# System z Enables Solutions For A Smarter Planet

Smart Work On System z

# Service Oriented Finance Automated Its Loan Processing In 2008

**We automated our loan processing with WebSphere and it's great! We reduced loan processing time and our loan volumes increased 59%.**

**Service Oriented Finance CEO, 2008**

# Changing Business Conditions

**Service Oriented Finance CEO, 2009**

# Change The Rules, Not The Process

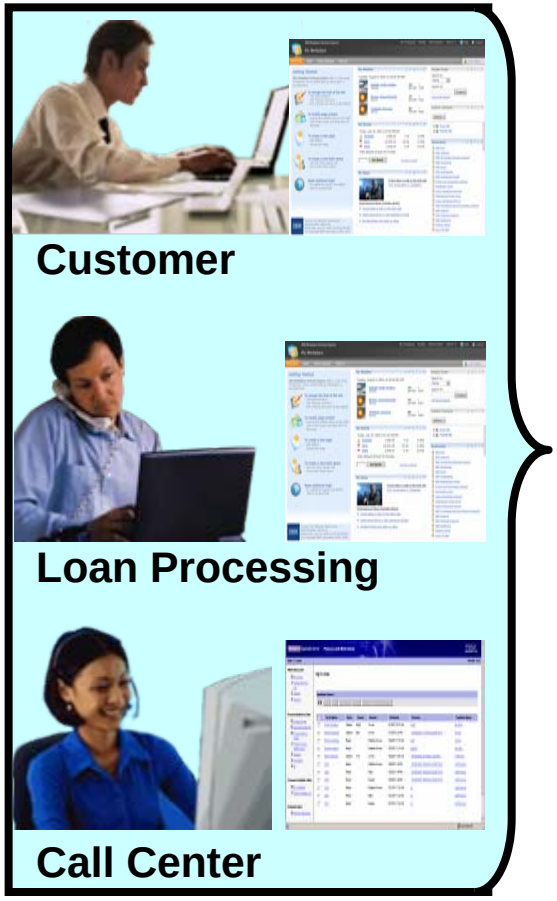
It sounds like we need a new business process!

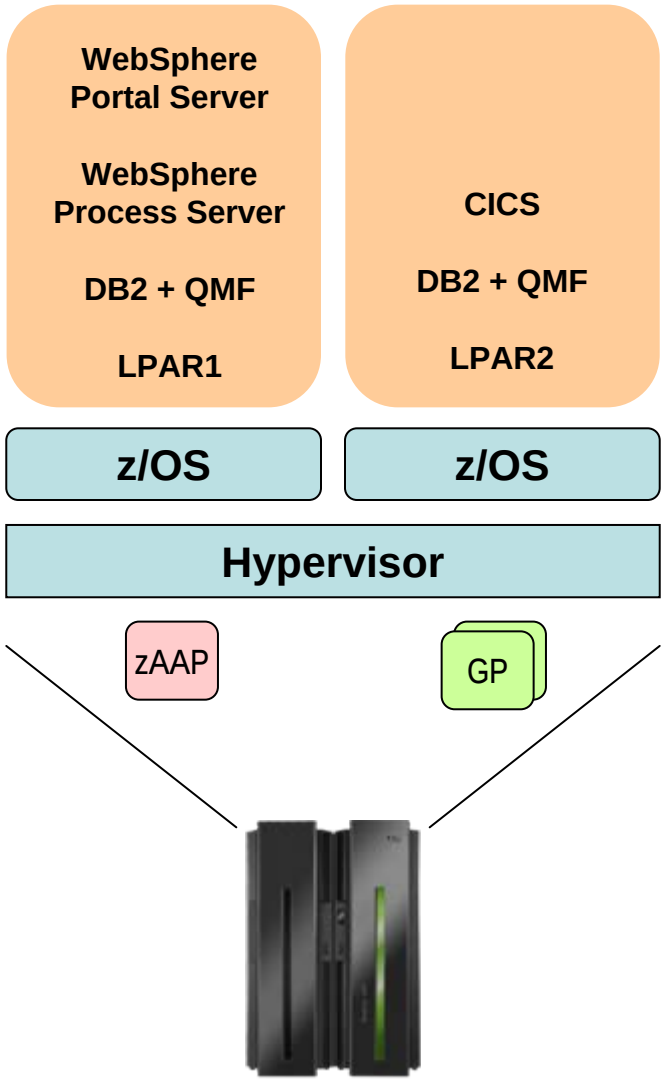
Service Oriented Finance CIO

You don't have to replace the process – simply adjust it!

IBM

# Service Oriented Finance Automated Their Loan Process With WebSphere On System z

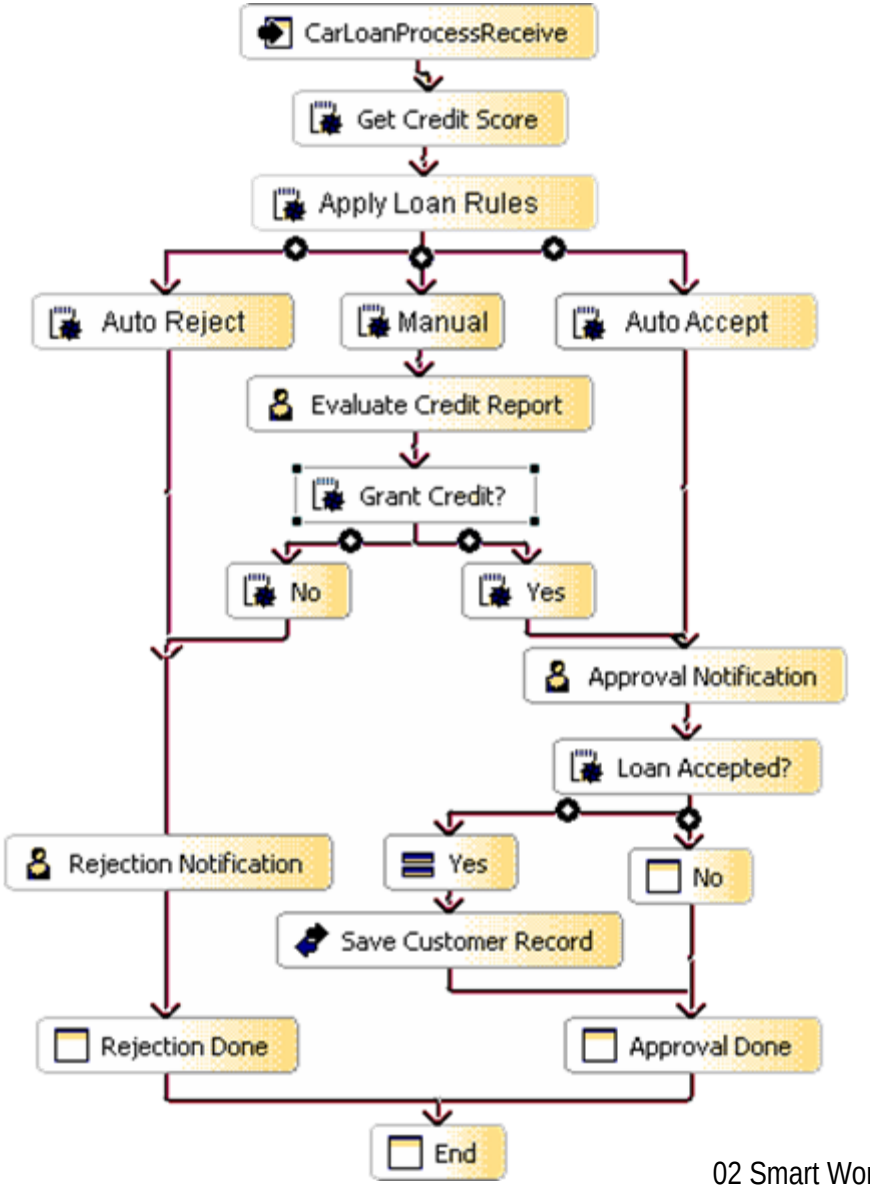



System z:

- Lowest cost
- Performance from co-location
- Quality of service

# The Current Loan Process




## Key Features:

- Automated process management reduces processing time and eliminates paper
  - Efficient inclusion of human tasks, such as manual approval
  - Automatic access to back end systems
  - Instant status and tracking of each loan application
- System z is the lowest cost deployment platform

# DEMO: The Current Loan Process

Tracy applies for a car loan from Service Oriented Finance

Car Loan Application

| | |
|---|---|
| Loan Type: | (•) New Car ( ) Used Car |
| Loan Term: | ( ) 24 (•) 36 ( ) 48 ( ) 60 ( ) 72 |
| Loan Amount Requested: | 45000 |
| Application Type: | (•) Individual Application |
| | ( ) Joint Application |
| Customer #: | |
| First Name: | Tracy |
| Last Name: | Conway |
| Address: | 110 Peachtree Drive |
| City: | Chicago |
| State: | IL |
| Zip: | 10987 |
| Phone: | 212-456-9092 |
| Email: | tracy@zcpo.com |

Submit Application

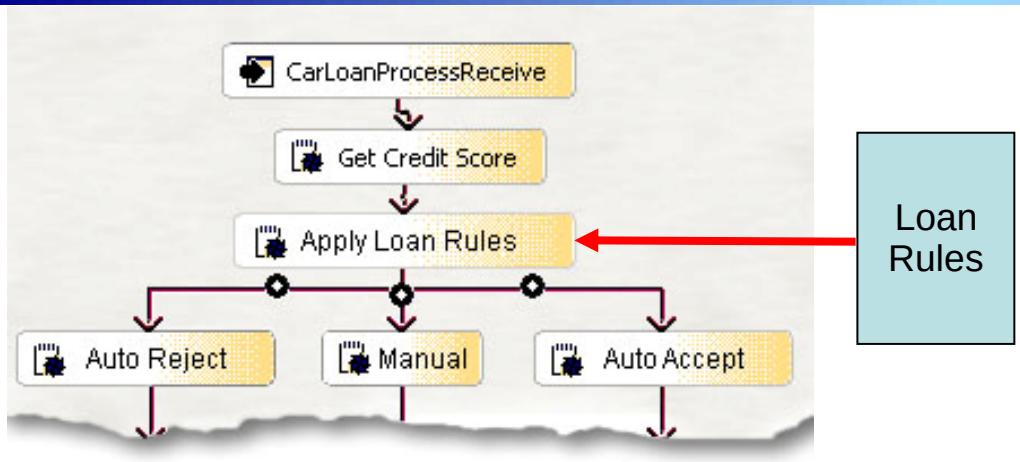
# What Changes Do You Need To Make?

**We need to impose a maximum loan limit and require better credit ratings from applicants.**

**Service Oriented Finance CEO**

**Service Oriented Finance CIO**

# Business Rules Let You Adapt Quickly To Business Change




WebSphere Process Server externalizes business rules so they can be adjusted by business managers in production, without requiring development changes to the process

- Business rules are typically used to adjust thresholds
- Business rules easily changed with a browser after the process is deployed
- New rules take effect immediately without having to redeploy

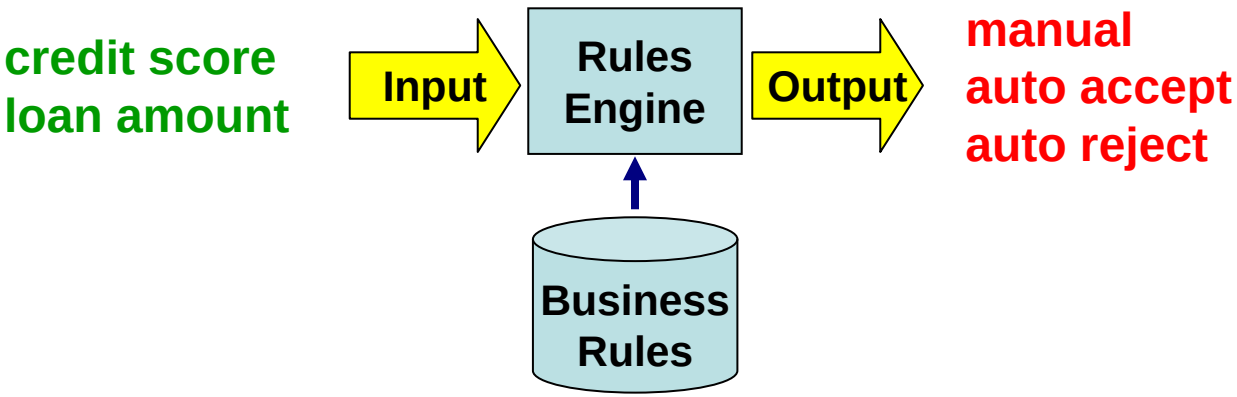
# Example: Change The Business Rules

**Current car loan rules**

- Default analysis result is manual
- If credit score is less than 500 analysis result is set to auto reject
- If credit score is greater than 700 analysis result is set to auto accept

**New car loan rules**

- Default analysis result is manual
- If loan amount is greater than 30,000 analysis result is set to auto reject
- If credit score is less than 650 analysis result is set to auto reject
- If credit score is greater than 720 analysis result is set to auto accept



# DEMO: Change The Rules

Welcome FENG | Logout | Help

> AnalyzeCreditScoreRuleGroup > executeRule

**Edit Mode:AnalyzeCreditScoreRuleSet - Ruleset**

Save | Cancel | Messages:

**General Information**

| | | | |
|---|---|---|---|
| **Last Published** | Feb 24, 2009 07:45 (Local Time) | **Status** | *Original |
| **Description** | | | |

**Rules**

Close Template List

| Name | Rule | Action |
|---|---|---|
| ManualRule1 | Set default analysis result to Manual | Delete |
| AutoReject | core is less than 500 then analysis result is Auto Reject | Delete |
| | s greater than 700 , then analysis result is Auto Accept | Delete |

1. impose a maximum loan limit
2. require better credit ratings

nd click "Add" button.

| Tem | | Rule | Action |
|---|---|---|---|
| e_AutoRejectRule | | If credit score is less than then analysis result is Auto Reject | Add |
| Template_AutoAcceptRule | | If credit score is greater than , then analysis result is Auto Accept | Add |
| Template_MaxLoanRule | MaxLoanRule | If loan amount is greater than 30000 , set analysis result to Auto Reject | Add |
| Template_ManualRule1 | | Set default analysis result to Manual | Add |

SOF's Loan Analyst, JC Feng, needs to change the rules

# There Were Some Other Changes Made To The Process

# DEMO: The Loan Application With The New Rules

Tracy applies for a car loan from Service Oriented Finance, after the change of rules

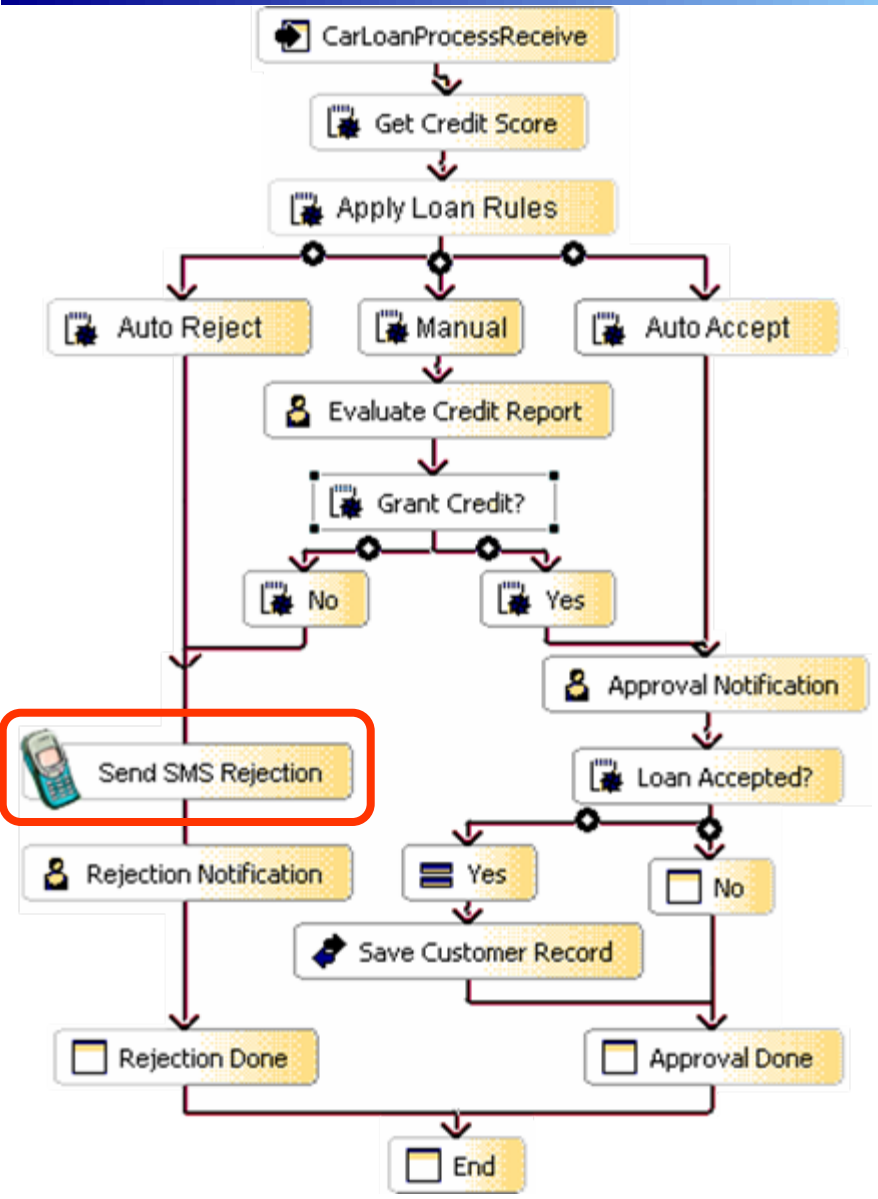
Car Loan Application

| | |
|---|---|
| Loan Type: | (•) New Car ( ) Used Car |
| Loan Term: | ( ) 24 (•) 36 ( ) 48 ( ) 60 |
| Loan Amount Requested: | 45000 |
| Application Type: | (•) Individual Application |
| | ( ) Joint Application |
| Customer #: | |
| First Name: | Tracy |
| Last Name: | Conway |
| Address: | 110 Peachtree Drive |
| City: | Chicago |
| State: | IL |
| Zip: | 10987 |
| Phone: | 212-456-9092 |
| Email: | tracy@zcpo.com |

Submit Application

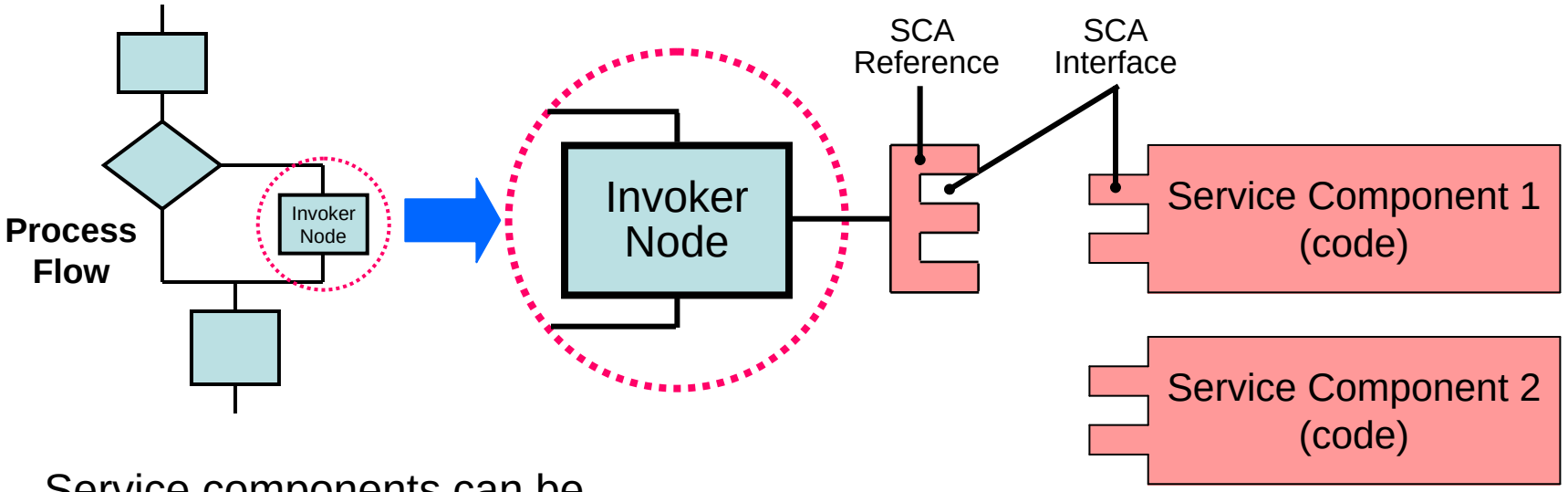
With New Rules!

# Making More Revisions To The Business Process




- In the demo we added a notification sent to a mobile phone via SMS using the phone number provided
- It's fast and easy to revise and redeploy an existing business process
  - Change the order of activity steps
  - Add one or more new activities
  - Use a different service provider
- Service Component Architecture (SCA) makes it easy
  - Tool can easily insert "send SMS alert" activity into flow

# Service Component Architecture (SCA) Is The Foundation For Process Flexibility




Service components can be

- Wired-in to the reference at assembly time
- Changed at assembly time
- And, as we'll see, selected or substituted at runtime

Types of service components

- EJB code
- Proxies to call Web services
  (e.g. a CICS transaction wrapped as a Web service)
- Proxies to send a task to a human
- Proxies that make decisions about what to do at run time

# Service Oriented Finance Needs Even More Flexibility

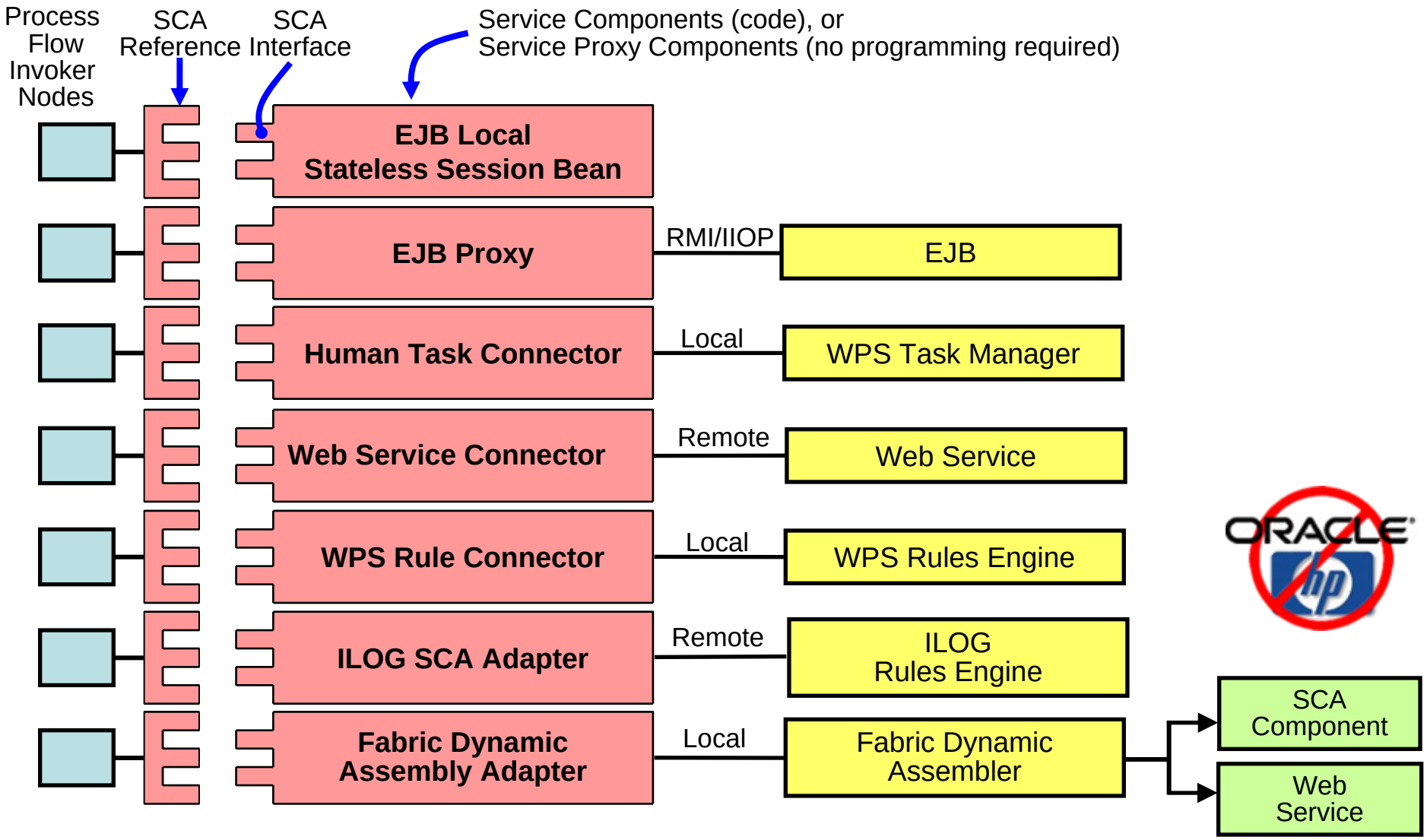
There are other scenarios where we need process flexibility.

Service Oriented Finance CEO

IBM has the most suite of flexible process capabilities.

IBM

# Process Flex Points Are Built On Service Component Architecture



# SOF Is Now An Agile Business, But There Are New Requirements

**IBM can satisfy them!**

# Local Variations

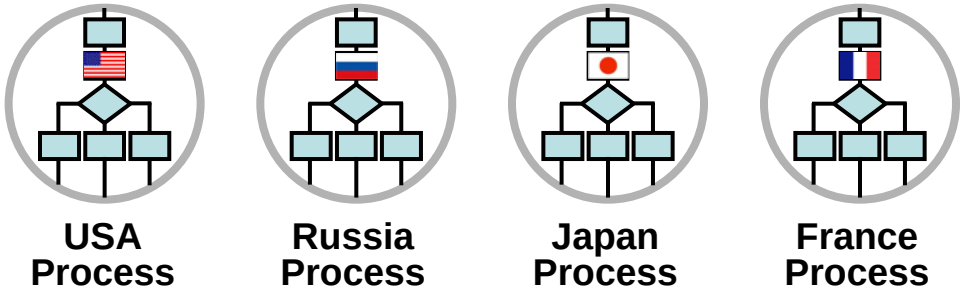
We want to deploy a common process but we need to handle variations in local environments.

**Manager, International Markets**

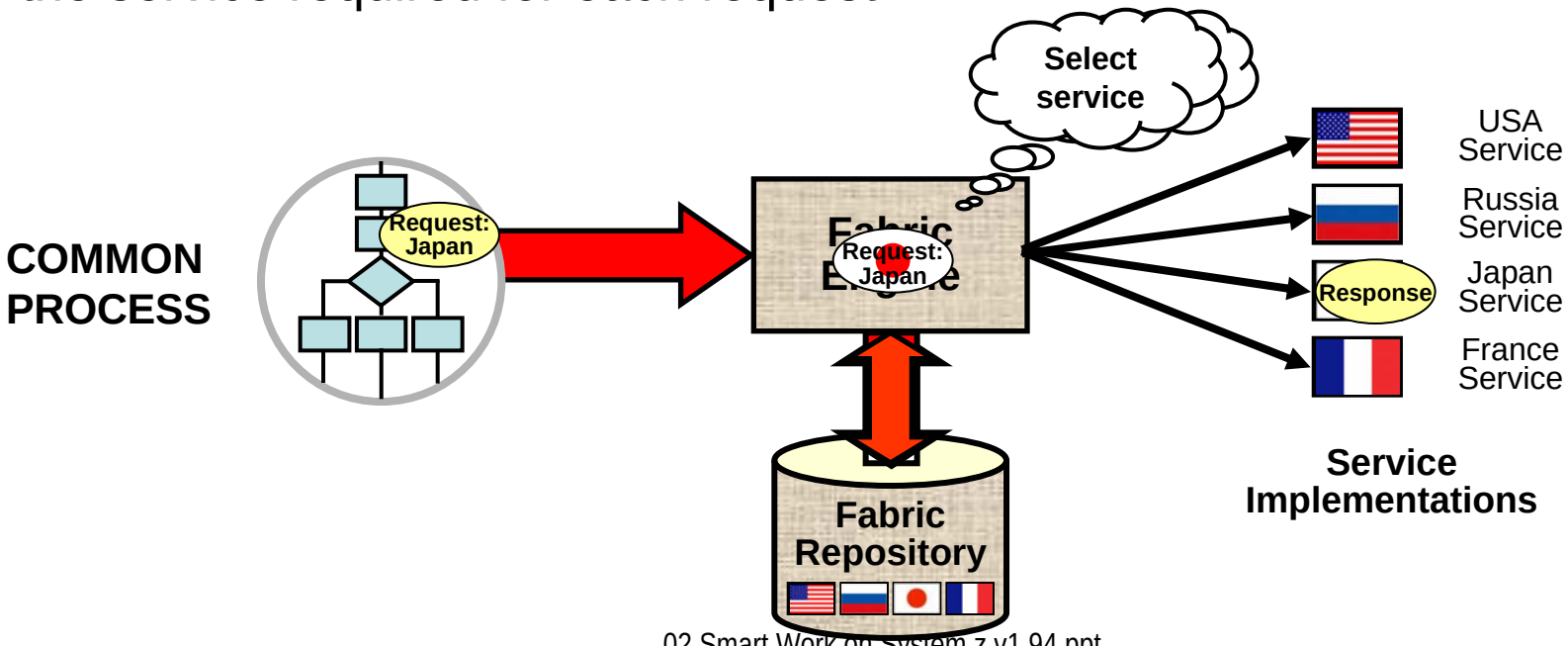
WebSphere Business Services Fabric is unique in it's ability to do this !

**IBM**

# WebSphere Business Fabric Permits A Common Process To Be Adapted To Localities




- **PROBLEM:** Need to deploy same process worldwide, with localized differences
  - Customizing separate copies is cumbersome and costly, and complicates version control
- **SOLUTION:** Fabric supports a **common process** by selecting, **at runtime**, the service required for each request



There are many experts that determine our business policies.
We need to capture this expertise and use it to make process decisions.

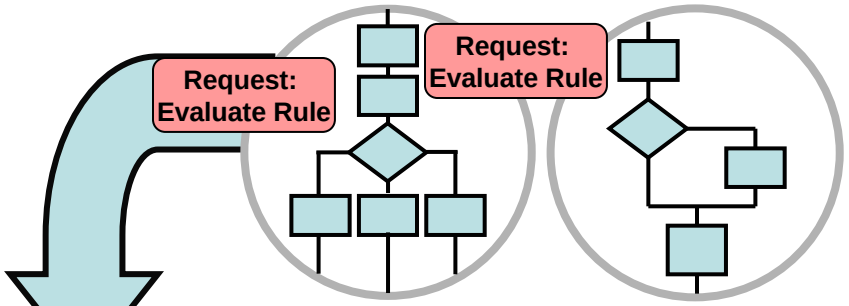
**Business User**

ILOG is a great way to capture expertise in complex rule sets.

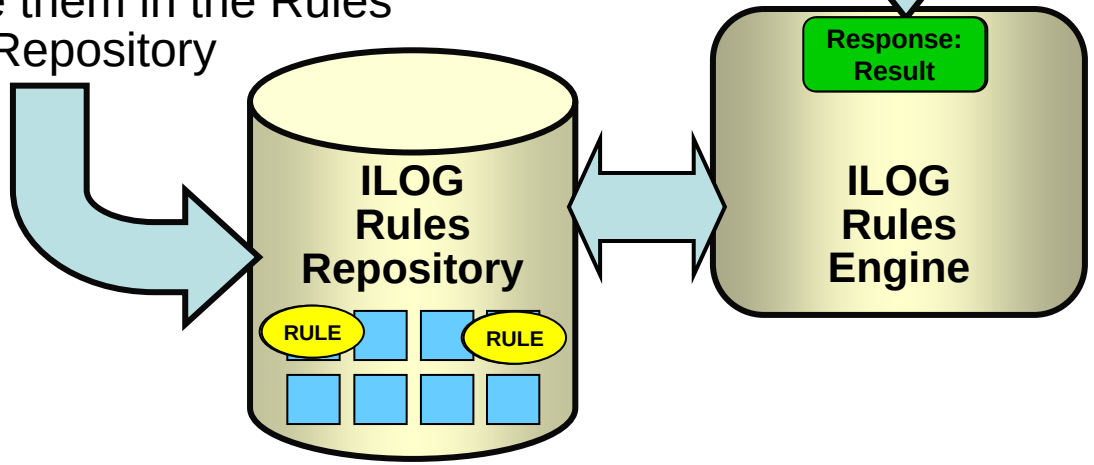
**IBM**

# ILOG Captures Expertise As Business Rules For Re-Use In Business Processes

Business Processes invoke business rules




Experts create business rules and save them in the Rules Repository




ILOG Rules Engine evaluates a specified rule from the Repository and returns result to the Business Process

ILOG Repository captures business rules for re-use in Business Processes

# Why Deploy This Process On System z?

- A Smart SOA implementation requires high quality of service from the deployment platform
  - Workload Management to handle peak demand
  - Scalability and Clustering
  - Continuous Availability/Disaster Recovery
  - Rock-solid Security
- Running on the same server provides performance advantages
- Lowest cost!

# IBM Smart SOA Software Runs On System z

- WebSphere Process Server
- WebSphere Enterprise Service Bus
- WebSphere Application Server
- WebSphere Service Registry and Repository
- WebSphere Business Events
- WebSphere Business Services Fabric
- WebSphere Business Modeler Publishing Server
- WebSphere Business Monitor
- ILOG jRules

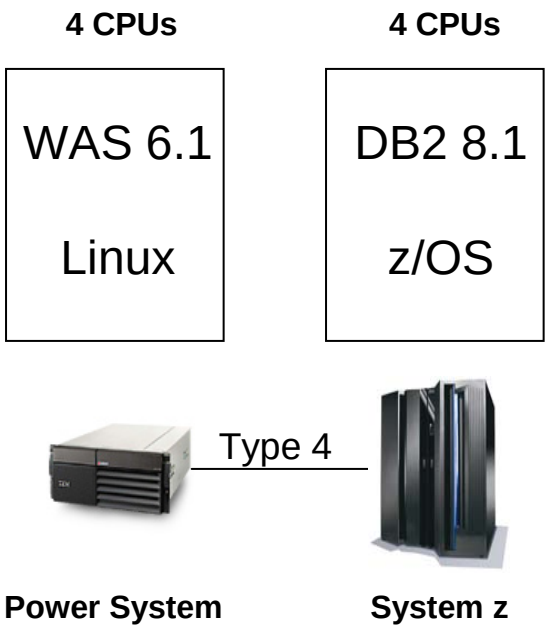
# Co-location Performance Advantages

- Mainframes already house the core DB2, CICS and IMS applications and data for the business
  - Quickly expose these assets as services
- Deploying WebSphere Process Server, WebSphere Portal Server, and the assets they use in the same LPAR provides better performance and throughput

# On-Line Banking Benchmark Demonstrates Performance Advantages Of Co-location

## Separate Machines

150 tps




## Same LPAR

243 tps

z Series Server : z9-EC, 8 X 1.7 GHz, 64 GB RAM

# Deploy WebSphere Process Management Application on Mainframe vs. HP Servers

*Existing Mainframe*

Existing z10:
2 GP 1,720 MIPS
DB2 and utilities
With 20TB storage

*Existing Disaster Recovery Site*

Existing:
1 GP processor for hot disaster switch-over
1 "dark" DR processor
With 20TB storage

*Add 1 LPAR for New Web Application w 1.28TB storage*

Prod

1,624 MIPS additional workload

Incremental:
1 zAAP 920 MIPS WPS & Portal (85%)
1 GP 541 MIPS DB2
80 MIPS WPS & 83 MIPS Portal (15%)
2 GB memory

*And Add Disaster Recovery w 1.28TB storage*

Prod

Capacity Backup:
1 GP
1 zAAP

*3 year cost of acquisition $3.15M*

*Or Add HP Integrity Superdome 9140 Server w 1.67TB storage*

Prod

*201,977* Performance Units*

*And Add Disaster Recovery w 1.67TB storage*

Prod

*201,977* Performance Units*

*3 year cost of acquisition $14.36M*

**Production Performance Units required = 1,624 x 122 = 198,128*