Execution Server support.
- Allows CICS to integrate with existing rules



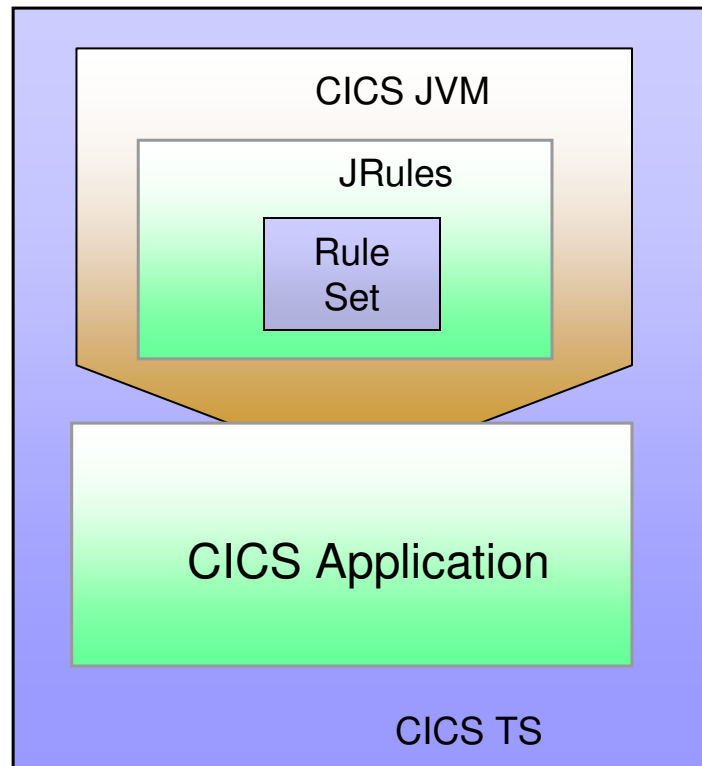
## CICS calling JRules via MQ



- CICS makes a call to MQ.
- JRules accesses MQ via a JMS call.
- MQ provides response to CICS.
  - WAS has full Rule Team Server and Rule Execution Server support.
  - Allows CICS to integrate with existing rules

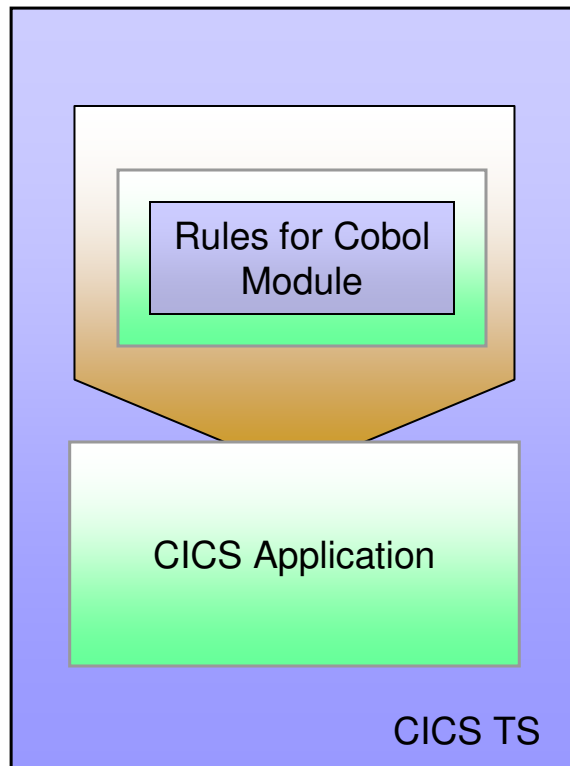


## JRules Engine Hosted in CICS



- CICS calls a JRules engine running inside a CICS JVM.
- CICS can run a J2SE JRules engine inside a CICS JVM.
- Rules are deployed to the Rules Engine by setting Java properties files, profile, classpaths and JAR files.

# Rules for COBOL



- Generate a COBOL module that embodies the rules.
- Can be called via either static linking or dynamic linking.
- Invoked via EXEC CICS LINK
  - Redpaper:  
<http://www.redbooks.ibm.com/abstracts/redp4589.html?Open>
  - SupportPac (CA0A) will enable you to automatically generate this wrapper program.



# ILOG BRMS Is a Path to Application Modernization



## Sample Business Rule Modernization Plan

- Phase 1 - Start with identifying the corporate rules.
- Phase 2 – Start with Country 1 App – Author rules in JRules.
- Phase 3 to x – Continue with each country application but by business decision review each country rules

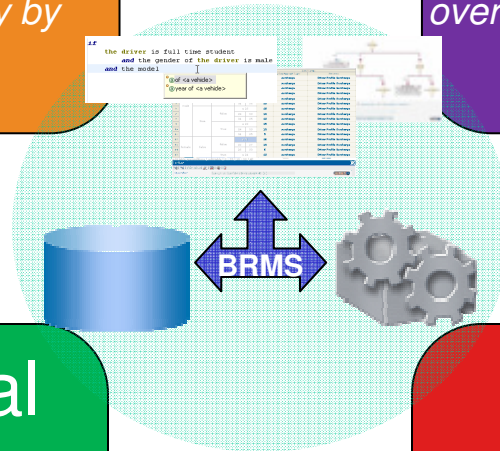
# Benefits of WebSphere ILOG BRMS

## Reduced lead times for changes

*Fast, reliable updates of customer loyalty offers, deployed directly by business users (retail)*

## More personalized client interactions

*Automated, interactive screening for over 40 different government programs (local government)*



## Internal/external compliance

*Support of regulations that vary by customer location and product line (insurance)*

## Business – IT alignment

*Business user control of rules reduced new policy implementation by 50% (pension administration)*

Watch ILOG customer testimonials at: <http://www.ilog.com/dialog/>

# Let's Build a Smarter Planet on System z



Thank you for joining us today!

## Q&A

