



# Gestión Flexible de Reglas de Negocio en System Z

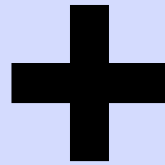




## Today's Imperatives Are...

### **Cost Optimization**

to slash operational and maintenance expense and maximize efficiency necessary for all economic climates



### **Agility**

to take advantage of new revenue opportunities and address competitive threats

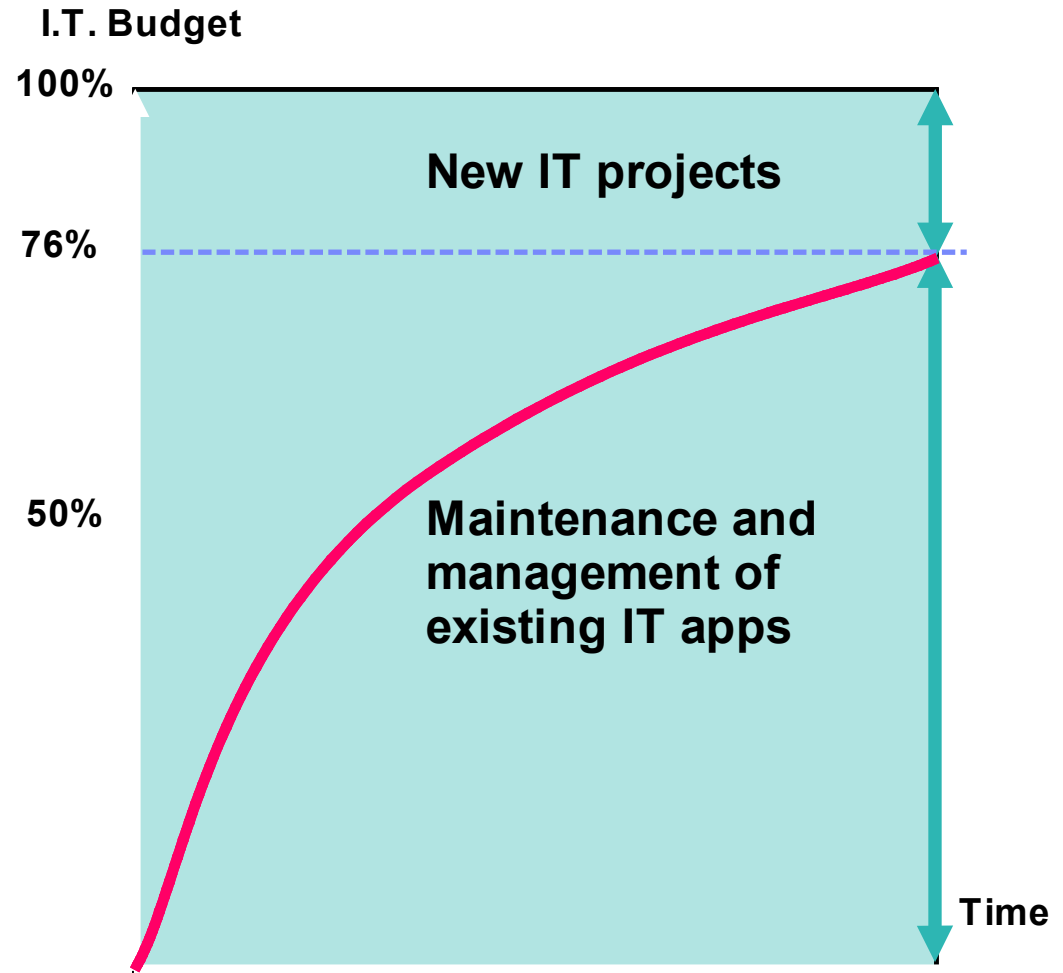
## **To Survive... To Succeed!**



# Where are you spending your IT Budgets?

**“76% of I.T budgets are spent on MAINTENANCE, leaving only 24% for NEW INVESTMENTS.”**

--- Forrester Research





# Flexible decision 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*



## Agenda

- **What are Business Rules and a Business Rule Management System (BRMS)?**
- **Where a BRMS fits within your z Architecture and what are your options?**
- **BRMS in Action**
- **Conclusion & Benefits**



# Business Policies and Business Rules

## ¿Cual es el riesgo de un cliente?

### Regla de segmentación

si el solicitante ya es cliente  
 y el balance de la cuenta es mayor que 3000€  
 y el numero de descubiertos en los últimos 180 días es 0  
 entonces  
 el segmento de la solicitud es **Riesgo Bajo**

## ¿Cual es la comisión sobre una operación?

### Política de precios

si la operación es de tipo **transferencia**  
 y el canal utilizado es **internet**  
 y el acuerdo del cliente incluye **banca online**  
 entonces  
 aplicar un descuento del **40%** sobre precio de catalogo

## ¿Cual es el asiento contable para esta operación?

### Tabla de decisión contable

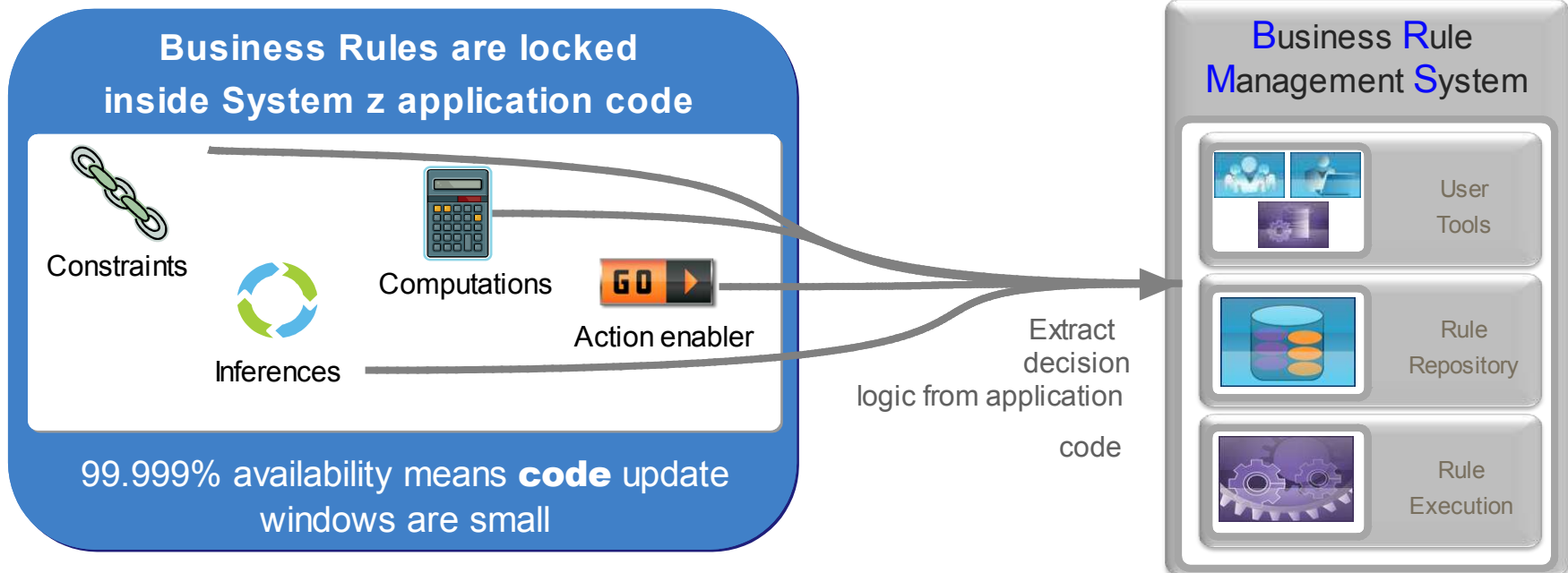
create a journal entry									
Op type	Accrued	Out of ccy	journal number	pos	DIC	core balance type	account	amount	
BUY			'the journal num'	1	D	Inventory journal o...	INVENTORY	'the secondary qty'	
SELL			'the journal num'	1	C	Inventory journal o...	INVENTORY	'the secondary qty'	
BUY			'the journal num'	2	C	Counterparty journ...	COUNTERPARTY	'the settle qty'	
SELL			'the journal num'	2	D	Counterparty journ...	COUNTERPARTY	'the settle qty'	
BUY	<input checked="" type="checkbox"/>		'the journal num'	3	D	Coupon bought/sol...	COUPON BOUGHT	'the accrued interes...	
SELL	<input checked="" type="checkbox"/>		'the journal num'	3	C	Coupon bought/sol...	COUPON BOUGHT	'the accrued interes...	
BUY		<input checked="" type="checkbox"/>	'the journal num'	4		FX inventory valia	FX CONTROL	'the counterpart'	
SELL		<input checked="" type="checkbox"/>	'the journal num'	4					
BUY		<input checked="" type="checkbox"/>	'the journal num'	5					
SELL		<input checked="" type="checkbox"/>	'the journal num'	5					
BUY		<input checked="" type="checkbox"/>	'the journal num'	6					
SELL		<input checked="" type="checkbox"/>	'the journal num'	6					
BUY		<input checked="" type="checkbox"/>	'the journal num'	7					
SELL		<input checked="" type="checkbox"/>	'the journal num'	7					

## ¿Que cámara de compensación seleccionar para enrutar un pago?

### Tabla de enrutamiento

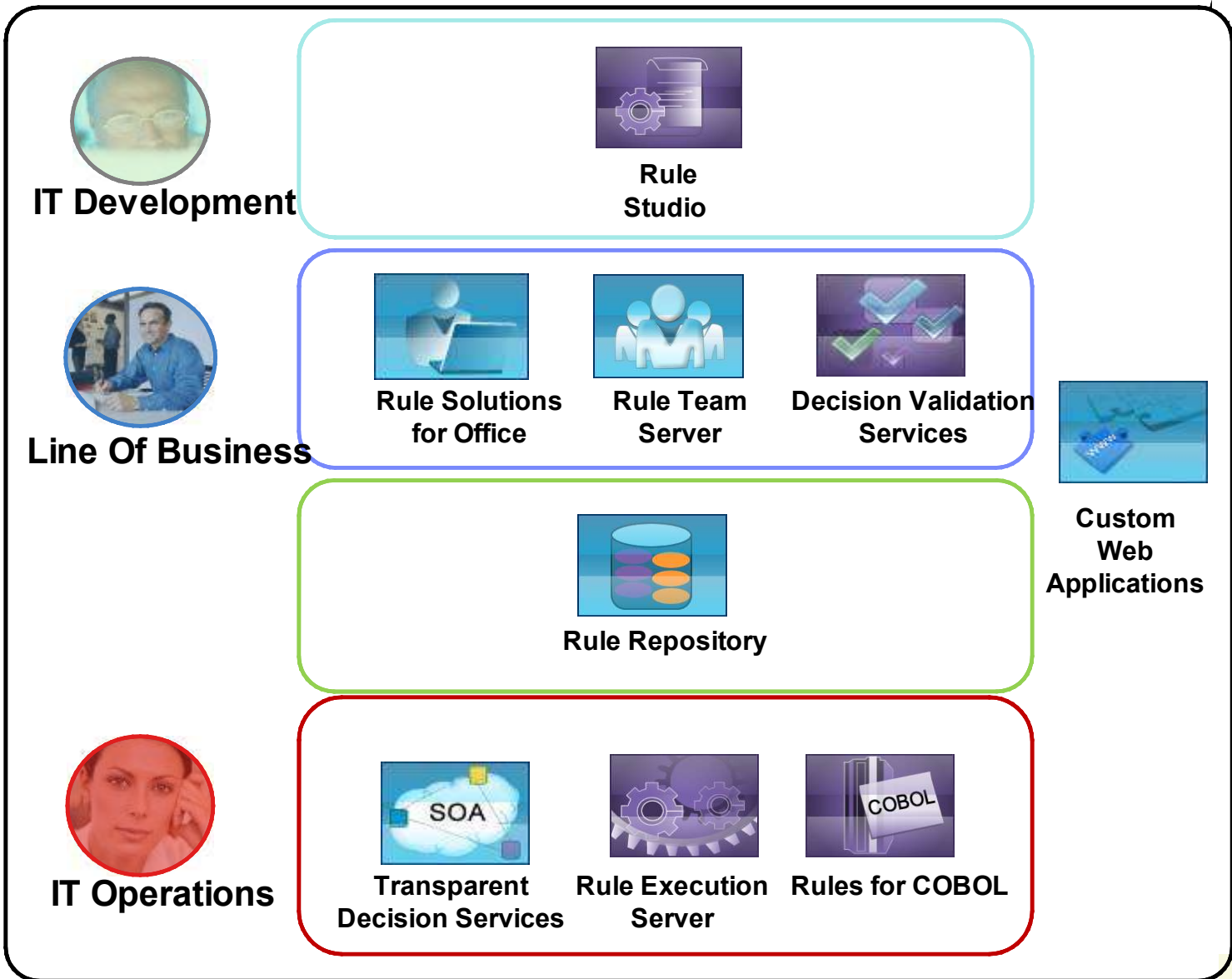
CURRENCY	PAYMENT TYPE	AMOUNT		Applicable MOP
		<min>	<max>	
EUR	Bank to Bank	100,000	500,000	EBA, CHAPSE E
		Otherwise		EBA, TARGET, SWIFT
	Customer Payment	> 500,000		CHAPSE
GBP				TARGET
Otherwise				CHAPSG
				SWIFT

# More Agile Approach with Business Rule Management System (BRMS)



- Adapt faster to ongoing change requirements
  - Respond to customer and industry demands by deploying rule changes independently from lengthy application maintenance cycles
- Reduce load on IT development
  - Express decision logic in business language terms to enable your business experts to participate in rule changes
  - Validate rules execution without the need to retest the whole CICS application

# WebSphere ILOG JRules BRMS



Design

Maintain

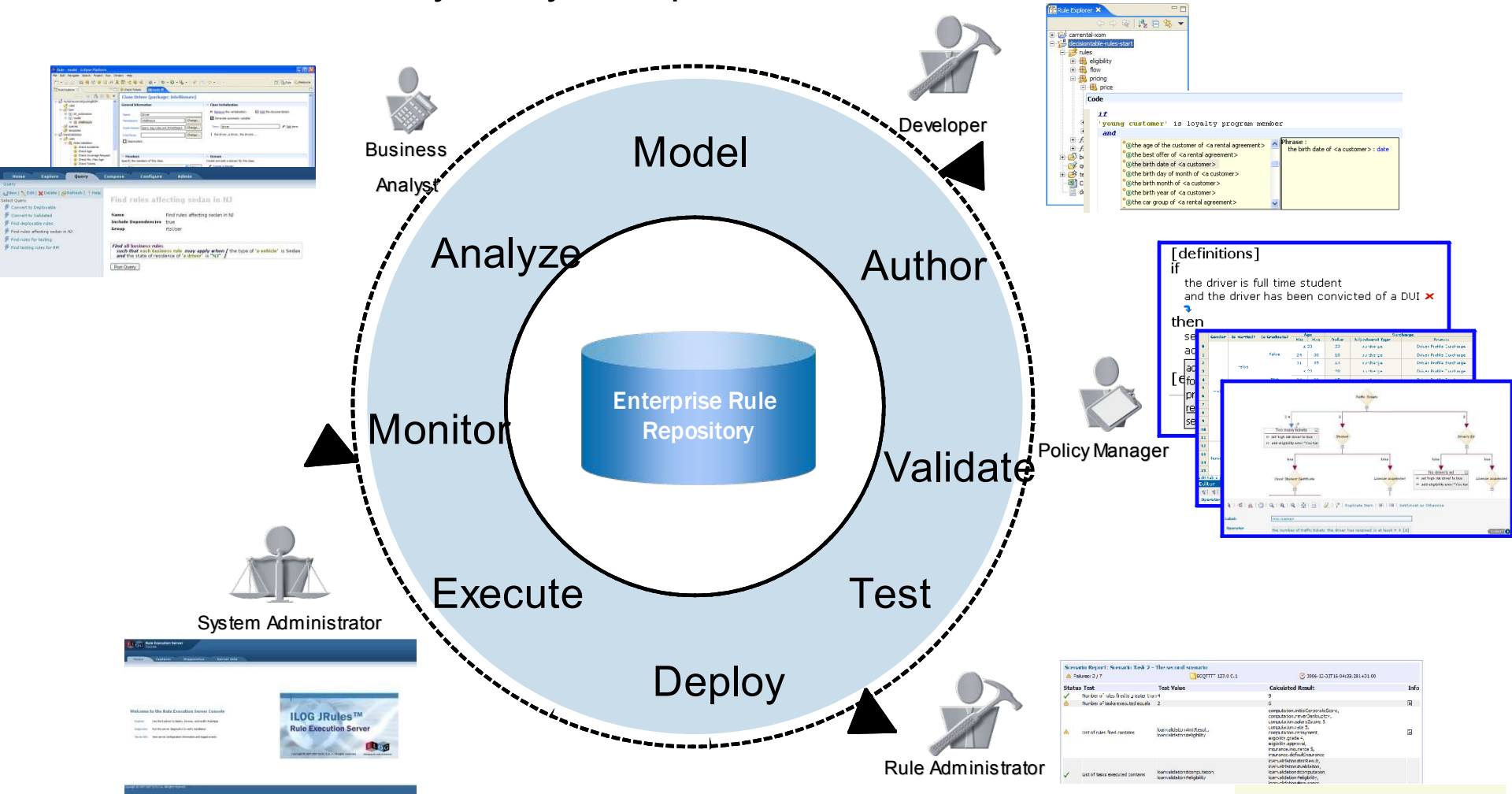
Share

Deploy



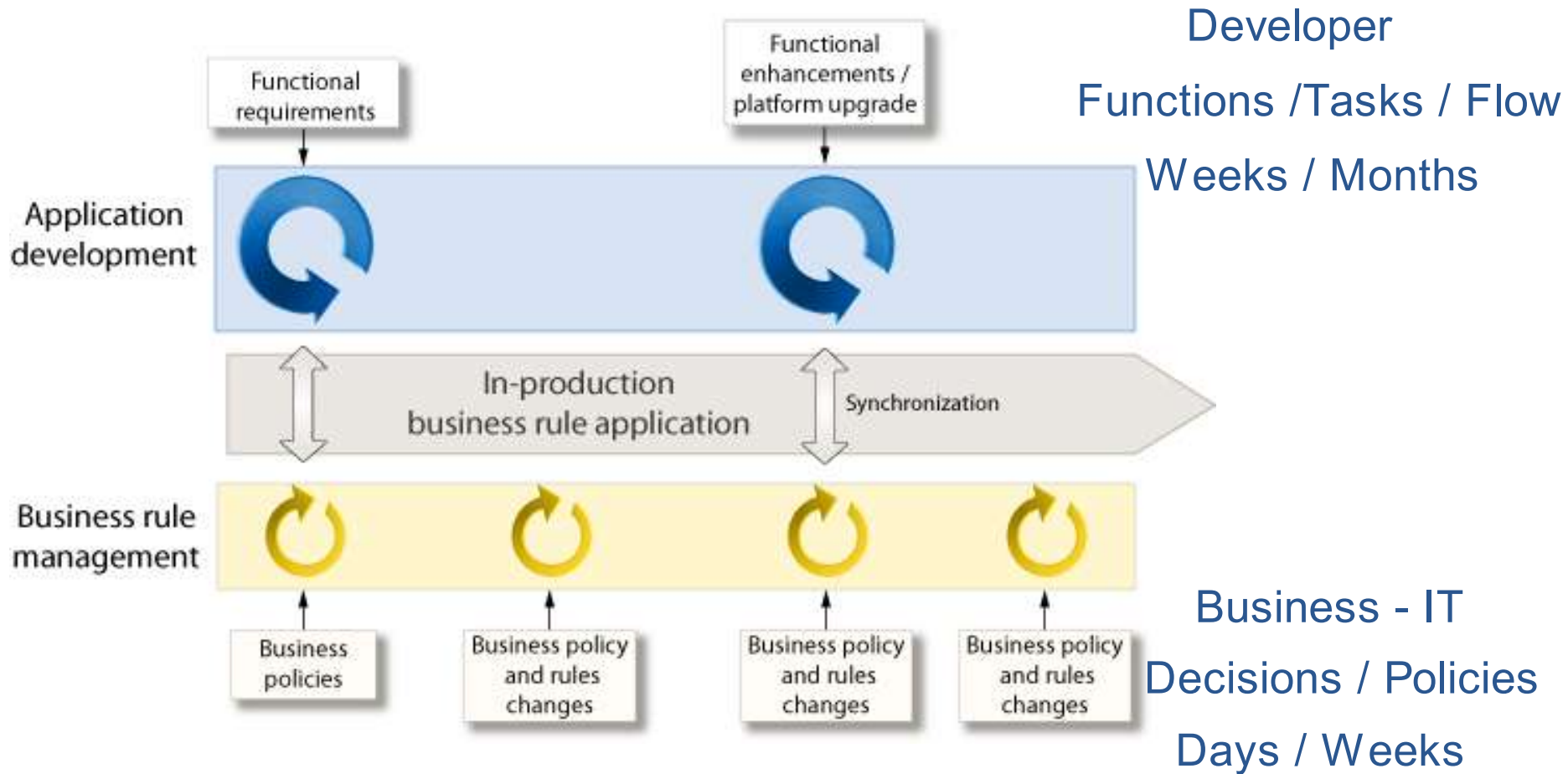
# Business Rules Management System (BRMS)

Provides complete functionality and tooling to fully maintain and manage an organization's business rules through the complete business rule life cycle by multiple roles.





# Redefined Application Change Cycle





# Intuitive Rule Authoring Environments

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

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

**Point & Click**

- Coupe
- Pickup Truck
- Sedan
- Sport Utility Vehicle
- Sports Coupe

## Decision Tables

	Gender	Is Married?	Is Graduate?	Age		Dollar	Adjustment Type	Reason		
				Min	Max					
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		true	≤ 23		15	surcharge	Driver Profile Surcharge
4			24	30		10	surcharge	Driver Profile Surcharge		
5			31	35		5	surcharge	Driver Profile Surcharge		
6	female	true	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		true	≤ 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	female	true	true	≤ 21		12	surcharge	Driver Profile Surcharge		

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

**Editor**

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

## Scorecards

Attribute	Range	Weight(%)	Score	Reason Code
Months since last bankruptcy	1 ≤ Months since last bankruptcy < 3	100	0	MLB
	3 ≤ Months since last bankruptcy < 6		20	MLB
	≥ 6		60	
Number of Bankruptcies	< 1	30	150	
	1 ≤ Number of Bankruptcies < 2		100	NB
	2 ≤ Number of Bankruptcies < 3		50	
Number of Foreclosures	< 1	20	100	
	1 ≤ Number of Foreclosures < 2		30	NF
	2 ≤ Number of Foreclosures < 3		10	
Number of 30 days Late Payment	< 1	5	0	
	1 ≤ Number of 30 days Late Payment < 3		80	
	3 ≤ Number of 30 days Late Payment < 7		60	
Number of 60 days Late Payment	< 1	15	10	30LP
	1 ≤ Number of 60 days Late Payment < 3		100	
	3 ≤ Number of 60 days Late Payment < 7		80	

## Decision Trees

```

    graph TD
        Root(( )) -- 4 --> T1[Too many tickets]
        Root -- 2 --> T2{Student}
        Root -- 3 --> T3{Driver's Ed}
        
        T1 --> T1_Ops[set 'high risk driver' to true  
add eligibility error: "You have too many tickets"]
        
        T2 -- true --> T2_GSC{Good Student Certificate}
        T2 -- false --> T2_LS[License suspended]
        
        T3 -- false --> T3_NDE[No driver's ed]
        T3 -- true --> T3_LS[License suspended]
        
        T3_NDE --> T3_NDE_Ops[set 'high risk driver' to true  
add eligibility error: "You have no driver's ed"]
    
```

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



# Rules Authoring Delivered to Business

Eligibility.xlsx - Microsoft Excel

	A	B	C		D	E
	A	City	Min	Max	D	E
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 Hampshire
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 rent
7	Rhode Island	A	21	70	TRUE	The customer is eligible to rent in Rhode Island
8			≥ 71.00		FALSE	The customer's age is past the maximum for rent

Rules

**Row4**

**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...**



Word Tutorial - copied.docx - Microsoft Word

Rules

RuleDoc Outline

- Compute the Base Rate
- Check the Eligibility for the Default
- Define the Pricing of the Default
- Check the Eligibility for the Long Term
- Define the Pricing of the Long Term

Rule Properties

Problem List

- The word "true" is expected in place

The following business rule defines the price of the Default Special Offer. The price is computed from the base rate of the offer.

**Definition:**  $Base\ Price * (1 - Percentage / 100)$

**Author:** [Name]

**Created:** [Date]

**Rule B:** [Name]

**Definition:** [Text]

**Set:** [Text]

**if:** [Text]

**And the:** [Text]

**Then:**

- Set the rental agreement "Default" discount to 'the percentage' ;
- Set the rental agreement "Default" price to the rental agreement "Base" price \* ( 1 - 'the percentage' / 100 ) ;
- Display the message: "The Default special offer corresponds to a 10% rebate on the Base offer price." ;





## Agenda

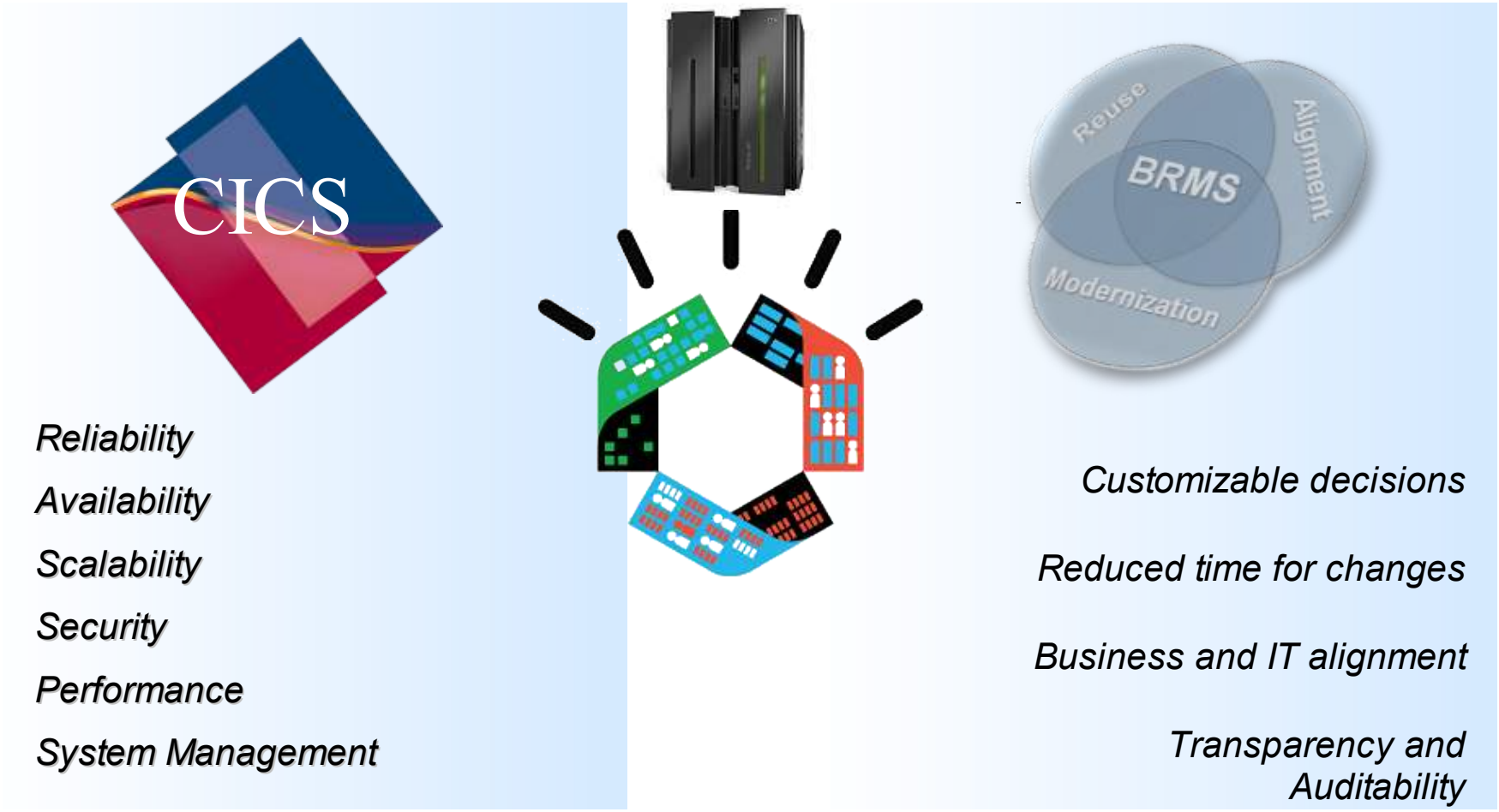
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# Transforming the Enterprise through Smarter Work

- Enable assets to become more agile, while leveraging the strengths of System z



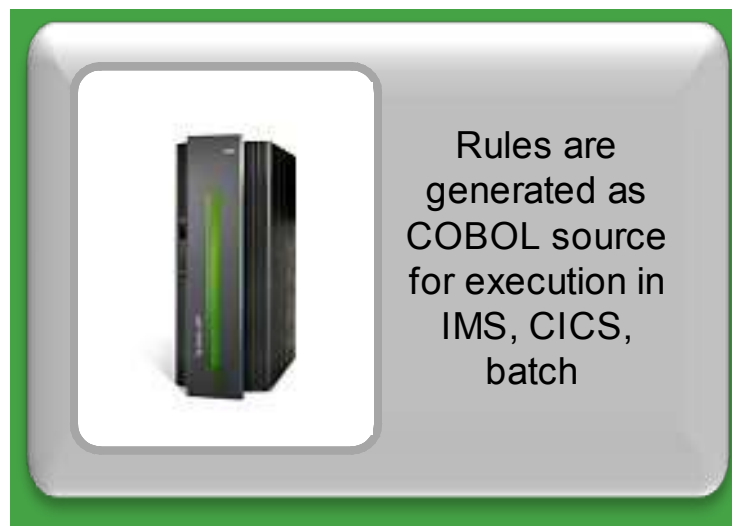
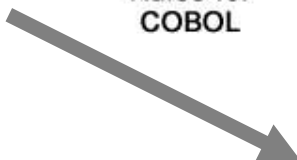




# Rules for COBOL



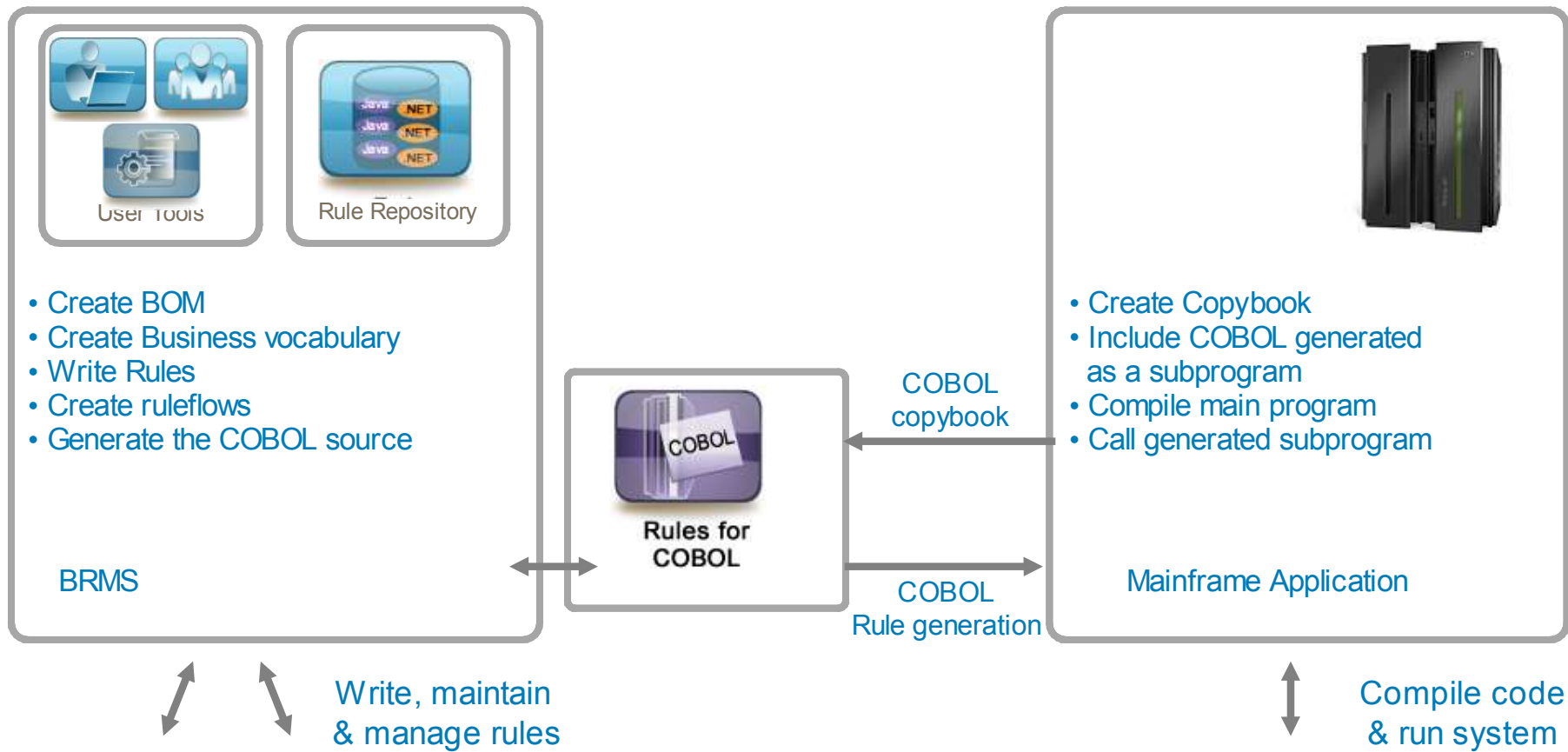
Rules for COBOL







# Overview of Rules for COBOL



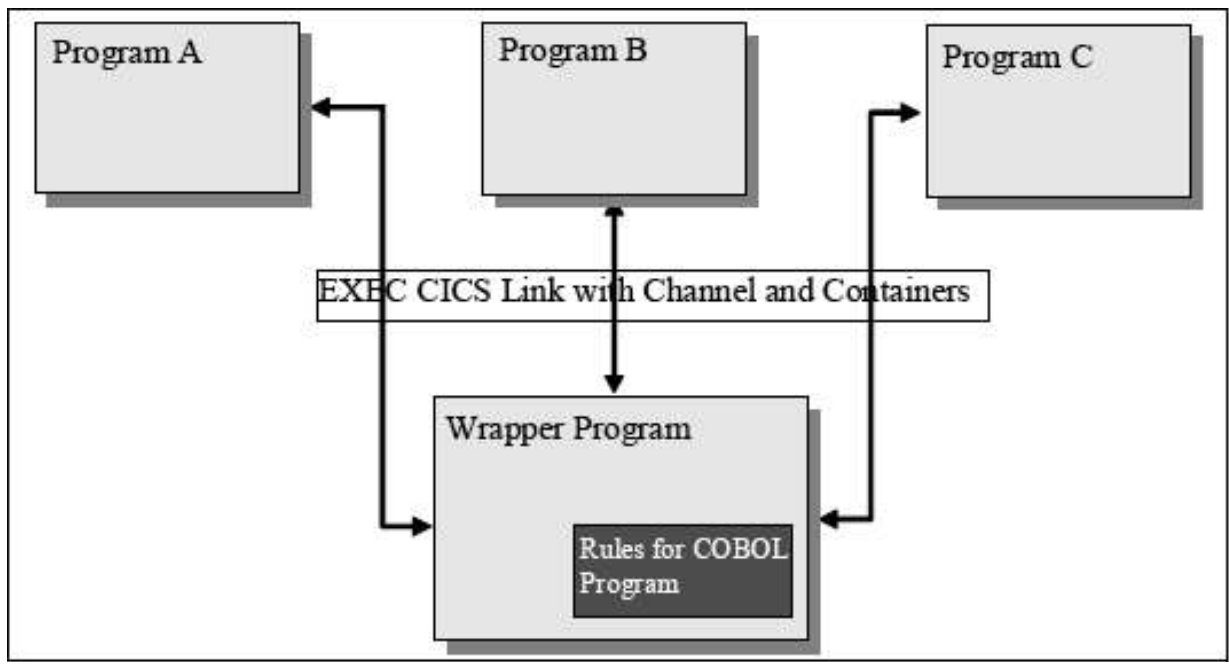
Best of two worlds





# R4C Improving Changes with CICS Channels & Containers

- Compile the generated rules program independently
- No need to re-link the many programs calling the rules
- Rules program can run in a different CICS region
- CICSplex Workload Manager can be used to achieve the best throughput of the rules





# ILOG BRMS for System z

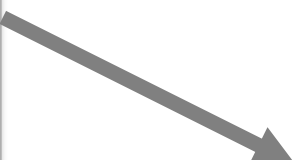
Business Rule Management System

Rules are Defined, Analyzed and Maintained

User Tools

Rules are Stored and Shared

Rule Repository



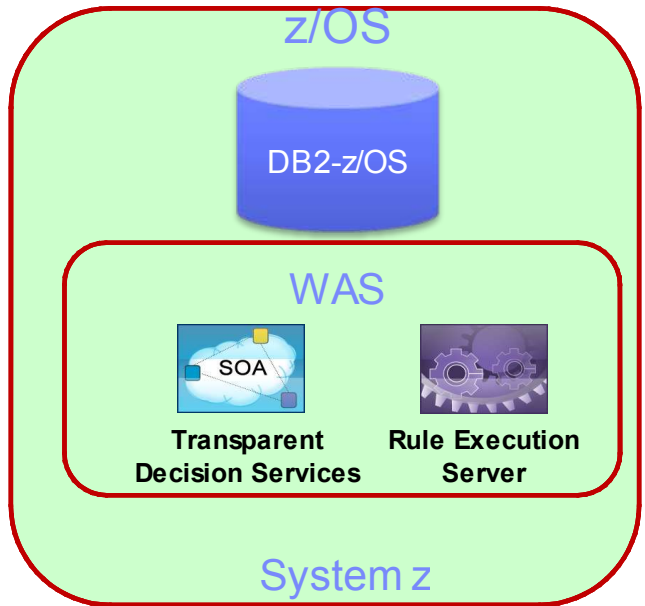
Rules are deployed, executed and monitored in JEE services

System z -  
zOS And zLinux

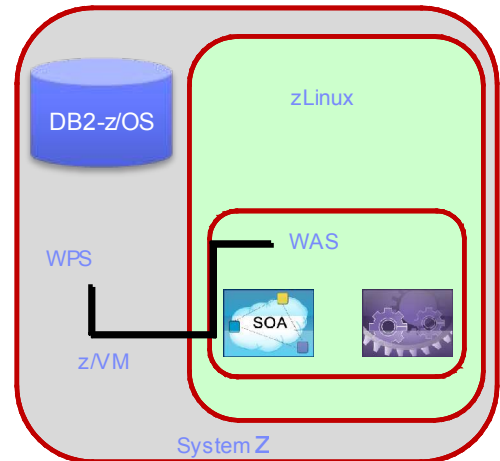


# JRules Native on System z or zLinux

- JRules system z/OS with WAS
  - Takes advantage of the WebSphere Optimized Local Adapters (WOLA) for CICS & IMS. No TCP/IP or DB2 access overhead when running in the same LPAR.
  - The Resource and Recovery Services (RRS) runs native on z/OS and ensures transactional access across different connected z/OS parts.
  - Sophisticated controller/servant concept to implement a reliant & scalable mini-cluster. The RES can exploit the use of more servants dynamically when load increases.



- JRules system zLinux with WAS
  - The WAS on zLinux is identical to a WAS on any other distributed system.
  - This configuration does not allow for WOLA or JDBC Type 2 drivers.
  - There is not controller/servant concept to maximize performance.





## Options for Integrating System z Applications with JRules and Rules for COBOL

JRules via Web service	Use CICS support for Web services to make an external call out to a Rule Execution Server	JRules RES on z/OS, RTS on z/OS
JRules via MQ	Use CICS and MQ to make a JMS call out to a Rule Execution Server	JRules RES on z/OS, RTS on z/OS
JRules Java SE engine	Deploy a core JRules rule engine in a CICS JVM and access the rule engine directly with the JRules API	JRules, Engine
JRules Java SE Rule Execution Server	Deploy J2SE rule execution server in a CICS JVM and access via RES API	JRules RES on z/OS and RTS on z/OS
Rules for COBOL	Deploy rules as a COBOL sub-program and link-edit this program into your application	Rules for COBOL



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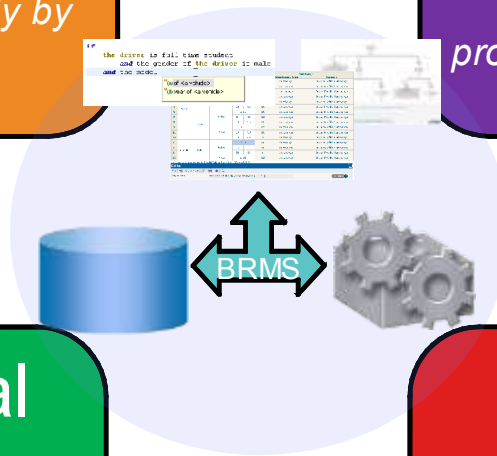
# Benefits of WebSphere ILOG BRMS

**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)*





# IBM Websphere ILOG Resources

- [www.ilog.com/brms](http://www.ilog.com/brms)  
BRMS Resource Center -- explore, learn, try
- <http://blogs.ilog.com> Latest on all ILOG products, technology, and methodology
- <http://www.ilog.com/corporate/training/>  
Find worldwide ILOG classes and self-training resources
- <http://www.redbooks.ibm.com/abstracts/redp4589.html?Open>  
CICS and ILOG BRMS Redpaper
- **Why Mainframe Podcast Series**