



| IBM SOA

Automating your
business processes to
streamline operations

Smart
SOA



Key Questions:

Where do I start to begin automating my processes?

What is Business Process Management and how can it help me?

What IBM tooling is available to support automation?

Why deploy on System z?

Automation begins with dynamic and agile business processes

What we will talk about today:

1

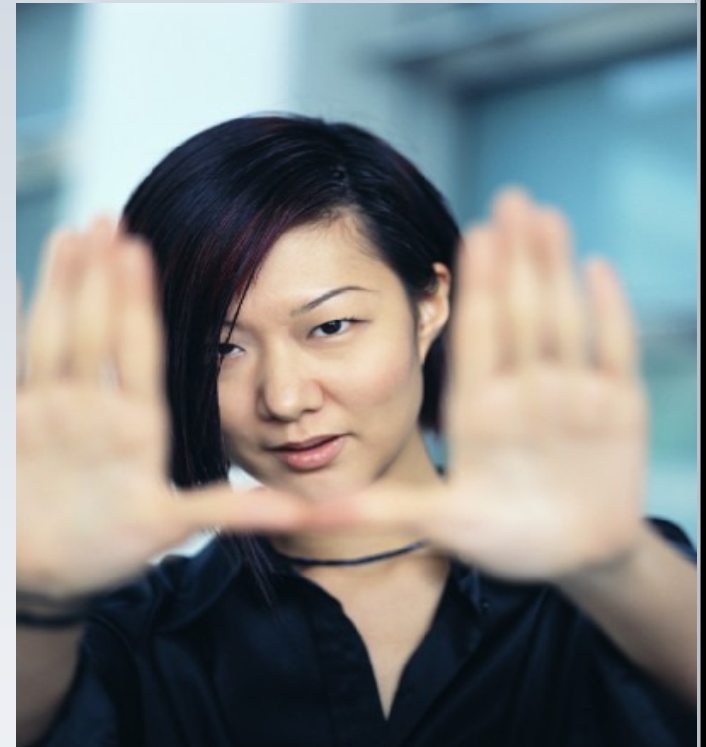
Raising the bar with agile processes

2

What you can accomplish with process automation

3

Customer examples, benefits and how to get started!



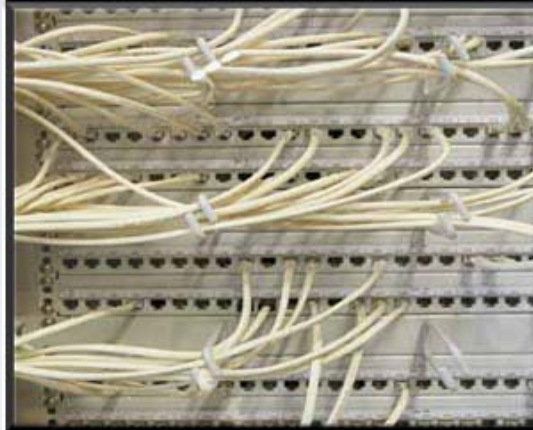
What can Process Automation do for me?

Automating your process can help you overcome a number of challenges

Regulatory compliance



Business partner integration



Business model agility
and IT adaptability



Human task management

Regulatory Compliance

Companies are finding it difficult to ensure that their business operations run precisely as documented because if they aren't automated they can't ensure consistency



- How do you prove that your processes are doing what you claim they are?
- How are you assuring that your operating procedures are in line with the legal and industry regulations that are required of you?
- What will it cost you, if you are out of compliance with regulations or internal controls?

Our Customers Find Success!

- A large US Federal Agency has significantly improved accountability between gov't and commercial vendors
- A large financial institution reduced operational complexity while offering tamper-proof safeguards and an audit log.
- A large municipal gov't improved processes with clearly defined regulations and improved reporting capabilities

You Need

A solution that ensures your processes run consistently and that only the right people execute the right steps at the right time.

Business Partner Integration

Connecting business processes and IT systems with Business Partners can be harder than expected due to differences in systems, applications, custom or nonstandard interfaces, and undocumented processes.



- How much is the revenue and cost impact of inefficient linkages in your supply chain with customers and suppliers?
- How is the inconsistency in response lowering customer satisfaction and impacting revenue?
- How much knowledge of technical interfaces has your effort required?

Our Customers Find Success!

- A multinational manufacturer integrated its critical business processes from end to end to include customers, partners, employees and suppliers to produce a collaborative environment that fosters innovation reducing time to market for new products, shortening product design from one month to one - two weeks
- An insurance company was able to enable superior communication with external business partners and provides an effective way to manage end-to-end claims processing.

You Need

A solution that can help you avoid the high cost of hard-coding a variety of complex integrations between in-house & supplier or customer applications. In addition, it ensures that your integration is flexible enough to allow for inevitable subsequent additions and changes.

Business Agility and Flexibility

As companies adapt their business models initiatives are often constrained by IT's ability to evolve at the same speed; rigid IT architectures lock them into inflexible, undifferentiated molds



- How flexible is your IT organization in its ability to deliver new and emerging business models or ideas?
- If you need to create change, how long does it typically take IT to deliver on this change?
- How big would the IT department have to be to deliver everything being requested?

Our Customers Find Success!

- A university reduces development costs by easily integrating new applications into the flexible environment decreasing development times and speeding time to market for new applications.
- A lender is able to improve the reuse and efficiency of their IT service components.
- A shipbuilder is able to have legacy and newly installed applications work together in a flexible manner

You Need

A solution that supports software and hardware asset reuse and recombination to speed delivery of new initiatives and to greatly reduce maintenance as requirements change.

Human Task Management

The ineffective use of employee skills for repetitive tasks rather than value added brain tasks is not utilizing resources effectively and harnessing the power of the organization



- What kinds of manual steps and data reentry do you find in your processes?
- What kinds of steps have you taken to make your employees work more effective?
- How much revenue could be gained by focusing talent on business value rather than repetitive tasks?

Our Customers Find Success!

- A global leader in food production significantly reduced staff hours consumed by data entry
- A university eliminated manual enrollment processes allowing personnel to concentrate on serving students.
- A leading bank replaces a cumbersome paper-based process significantly increasing speed of service while simultaneously reducing operating costs and boosting customer satisfaction.

You Need

A solution that seamlessly incorporates people and processes to execute automatically with improved quality and manageability to harness the power of your workforce for more productive value added services for your customers.

Process Automation Delivers REAL value

Respond Quickly with processes based on a flexible infrastructure.



Enhanced customer service operations with an SOA based Process Automation implementation Cut average problem resolution time from *two days* to less than **one hour**

Ensure Compliance and Integration of processes through out organization



SOA platform enables rapid scalability and ease of integration to accommodate strong growth. **25% reduction** in the cost of integrating acquired companies and **30% increase** in the productivity of IT staff

Enhance Business Efficiency

by streamlining and automating key business functions .



Market with an automated, reusable infrastructure **25% reduced time to market** for new services and **reduced call response time by 20%** through system automation

Automate: Process Automation Lowers Operating Costs

Crowley Maritime

Challenge

- Reposition its business operations to meet the challenges of its second century of operations
- Reduce operating costs; Increase profits and ROI of existing routes/platforms; and address legacy application modernization

Solution

- Automate critical business processes
- Integrate and modernize existing legacy systems



Business Benefits

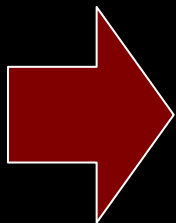
- \$15,000 savings per integration interface
- 50% reduction in application delivery time and costs
- Significant improvement in efficiency, productivity, business flexibility
- Errors and omissions reduced

The Business Landscape is Changing

Forcing Companies of All Sizes to Respond to a 'Flat World'

Innovation that matters to CEOs:

- Extend the ability to collaborate inside & outside
- Innovate business models & processes
- Leverage information for business optimization
- Integrate globally
- Agile business processes



87% expect fundamental change in next 2 years
78% believe innovation requires business and technology

Business Leaders know what's needed from their Business Processes to achieve their Objectives

- Support **innovative business models** and new **differentiated products and services**
- **Change rapidly** and continuously **optimize operational capabilities**
- Provide a **real-time operational view** with the ability to **intervene fast**



Business Objectives



How can I...



...meet these business objectives?

...leverage my existing resources and IT systems?

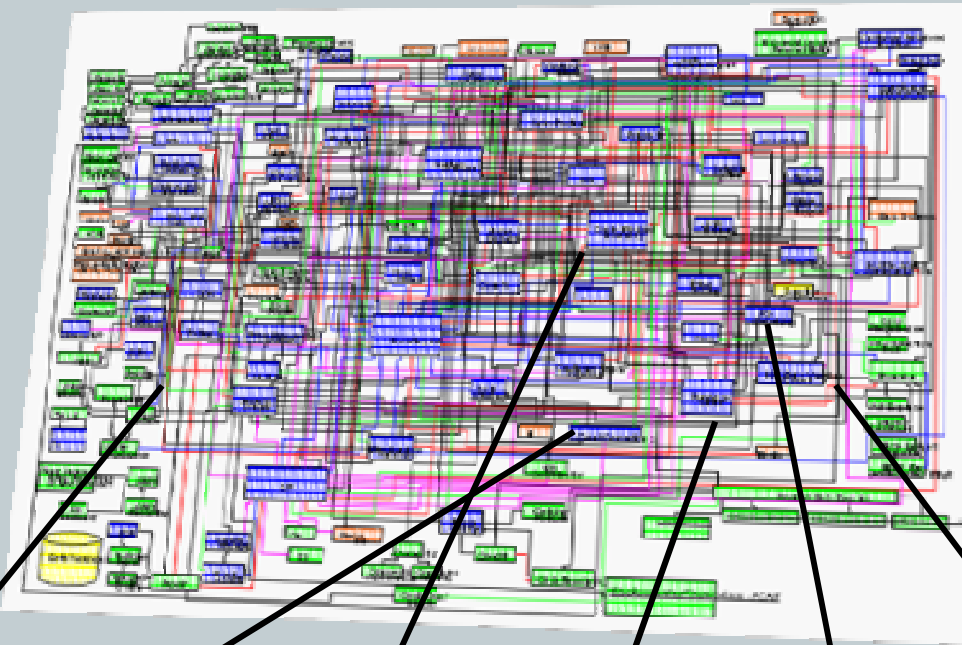
...deliver at a pace and cost that beats my competition?



The Challenges

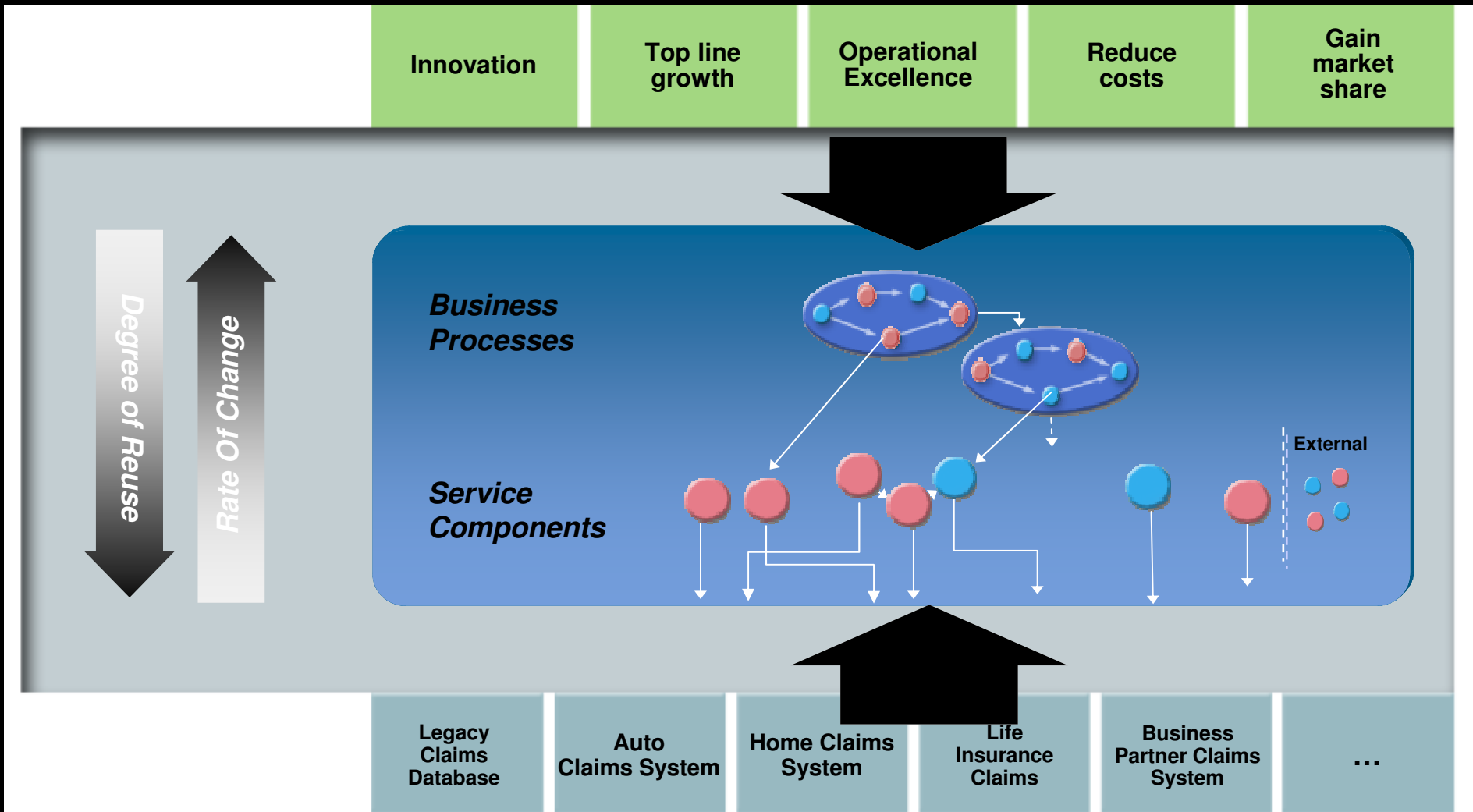


- *Complex processes & systems*
- *Complex applications & interfaces*
- *Difficult to adapt quickly*
- *Large portion of IT budget spent on maintenance, not on new “value add” investments*




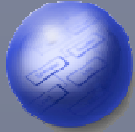
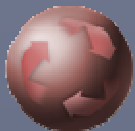

BPM Enabled by SOA Addresses this Challenge

And using System z as the hub of your SOA transformation provides unique value

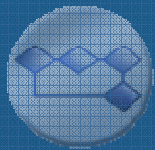
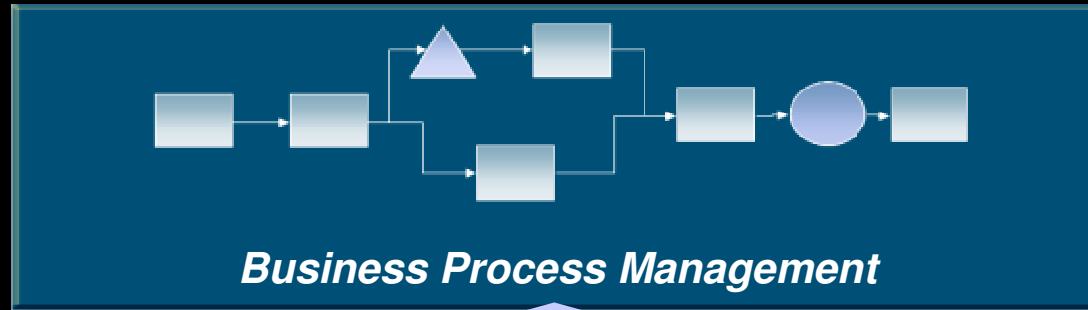


SOA Entry Points Help You Get Started

Both Business Centric and IT Focused

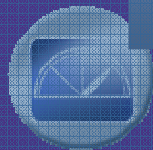
<p>People</p> 	<p>Deliver role-based interaction and collaboration through services</p>	<p>Improved productivity and flexibility by enabling targeted user interactions for improved business operations and collaboration</p>
<p>Process</p> 	<p>Achieve business process innovation through treating tasks as modular services</p>	<p>Greater innovation and flexibility through faster deployment and modification of business processes</p>
<p>Information</p> 	<p>Provide trusted information in business context by treating it as a service</p>	<p>Better business operations, more informed decisions and reduced risk with information delivered in-line and in-context</p>
<p>Reuse</p> 	<p>Service-enable existing assets and fill portfolio gaps with new reusable services</p>	<p>Lower risk and faster time to market by leveraging proven, time-tested functionality</p>
<p>Connectivity</p> 	<p>Connect systems, users, and business channels based on open standards</p>	<p>Reduced maintenance costs and greater reliability and consistency through flexible, any-to-any linkages</p>

Process Automation is the “P” in BPM



Modeling & Simulation

Design and simulate business processes



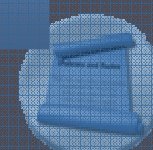
Business Activity Monitoring

Track performance, processes and operational activity using key performance indicators



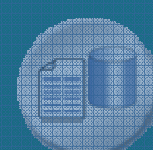
Process Automation

Choreograph processes across applications and systems



Rules and Pre-built Frameworks

Manage process rules and accelerate design and implementation time



Content Centric Processing

Manage processes where content is used as input for a decision or produced as the output

Common Business Problems Identified Across Industries

1. **Duplication of data entry**
 - From separate, unconnected legacy applications
 - Introduces human error
 - Results in loss of employee productivity and additional time to process info
2. **Using paper-based, sequential manual processes**
 - Requires additional time to process
3. **Human interaction required**
 - Sometimes necessary
 - Requires an escalation process
4. **Use of phone, fax or email**
 - Again requires human interaction
5. **Having to access unconnected multiple legacy applications for data**
 - Sequential process, requires additional time when data from one application is needed for the next

Common I/T Problems Identified Across Industries

1. Unconnected legacy applications

- May result in duplication of data or inconsistent data
 - May require synchronization
 - May require human intervention
- Slows down business processes

2. Maintenance

- Numerous multiplatform servers
- Increased I/T expenses for:
 - OS or application upgrades
 - new application installations
 - licensing fees or purchasing expenditures
 - system down time, application availability & customer satisfaction

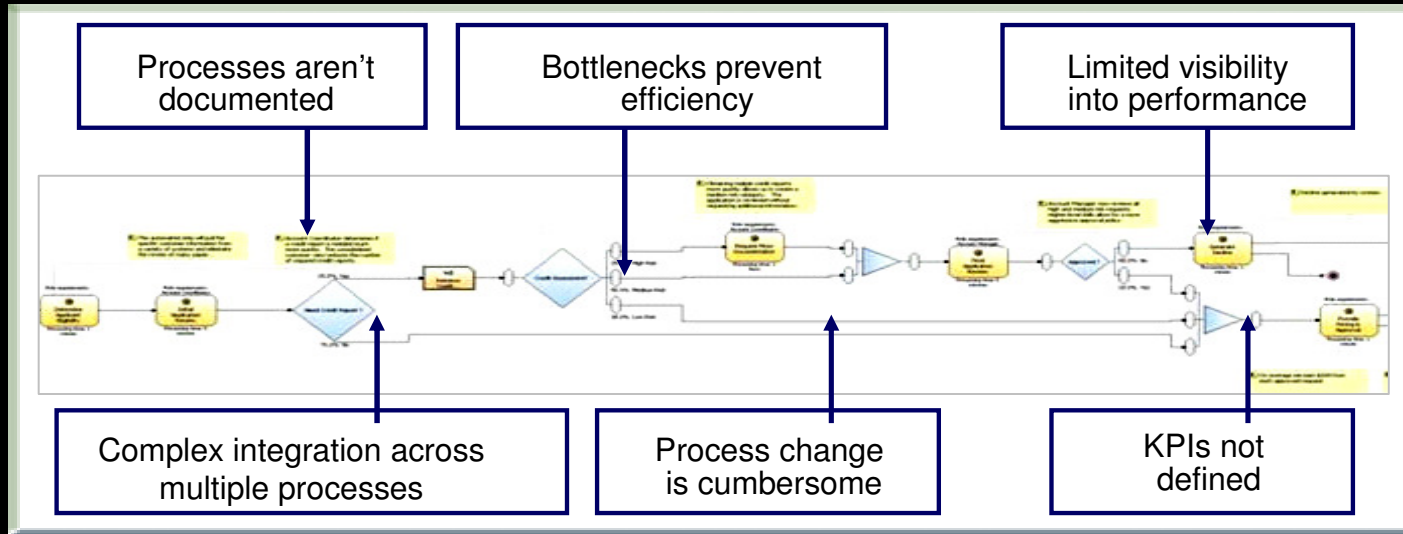
What are the solutions?

Each of these business (B) and I/T (I/T) problems can be resolved. Reviewing customer activities, we observe the following:

Problem	Solution
(B, I/T) Sequential data processing & human input, using phone, fax or email (B) Takes a long time to process a customer application	Use a business rules engine to make decision instead of requiring human intervention . Create a portal application eliminating the need for companies to retrieve information over the phone or through the mail
(B) Paper-based processing	Use web-based forms processing for electronic data processing
(B, I/T) Accessing multiple applications to obtain all the necessary data	Use a front-end web or portal application to obtain data from integrated back-end systems
(I/T) Duplicate business logic	New solution design implementing reusable components
(I/T) Numerous legacy servers & applications from acquisitions & mergers	New front-end application which obtains all necessary data from legacy systems
(I/T) Servers at regional offices – maintenance issue	Use a front-end web or portal application at the regional office which connects to the company mainframe
(B) Inefficient use of company employees	Automate and reduce human intervention with applications and computer systems
(B, I/T) Inflexibility of current system	Using IBM WebSphere middleware, a new application which allows the customer to continuously update and add to its services and offerings quickly and efficiently.

Business Process Management is a Discipline...

BPM solves common business challenges . . .



BPM Includes

Integration	Modeling	Monitoring
Forms	Software	Workflow
	Rules Engine	

Models	Process Knowledge	Metrics
Policies	Expertise and Assets	Methodology
	Business Logic	

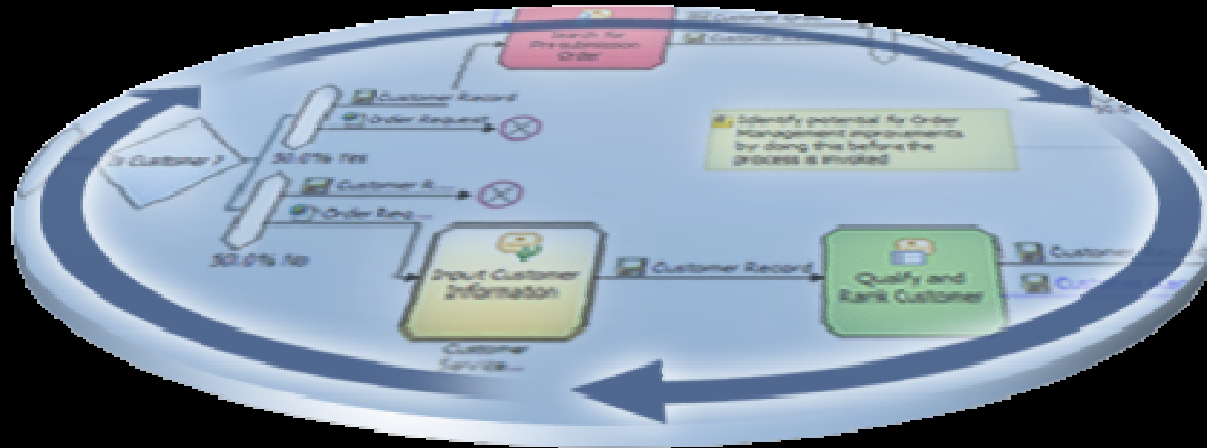
BPM governs organizational and operational activities

Business Process Management Enabled by SOA

BPM covers the entire lifecycle of your new business process

***Design, Model
and Simulate***

***Automate, Deploy
and Change***



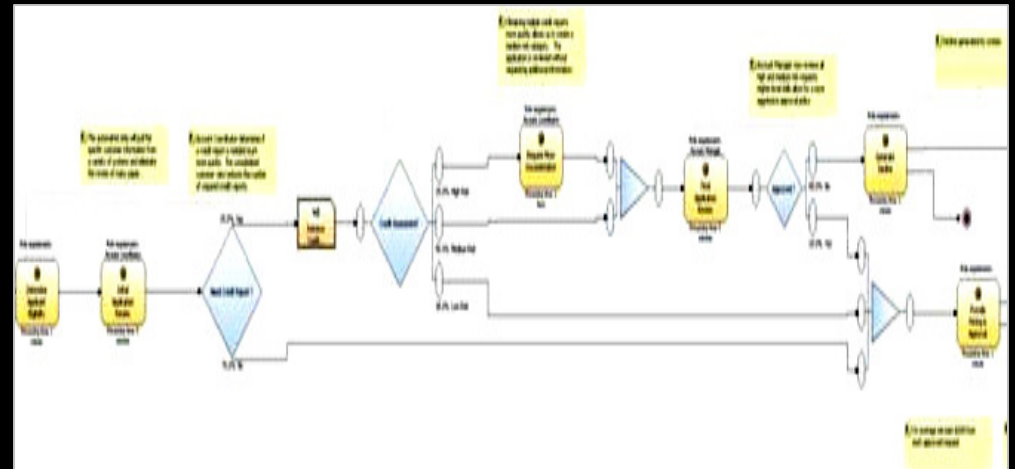
Monitor, Predict, and Act



Change required...but how, when and what to change?

Improvement is possible and starts with understanding where you are today

- Business architects and analysts can help, but they need a way to create view, a model of the business...
- Visibility leads to understanding the current process model
 - Understand core processes that “run the business”
 - Allowing you to see where deficiencies and bottlenecks are occurring
 - Shows where changes can be made for efficiency and streamlining



Industry: Education
URL: <http://cms.bsu.edu/>

“SOA has been such a gift to us. It enables us to embrace a new technology that provides services at a level that we couldn’t even imagine before.”

–Dr. O’Neal Smitherman



Ball State University

Ball State University bridges disparate systems and solves key administrative issue with IBM SOA solution.

CHALLENGES

- Coordinate 40 name and address systems to streamline administrative processes and ensure information integrity for users
- Minor unpaid student fees and fines prevented student from registering and paying tuition for upcoming semester

SOLUTION

- SOA with Enterprise Service Bus to connect siloed applications without hand-coding individual API calls
- WebSphere Process Server to orchestrate and streamline business processes and perform workflow automation

BENEFITS

- Ability to develop and implement services in an SOA environment for resolving name and address discrepancies in 10 months, as opposed to several years for hand-coding individual application connections
- Streamlining and automation of business processes in student registration
- Confidence that IBM solution can lead to wider use of SOA to further streamline administrative business processes
- Services created for this project can be reused in later SOA efforts

Extended Education Integration Project

Registration Summary
Do not use this form for on-campus courses.

Below is a summary of your transaction. Please verify the information is correct. If you choose to pay now by credit/debit or e-check please click 'Pay using Cardinal QuickPay' button below. If you have any questions or concerns, please contact the School of Extended Education at either 265-1581 or 1-800-872-0369. Please print this form for your records and close all Internet browser windows. Thank you.

General Information							
Date:	3/12/2008 6:04:14 PM						
Student Name:	Brian Means						
Program:	Distance Education						
Term:	Spring 2008						
Daytime Phone:	765-524-1240						
Email:	bmeans@bsu.edu						

!! Unsuccessful Registrations !!
The following registrations were unsuccessful. You may click on the link to the right of each status to view the reason for the unsuccessful registration.

Ref.	Course	No.	Sec.	Cr.	Time	Repeat	Status
1.	70435	AHSC	233	800C	4	ARR, 0000-0000	No
2.	70516	AHSC	242	800C	3	ARR, 0000-0000	No
3.	70524	AHSC	251	800C	4	ARR, 0000-0000	No

Billing Information		
Description	Quantity	Total
Undergraduate Credit Hours	0	\$0.00
Graduate Credit Hours	0	\$0.00
Professional Malpractice Insurance Fee	0	\$0.00
Clinical Fees	0	\$0.00
Grand Total		\$0.00

Holds (points to the 'Status' column in the Unsuccessful Registrations table)

Permissions (points to the 'Status' column in the Unsuccessful Registrations table)

Wait Lists (points to the 'Status' column in the Unsuccessful Registrations table)

Business Process Modeling: Current-State Processes

Modeling for documentation and compliance

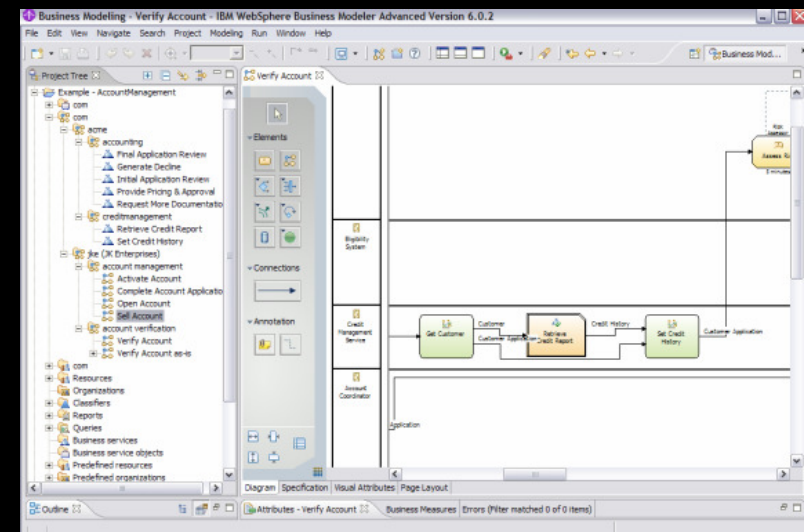
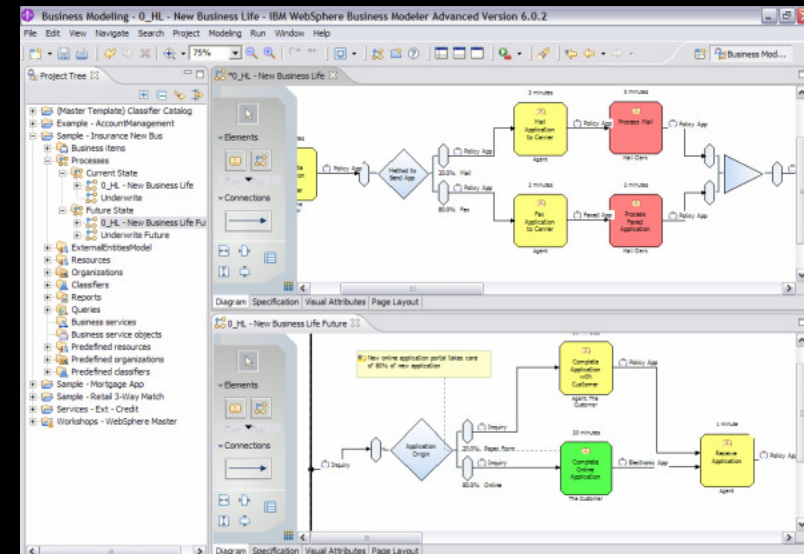
- Document current processes to map how they work
- Document for training and communication

Modeling for analysis, design and redesign

- Analyze to discover areas for process improvement
- Document both the current and future-state business processes and compare to validate enhancements and efficiencies before committing resources
- Identify process metrics for performance

Modeling for automation and implementation

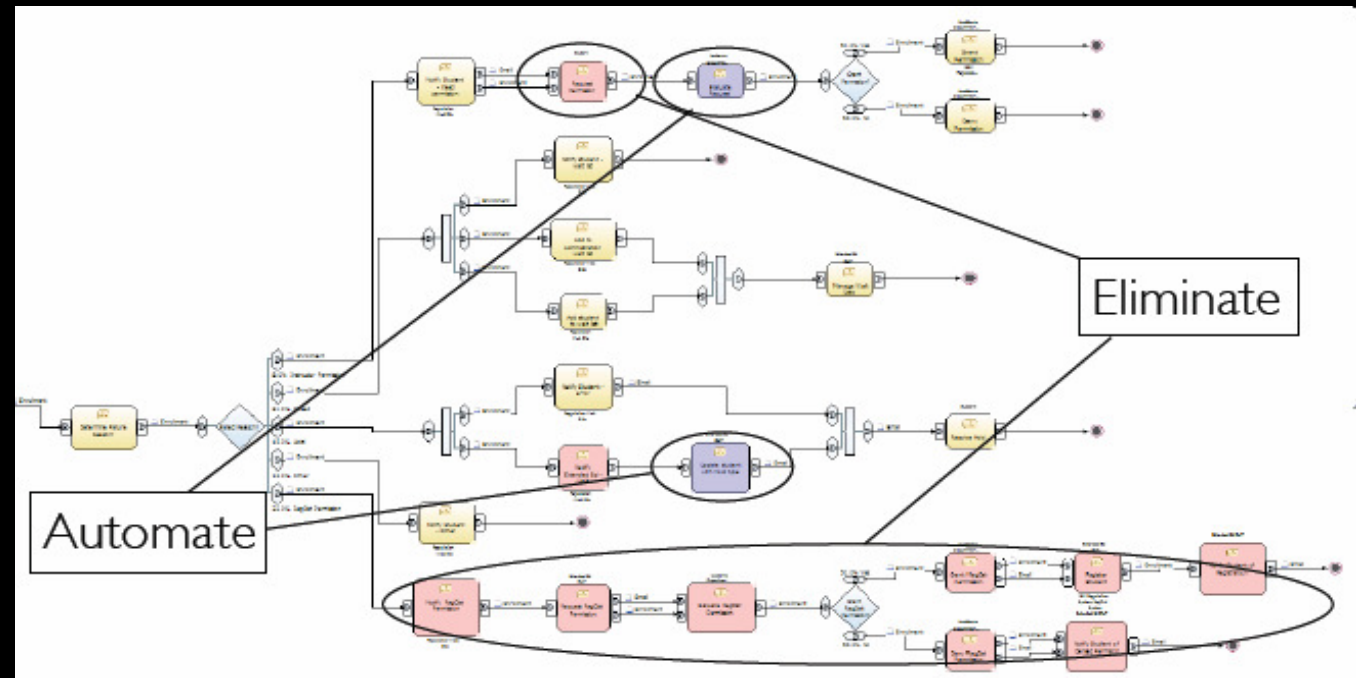
- Create a clear requirements definition “contract” between LOB and IT
- Ready the process model to be passed to application, workflow and business process development tools



Extended Education Modeling: Current-State Model

The current process includes many manual steps performed by extended education staff.

Holds
Permissions
Wait Lists

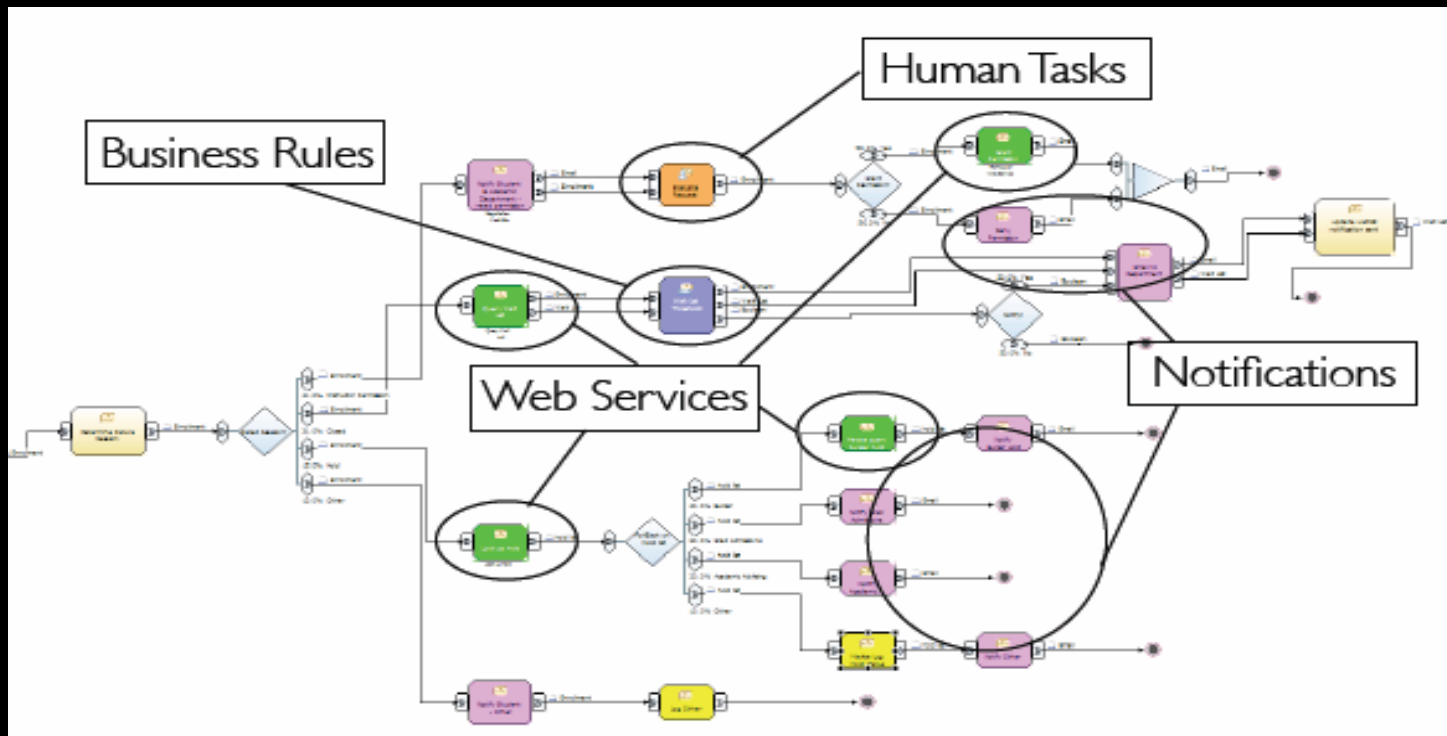


Current-state Issues

- Manual processes can benefit from automation
- Need to decrease work of extended education staff
- Need to increase service to students
- Need to reduce denied enrollments and/or reduce time required to resolve the reason why enrollment cannot be completed

Extended Education Modeling: Future-state Model

In the to-be process unnecessary steps were eliminated



To-be State Benefits

- Student involvement reduced
- Automation reduces staff work and increases information sent to students
- Human Task simplifies work for academic departments
- Business Rule makes wait list management flexible

BSU Project Observations:

Selecting the right process

- Keep focus on the business issues
- Find the SME that can define business needs
- Be patient

Fast payoff – from problem definition to initial beta testing – 3 weeks

Business value

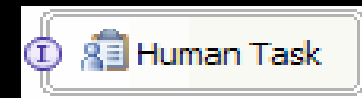
- Reduce time to enrollment into courses
- Moved the gatekeeper issues to the gatekeeper creators (Bursar, Departments, etc...)

Entire process are self documenting

- 300+ page PDF document consumer ready

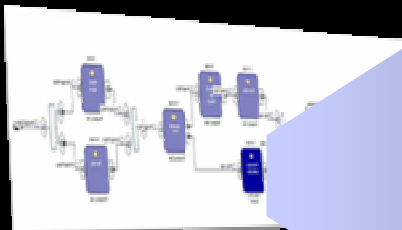
Comprehensive Support for Human Workflow

- Human Workflow fully integrated with SOA Environments
 - Human tasks are treated just like any other service
 - Full flexibility to adapt business processes quickly to changing requirements
 - With a few mouse clicks, replace human tasks by unattended services, and vice versa
 - No Change to business process necessary
- Rich task assignment capabilities
 - Staff queries to assign the right task to the right person at the right time
 - Real-time access to staff / organization directories through LDAP
 - Ability for fully dynamic task assignment at runtime
 - Query Parameters from process variables
 - Historic information
- Multi-level escalation mechanisms
 - Time / priority based aging of tasks
 - Notification through e-mail and notification work items



Human Tasks as Service Components

Rapidly define interfaces for human tasks as you model



IBM is positioned in the leaders quadrant: *Gartner, Inc.*, "Magic Quadrant for Forms"

Lotus Forms embedded in WebSphere Business Modeler and deployable in WebSphere Process Server flows.

Business User Calendar

Compose "Business meaningful" time intervals into one business artifact

- Business processes need to calculate time taking into account weekends, holidays, time off etc
 - Today is Thursday
 - Saturday, Sunday are holidays
 - Two days from today needs to return Monday, not Saturday
- Reusable in Java, Human Task and Process Service Components
- Able to import from Business Model

Human Task Service Component

To-do Task - hr

Calendar type: Business Calendar - "Germany"

Duration until task is overdue:

0 Days 1 Hours 0 Minutes 0 Seconds

Duration until task is deleted: Immediate

0 Days 1 Hours 0 Minutes 0 Seconds

Auto deletion mode: On successful completion

Duration until task expires:

0 Days 0 Hours 0 Minutes 0 Seconds

Wait - Wait

Expression language: Timeout

Calendar Type: Business Calendar - "Germany"

Output Duration:

0 Days 0 Hours 0 Minutes 0 Seconds

Process Service Component

Business Rules to support Automation

■ Rule Set

- Consists of a set of if/then rule statements
- The developer defines
 - The rules (conditions and actions)
 - Which aspects can be modified at runtime
 - The user interface to modify rules
- Multiple actions can be triggered

■ Decision Table

- Rule Set in a table format
- One and only one action is triggered

▼ Rules

Name	Rule2
Template	Template 1
Presentation	If the assets are greater than <input type="text" value="2000000"/> and the liabilities are less than <input type="text" value="500000"/> , then the rating is <input type="text" value="A"/> .

Name	Rule1
Template	Template 1
Presentation	If the assets are greater than <input type="text" value="2000000"/> and the liabilities are less than <input type="text" value="1000000"/> , then the rating is <input type="text" value="B"/> .

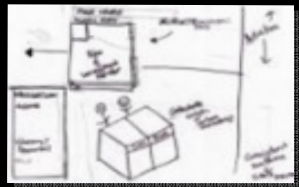
▼ Templates

Name	Template 1			
Presentation	If the assets are greater than {0} and the liabilities are less than {1}, then the rating is {2}.			
Parameters	Index	Name	Type	Constraint
	{0}	var1	double	None
	{1}	var2	double	None
	{2}	var3	string	None
If	all of the following are true <ul style="list-style-type: none"> ● info.assets > var1 ● info.liabilities < var2 			
Then	rating = var3			

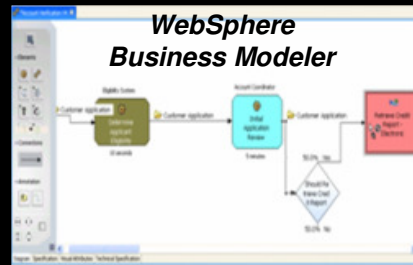
▼ Decision Table

info.assets	> 500000		<= 500000	
info.liabilities	< 10000	>= 10000	< 10000	>= 10000
rating	"A"	"B"	"C"	"D"

Use Simulation to Identify High Impact Process Changes



Existing Processes



Run simulation to estimate savings and support the business case for the process change

- Define and optimize processes thru simulation
- Justify process changes through ROI calculations
- Understand impact of process changes to the business
- Example: Simulation results showing areas of greatest opportunity

Current State - Times & Costs

Case Analysis with Unlimited Resources

Probability	Average Process Time (min:sec)	Average Cost
32.91%	10:11	\$5.40
32.10%	3:11	\$1.67
15.01%	14:11	\$7.56
15.20%	3:21	\$1.77
4.78%	11:11	\$5.93

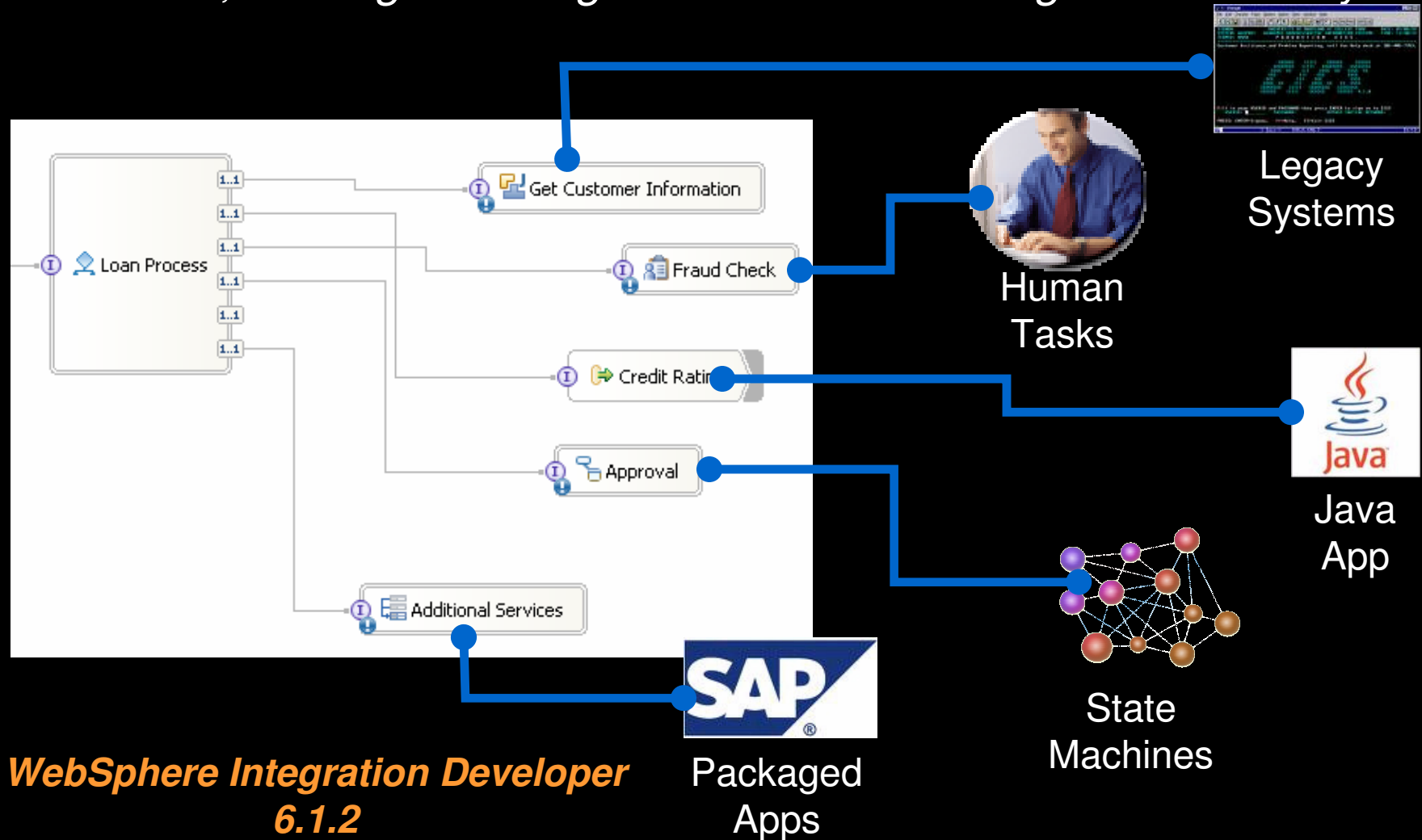
Future State - Times & Costs

Case Analysis with Unlimited Resources

Probability	Average Process Time (min:sec)	Average Cost
35.57%	8:16	\$4.38
33.03%	1:51	\$0.96
13.51%	7:51	\$4.16
14.50%	1:54	\$0.96
2.39%	8:16	\$4.38

Simple integration of processes without coding

With SOA, leverage existing assets and achieve greater flexibility



WebSphere Integration Developer
6.1.2

Packaged Apps

State Machines

Deploy: WebSphere Process Server

The Engine Room of Business Process Management

- **Robust execution of business processes**
 - Reliable, scalable, secure, open standards
 - Single integrated runtime for all SOA based process automation
 - Configurable worklists and detailed work item view
 - Ad hoc task creation
 - Graphical process view for business user for viewing and interacting with tasks
- **Provides flexibility for modifying in-flight process instances**
 - Ability to skip activities, as well as to jump forward and backward between activities
 - Modify data for a running process
- **Supports all aspects of process integration**
 - Process flows
 - Business rules
 - Human steps
 - Forms
 - State machines
- **Rapid process change ensuring business agility**
 - **New Web 2.0 BPM client for business users**
 - Reuse existing services that you already have and create new services for future use.
 - Build process flows without knowing where the information is coming from (late binding of services)
 - Business rules control the execution sequence of the process and can change dynamically



WebSphere Process Server 6.1.2

WebSphere Process Server

WebSphere Process Server:
 Process layer builds on WebSphere ESB and WebSphere Application Server foundation to deliver robust business process management

Support for all styles of integration, including human tasks, roles based task assignments, and multilevel escalation.
 Business rules, business state machines, and selectors to dynamically choose interface based on business scenarios
 Change business processes on the fly with relatively minimal skills

WebSphere ESB

Mediation layer builds on WebSphere Application Server foundation to provide intelligent connectivity

WebSphere Application Server Network Deployment

Builds on WebSphere Application Server foundation to deliver a highly available transaction engine with advanced performance and management capabilities

WebSphere Application Server

Transport layer foundation provides infrastructure via JMS 1.1, HTTP, IIOP

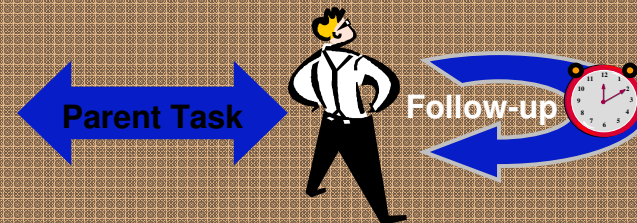
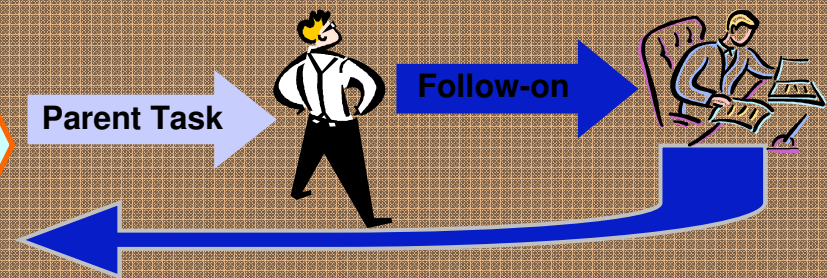
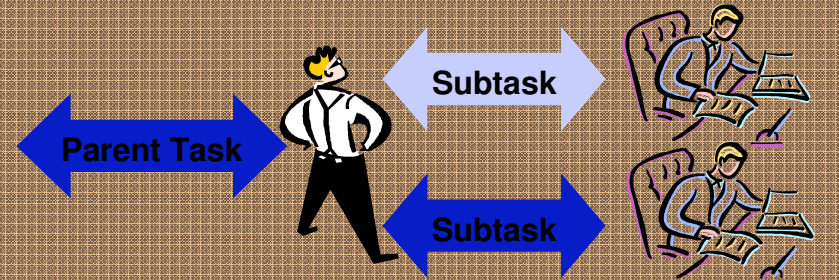
Use WebSphere Process Server when you need to automate business processes that span people, workflows, applications, systems, platforms, and architectures

Ad-Hoc support in WebSphere Process Server

Allowing for dynamic changes in human workflow scenarios

Ad-hoc

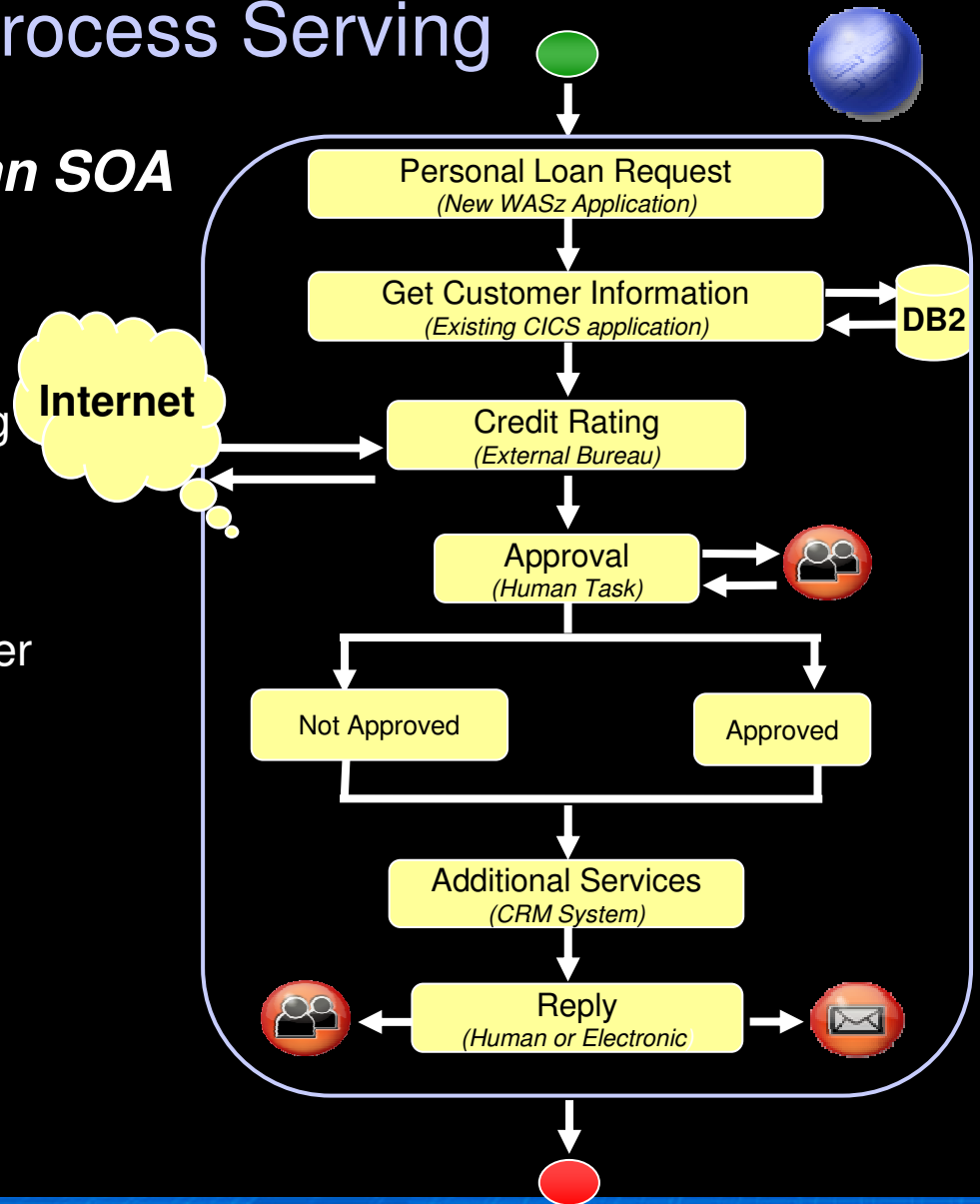
- Create sub-tasks
 - Add additional dependent steps on the fly
- Create follow-on tasks
 - Add additional steps on the fly
- Follow up for human tasks
 - “Remind me later” to complete already started task
 - same user continues later
 - Suspend until



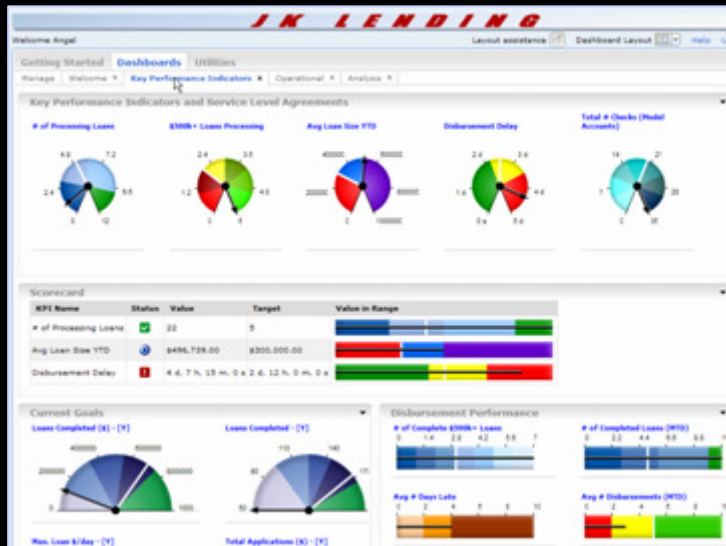
When to Use System z for Process Serving

System z—The choreographer for an SOA

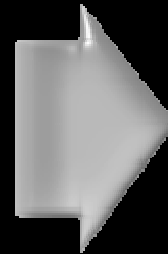
- **Efficiency:** Control processes where they run
- **Integration:** Improve the flow of an existing process
- **Automation:** Remove the human enter keys
- **Reliability:** Guaranteed connections deliver automated processes
- **Workload Management:** Integration with workload manager / intelligence resource director
- **Security:** built into all system layers
- **Availability:** (zero downtime)/OS brand promise
- **Performance:** Full utilization of system capacity with same class of service



Insight helps incremental process improvement



- **Real-time** information aggregated from disparate sources onto dashboards.
- **Business leaders** monitor KPIs to manage their operations and staff more effectively.



- Business leaders can **take action** from real-time **process visibility** and insight to address problem areas quickly.

Monitor: WebSphere Business Monitor

Achieve Real-time Visibility into Processes through customized dashboards

Scorecards

Key Performance Indicators for business units

Collaboration

Work with teams to resolve situations

Business Alerts

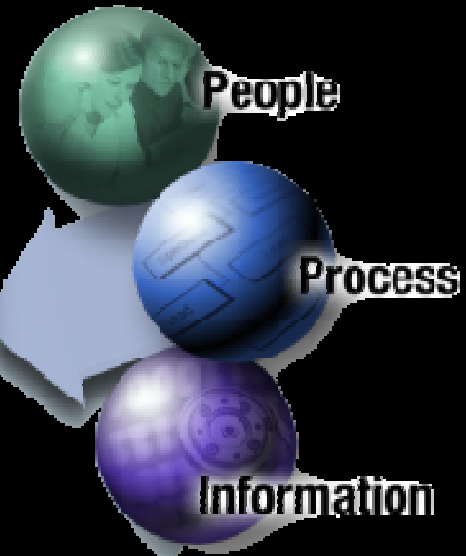
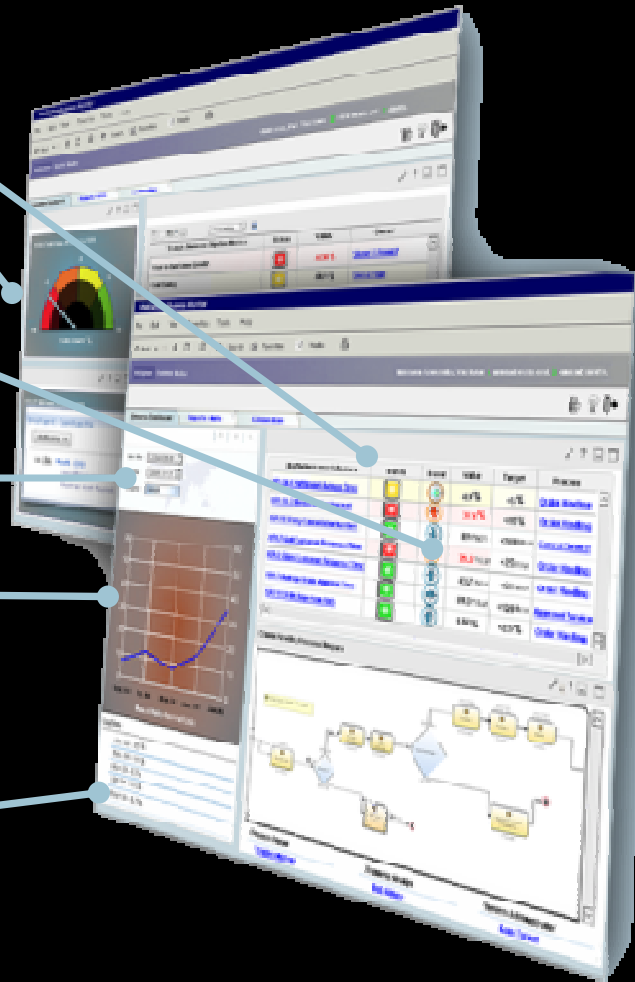
Notification of situations that require response

Reports & Analyses

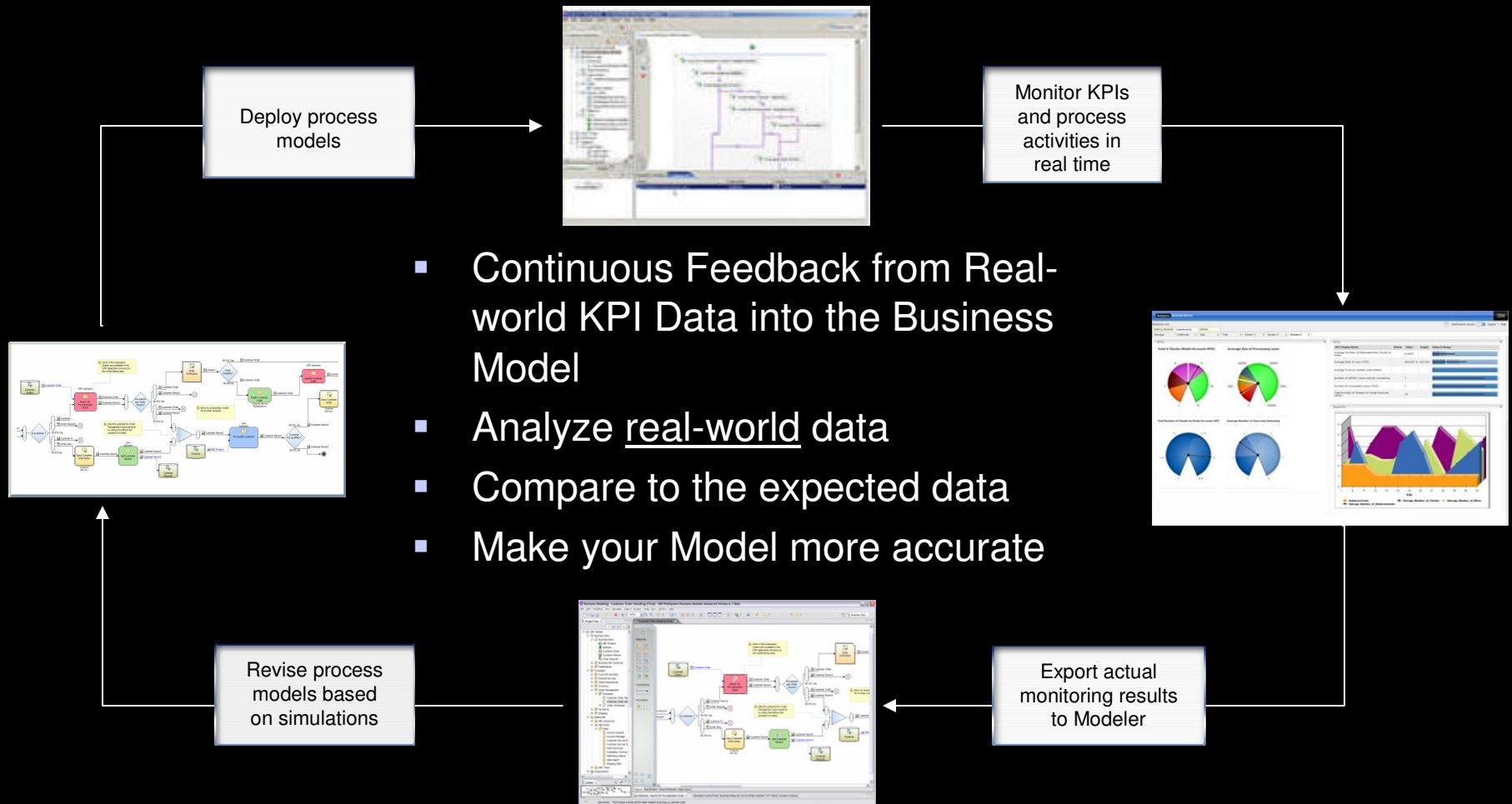
Understanding trends by combining real-time performance and historical information

External Information

Information affecting performance



Analyze and optimize your Business Processes for maximum Efficiency



The Value of System z for SOA and BPM



Customers Turn to IBM

Unmatched Breadth of BPM Capabilities and Expertise

#1 in BPMS market share*

Over 2850 BPMS customers in over 30 countries and growing...

Depth of BPM Expertise

- 10,750+ IBM GBS/GTS practitioners
- 1,770+ systems integrator and reseller partners
- World-class BPM methodologies, process templates, industry best practices, and benchmarks
- BPM Competency Centers
- BPM value assessments and workshops
- 1000+ BPM consultant specialists
- 4000+ ISV partners
- 20+ BPM training and education courses

Breadth of BPM Software

- Collaborative business process modeling and simulation
- Best-in-class integration tools, technologies, and adaptors
- Comprehensive asset repositories for BPM-related reuse
- Dynamic, policy-based process personalization with composite business application
- High performance, scalable process execution engine
- Real-time activity monitoring and response
- Pre-built industry solution accelerators and industry models

“The IBM [BPM] software that we now use has encouraged better business practices throughout our organization, making our company as well as our customers more profitable.”



* Gartner, Inc., “Market Share: Portal, Process and Middleware Software, Worldwide, 2004-2006” by Michele Cantara et al, June 27, 2007

Why IBM?

Trusted, experienced guidance based on 6550 customers*



of Customers using our SOA offerings

How You Can Get Started with BPM

Steps to Help You Prepare for Success

Explore

- Work with your local WebSphere sales representative to arrange a **Business Process Improvement Workshop (PIW)** at your facility
- Conduct a detailed **BPM Business Value Assessment** to identify and score specific BPM opportunities within your organization

Learn

- Attend a **local industry or technology event** with IBM's BPM team (contact your WebSphere sales representative for the latest event calendar)
 - ibm.com/software/systemz/seminar/aibpm
- Download additional information from the **IBM BPM web site** including demos and whitepapers



ibm.com/software/innovate

THANK
YOU