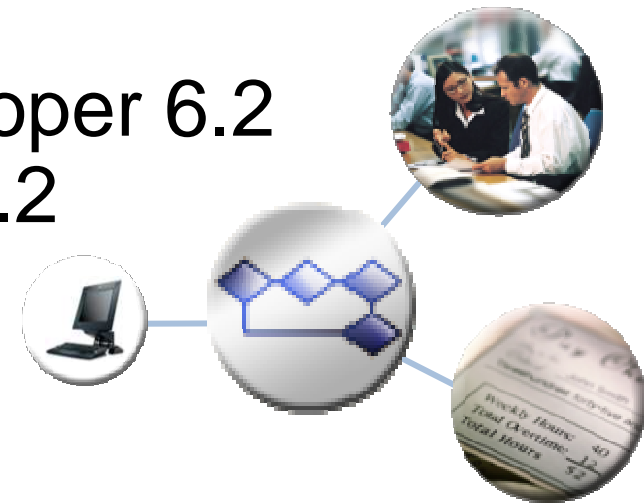




WebSphere Software

# WebSphere Integration Developer 6.2 WebSphere Process Server 6.2



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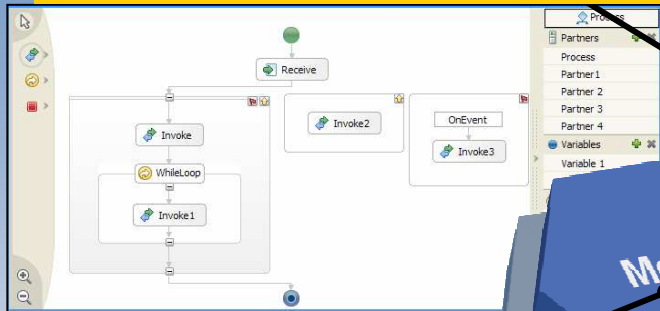
*SOA on your terms and our expertise*

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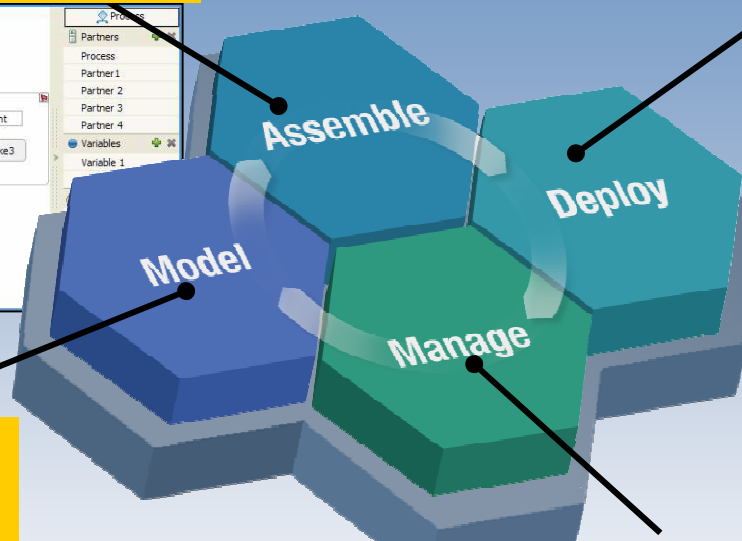
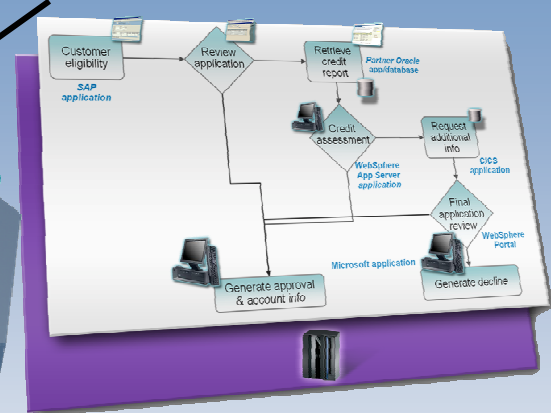
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# IBM WebSphere BPM suite

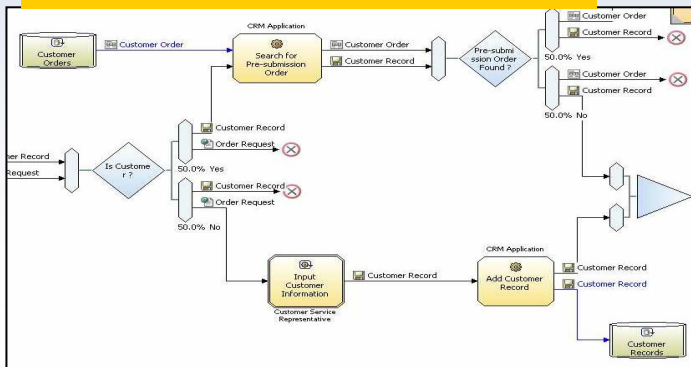
## WebSphere Integration Developer



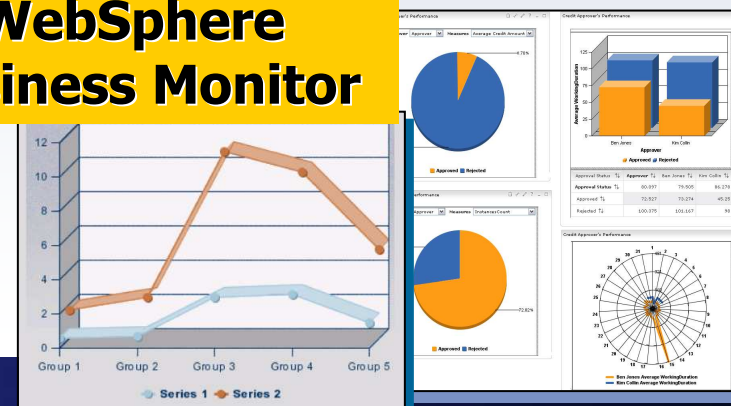
## WebSphere Process Server



## WebSphere Business Modeler



## WebSphere Business Monitor



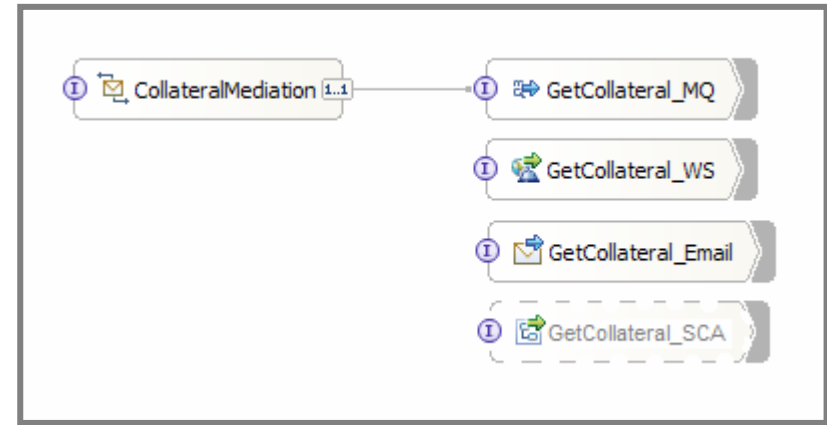
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## What's new in WPS 6.2 – Overview of Topics

- SOA Core
  - Base Connectivity Enhancements
  - Dynamic invocation for all binding types
  - Consistent fault handling across bindings
- Mediation Flows
- Module Versioning
- Business Processes
- Human Tasks
- BPC Clients
- Business Space
- Administration

# Dynamic invocation for all binding types

- Recap: Dynamic invocation
  - Allows to „overwrite“ endpoint for SCA Imports
  - Dynamically compose EndpointReference at runtime to invoke services without pre-existing SCA Import
  - Available in POJO components, Mediation flows, BPEL processes
  - Until 6.2 only supported for Web Services and SCA targets
- Dynamic invocation can now be used with all binding types
- Use cases:
  - Use the wired Import, but overwrite the endpoint address
  - Use another Import than the one wired to the component
  - Pure dynamic invocation – do not use an import



- **New Web Services binding based on JAX-WS 2.0 and JAXB 2.0**

- New Data Handlers support ATOM and JSON data formats

- **SOAP 1.2 support**

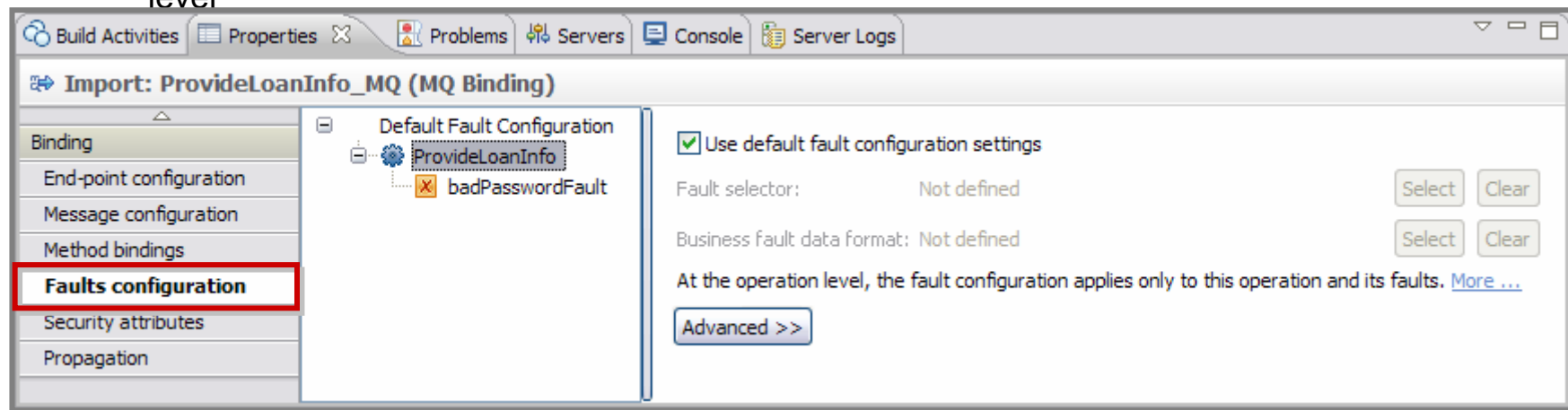
- Reliable web service interactions using WS-RM

# Consistent fault handling across bindings

- Fault handling for all import bindings
  - Determine whether the called service has returned a fault
  - Classify the fault (business or technical fault)
  - Map fault data if necessary
- New: Fault selectors
  - Returns a native name for the fault
  - Can be configured at binding level or operation level

## Benefits

- Development Ease of Use
  - Specify fault handling for all binding in a consistent manner
- Better Process Integrity
  - Explicit and consistent fault handling for all service invocations



# Agenda

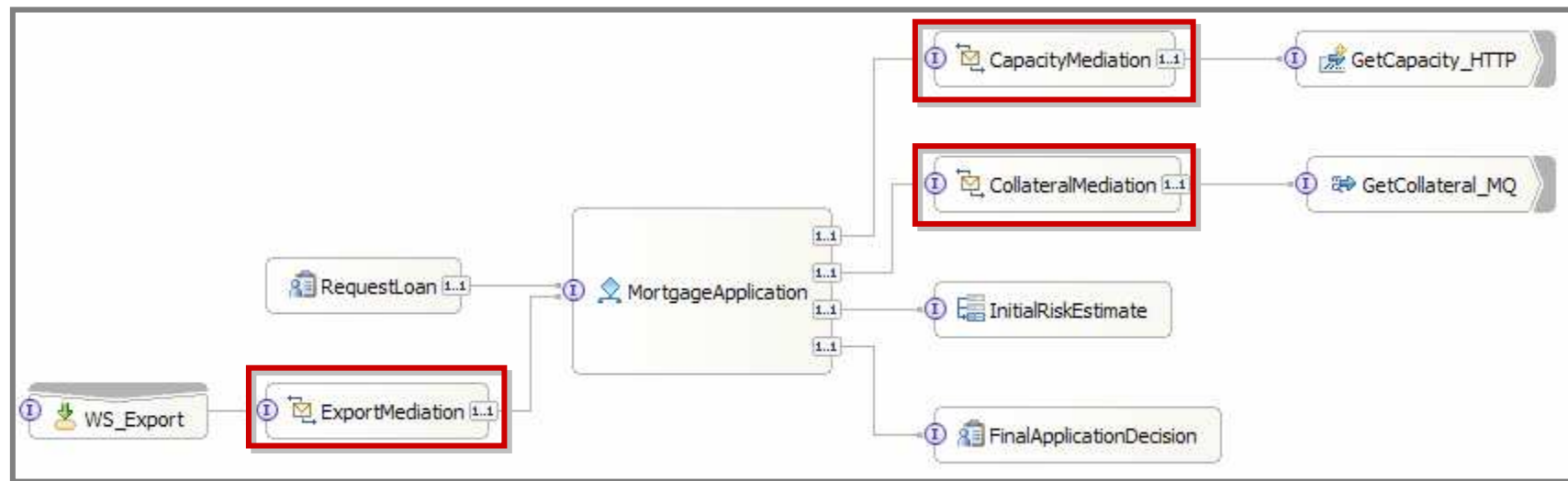
- SOA Core
- Mediation Flows
  - Component Level Updates
  - Mediation Subflows
- Module Versioning
  - Solution View
- Business Processes
- Human Tasks
- BPC Clients
- Business Space
- Administration
- Heritage Migration

# Enhanced Mediation Support: Component Level Updates

- Multiple Mediation Flow Components per Module allowed
- Mediation Flow Components allowed in a Business Integration Module
  - Direct wiring between BI components and mediations

## Benefits

- More flexibility when using mediations in a WPS application
- Improved admin experience and deployment performance for customers with “many” mediations

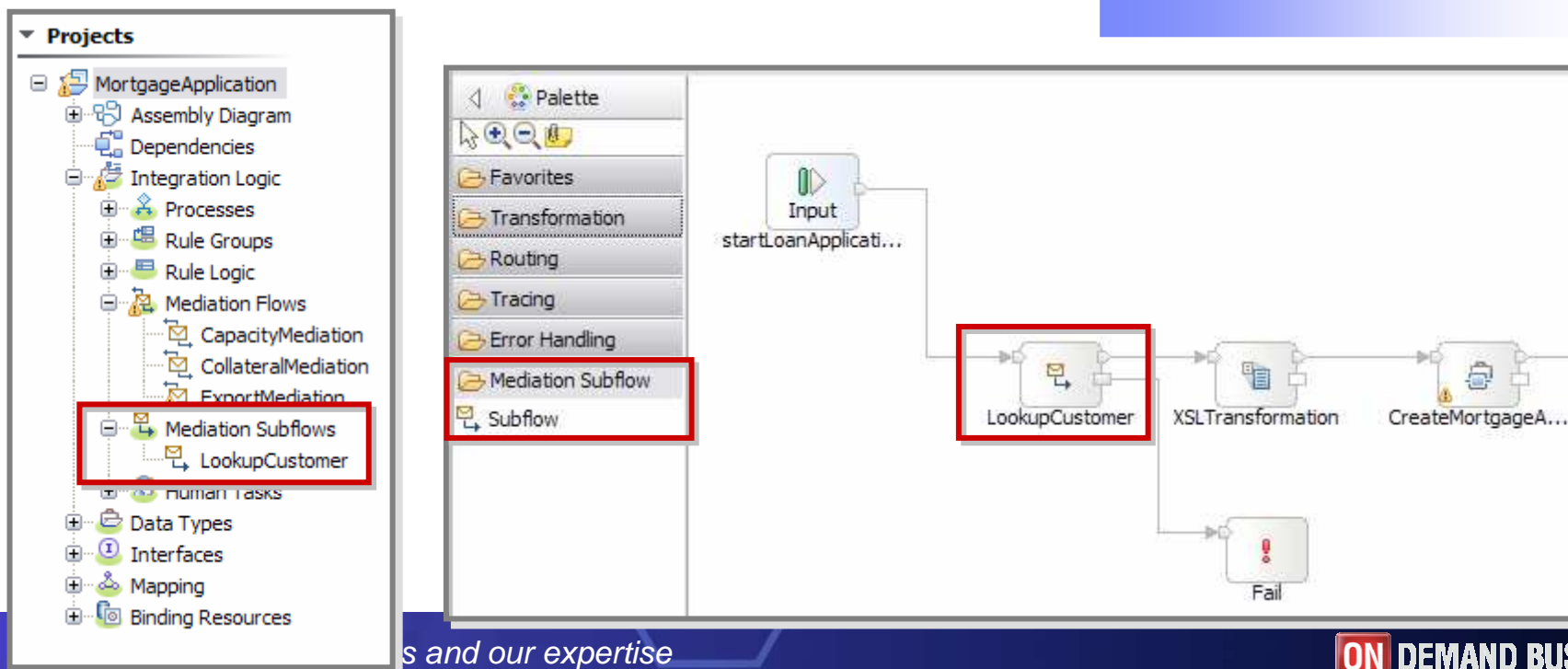


# Mediation Sub-flows

- Subflows enable a snippet of mediation flow to be encapsulated and reused across a module
  - Mediation subflow acts like a mediation primitive
  - The user of a subflow does not need to be aware of the contents of the subflow, just its externals (terminals and properties)

## Benefits

- Development Ease of Use
  - Common tasks within a module need to be modeled only once





# Module Versioning

- Version support for SCA modules and libraries
  - Set version number for modules and libraries
  - Use version number to use only specified version number
    - SCA imports
    - EndpointLookup Primitive
    - Library references

## Benefits

- Built-in support to deploy multiple versions of the same module
  - Fine-grained control over which versions of services are to be used

The image displays three screenshots from the WebSphere IDE illustrating module versioning configuration:

- Dependencies: MortgageApplication**: Shows the **Version** section with "Version: 1.0.0" and "Version Scheme: IBM Supplied Version Scheme". Below it, the **Libraries** table lists "MyLib" with a "Required Version" of "1.1.0".
- Import: GetCollateral\_SCA (SCA Binding)**: Shows the **Qualifiers** section with "Version: 1.4".
- Endpoint Lookup : EndpointLookup**: Shows the **Details** section with "Version: 1.2".

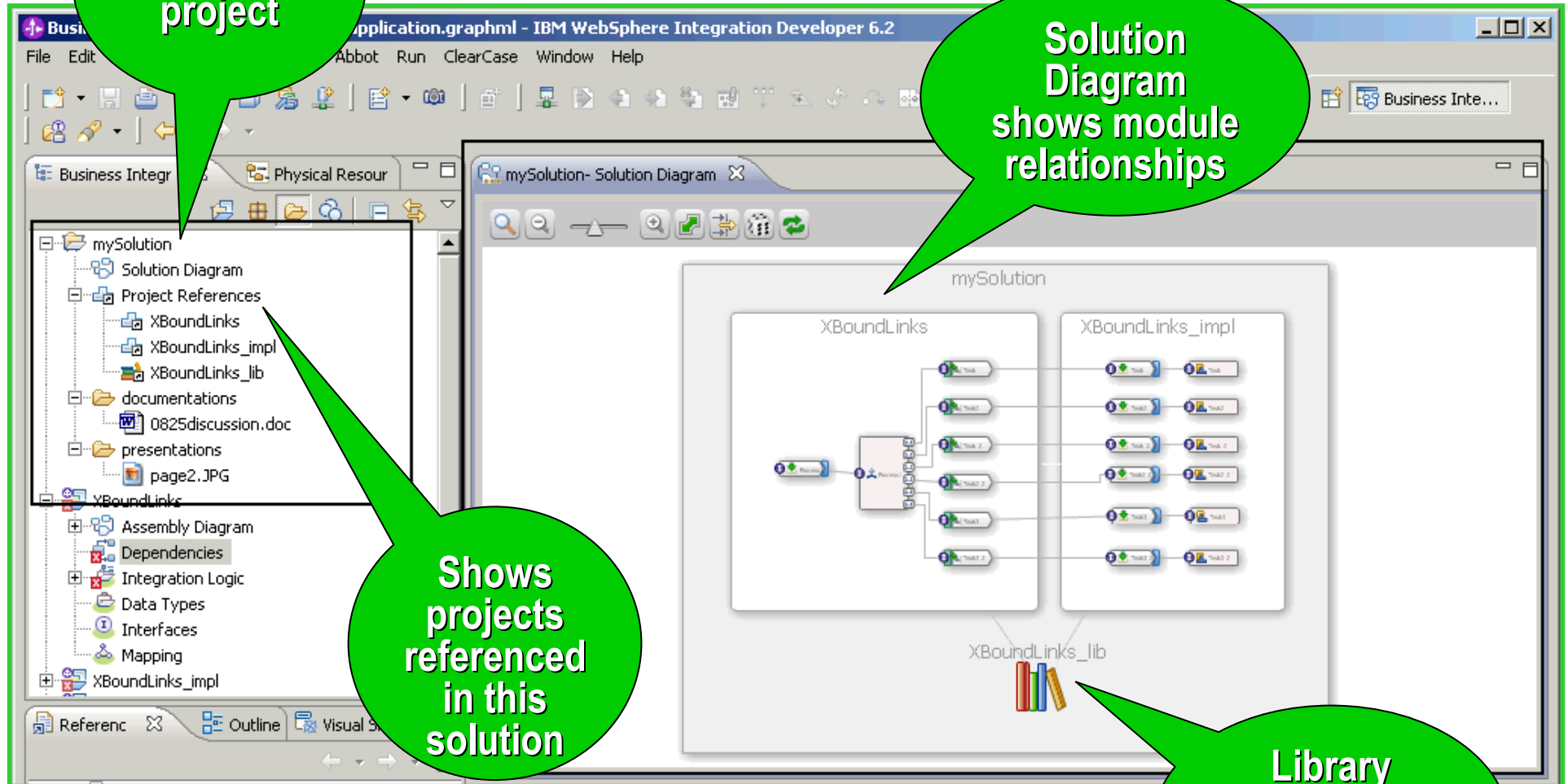
# Solutions and Solution View

New "Solution" project

Solution Diagram shows module relationships

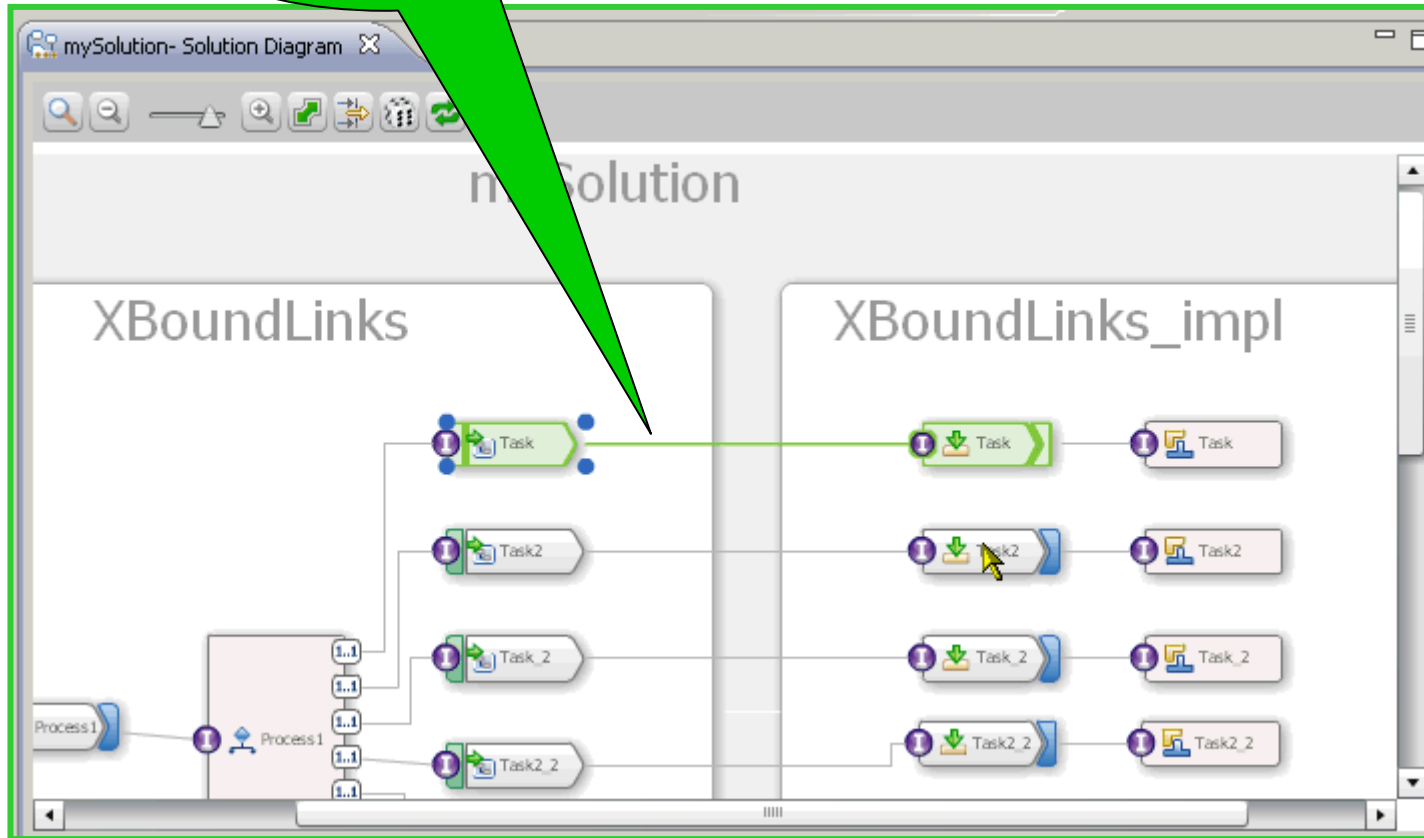
Shows projects referenced in this solution

Library referenced by both modules



# Solutions and Solution View

Transaction boundaries shown across modules



# Agenda

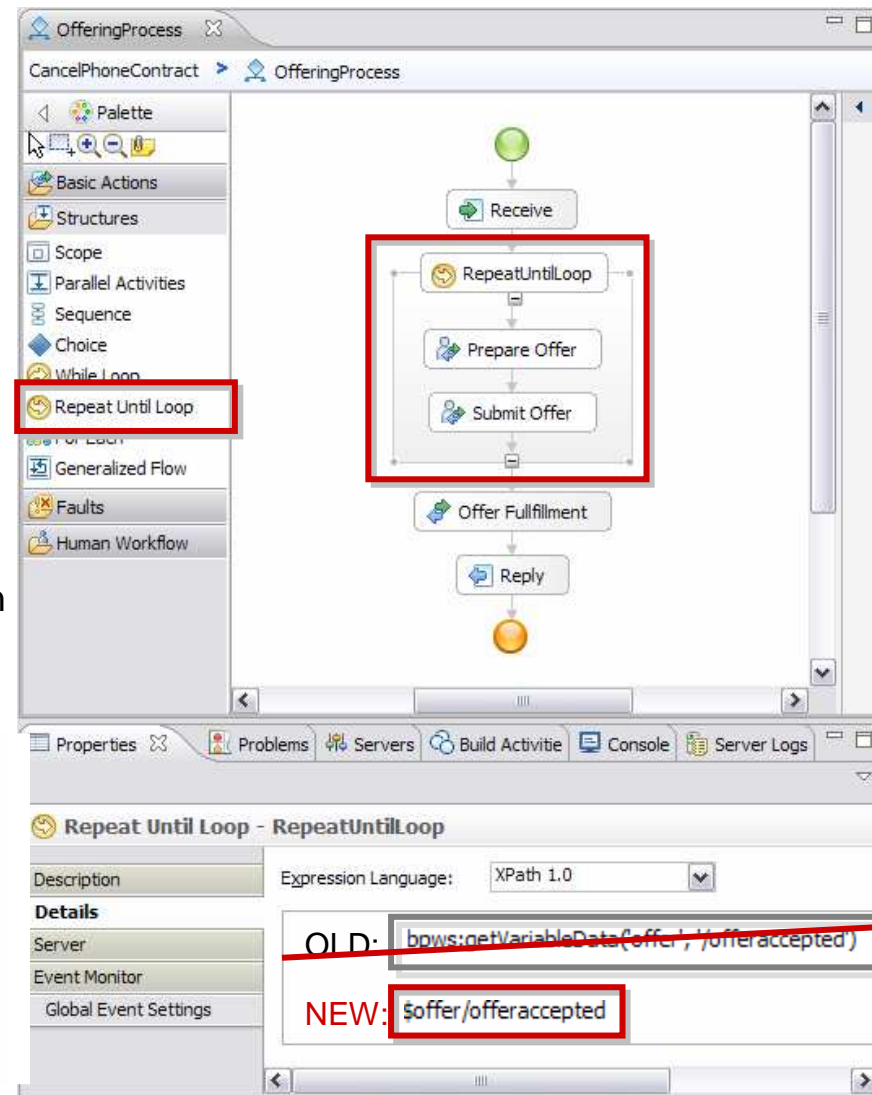
- SOA Core
- Mediation Flows
- Module Versioning
- Business Processes
  - Improved WS-BPEL 2.0 Support
  - Activity Exit Conditions
  - Richer Flow Model
  - Enhanced Dynamicity for Knowledge Workers
  - Various repair and dynamicity BFM features
- Human Tasks
- Business Space
- Administration

# Improved WS-BPEL 2.0 Support

- Introduction of RepeatUntil Loop
  - Loop is executed at least once
  - The condition is tested after each execution of the body of the loop
- XPath variable references
  - In WS-BPEL 1.1, reference to XPath variables required use of the `GetVariableData()` method
  - In WS-BPEL 2.0, XPath variables can be referenced using the `($variable)` notation
  - Used in assign activities and condition expressions

## Benefits

- Development Ease of Use
  - More options for looping constructs in business processes
  - Less XPath expertise needed to create conditions and data maps



The screenshot displays the IBM Business Process Manager interface. The main window shows a BPEL process diagram for 'OfferingProcess'. The process starts with a 'Receive' activity, followed by a 'RepeatUntilLoop' activity (highlighted with a red box). Inside the loop, there are 'Prepare Offer' and 'Submit Offer' activities. After the loop, there is an 'Offer Fulfillment' activity, followed by a 'Reply' activity. The 'Repeat Until Loop' activity is selected in the left-hand palette, and its configuration details are shown in the bottom pane.

The configuration details for the 'Repeat Until Loop' activity are as follows:

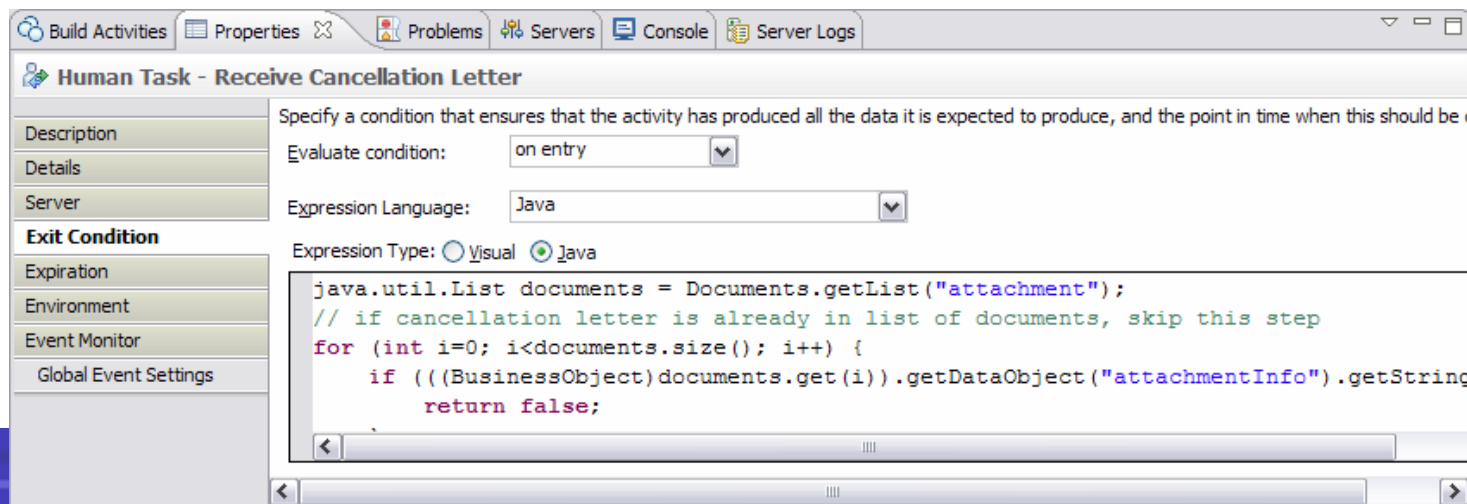
Repeat Until Loop - RepeatUntilLoop	
Description	Expression Language: XPath 1.0
Details	<p><del>OLD: bpws:getVariableData('offer', '/offeraccepted')</del></p> <p>NEW: <code>\$offer/offeraccepted</code></p>
Server	
Event Monitor	
Global Event Settings	

# Activity Exit Conditions

- Impose conditions that need to be fulfilled at activity entry and/or exit
  - For example, make sure that certain data is available
- Condition can be...
  - On entry of the activity  
If condition is already fulfilled when entering an activity, the activity does not need being executed anymore. It is skipped automatically, navigation continues after the activity
  - On exit of the activity  
Ensures that processing of business process can continue successfully. Otherwise, process comes to a halt, i.e., activity is set to stopped

## Benefits

- Additional business scenarios enabled
- “Clean” process models
  - No extra (technical) activities needed to perform checks
  - Natural definition of entry and exit conditions



## Richer Flow Model (1/2)

- Generalized Flow activity
  - Allows to mix parallel execution and arbitrary cycles
  - Validation in place to ensure that the modelled flow is valid
  - Replaces the Cyclic Flow activity
- Gateways are used to define the diverging and converging behavior when more than one link is the target or source of an activity

### Benefits

- Development Ease of Use
  - More flexibility when defining the flow within a business process



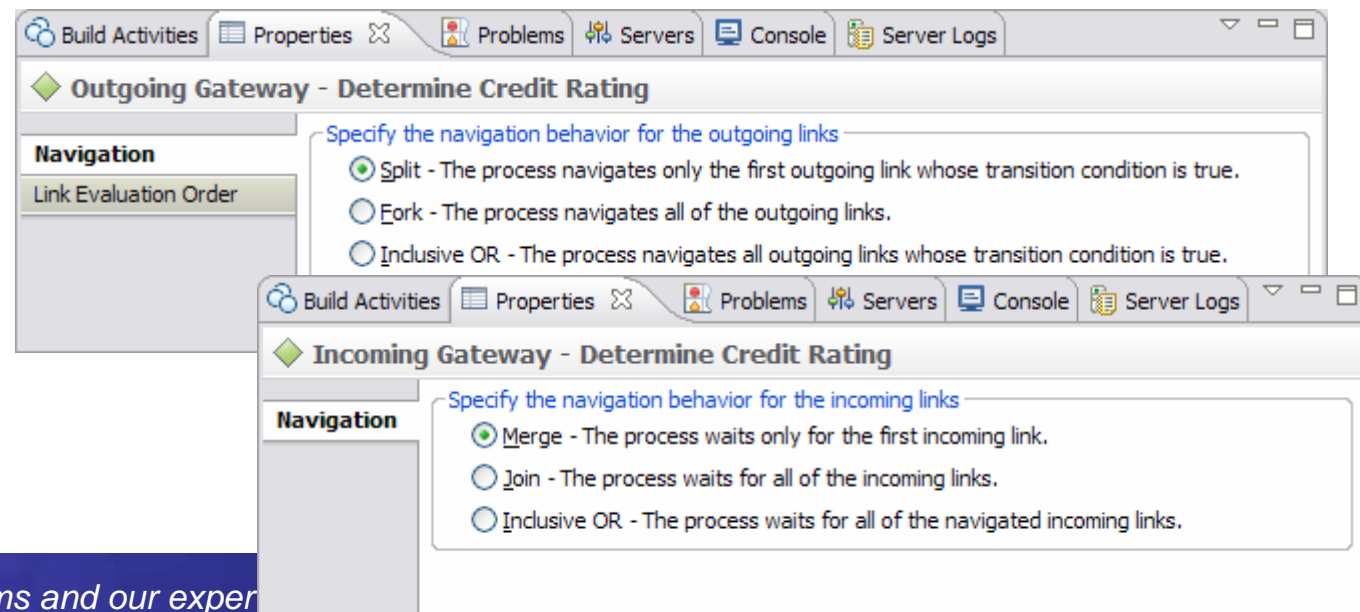
Split /  
Merge



Fork /  
Join



Inclusive  
OR

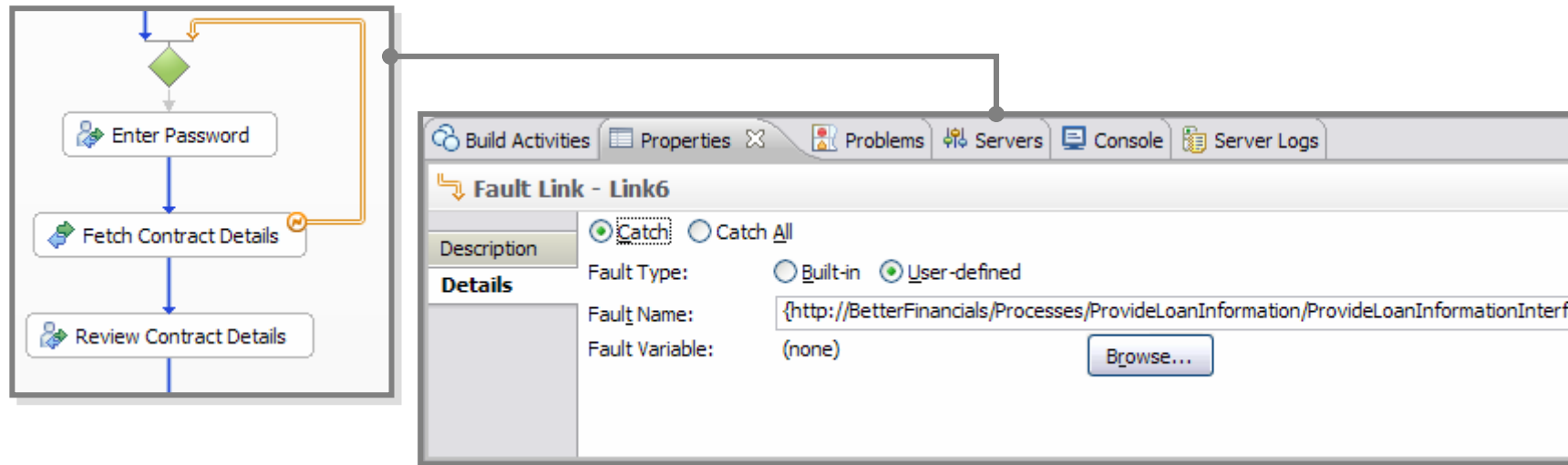


## Richer Flow Model (2/2)

- Fault links are executed after a fault has occurred in the source activity of the link
  - Fault catching rules are the same as for the fault handlers: A fault name and fault variable to catch can be specified, or all faults can be caught
  - When a fault occurs and is caught by a fault link, only this link is navigated
  - The fault path can merge back into the regular flow

### Benefits

- Development Ease of Use
  - More flexibility when defining the flow within a business process





# Enhanced Dynamicity for Knowledge Workers ... aka Case Handling

**Task Information**

Submit Save Actions

Receive cancellation letter

Form | Details | Notes | Related Tasks

Receive Cancellation Letter

Attach a scan copy of the customer's cancellation letter. Then mark this activity complete by clicking the Submit button.

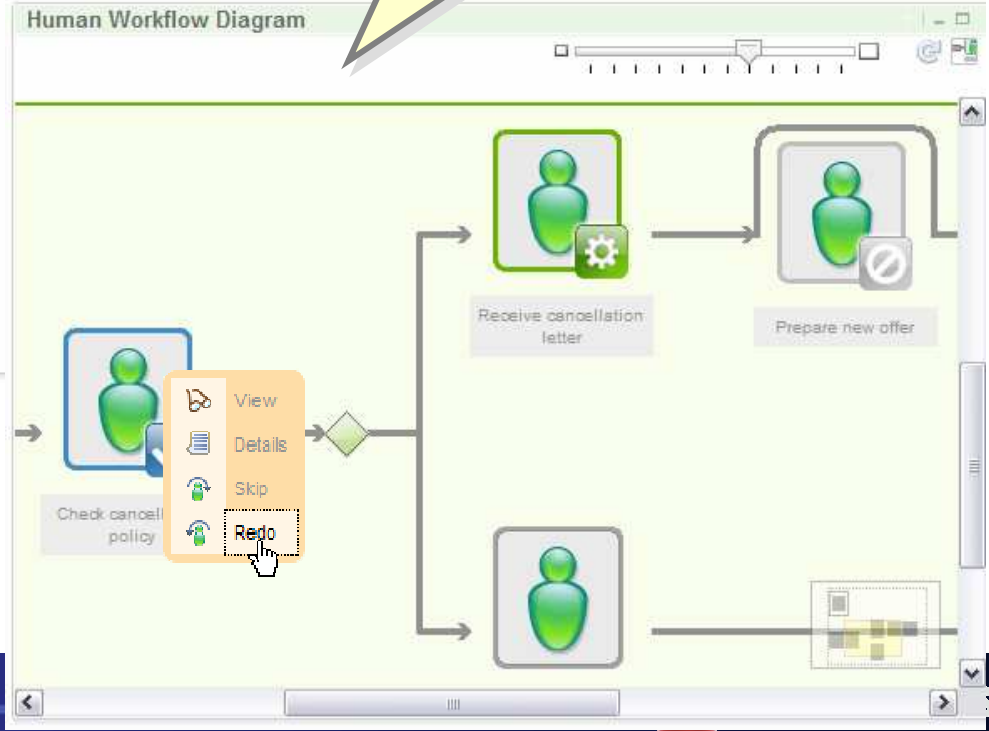
Collaboration Folder Add Edit Remove

- Contract details
- Cancellation letter

Last modified by 'bdaniel' on 10/22/08 7:40 PM.

Attach document links to business processes

Trigger skip and redo actions in Business Space



# Various repair and dynamicity features

- Some restrictions for jumps within processes lifted
  - For example, jumps within a parallel flow activity are now possible under certain circumstances
- Transfer process ownership (starter)
  - All activities are executed using the process starter's credentials / security context
- Explore and change variable values
  - Now also possible for variables visible for activities that are not yet navigated
- Additional repair scenarios
  - Provide transition condition values for outgoing links of an activity to allow navigation of selected branches
  - Provide case/branch of a switch/if-then-else activity with which the process should proceed

## Benefits

- Better administration and management capabilities for business processes
- More options to respond to problem situations
  - Enhanced repair capabilities

The screenshot displays the 'Activity Variables' web console. At the top, it says 'Use this page to view and modify the variables for an activity.' Below this, there is a 'Back' button and fields for 'Process Name' (value: \_P1:9003011d.29f730b6.c15d67f6.8045088b) and 'Activity Name' (value: Makeoffer). The main area is divided into 'Activity Input Variables' (Documents, offerAccepted) and 'Activity Output Variables' (customerName). A 'Form View' section shows input fields for 'firstName' (Sarah) and 'lastName' (Jones), with an 'Edit Source' button below them. A 'Save' button is located at the bottom right of the form view.

# Agenda

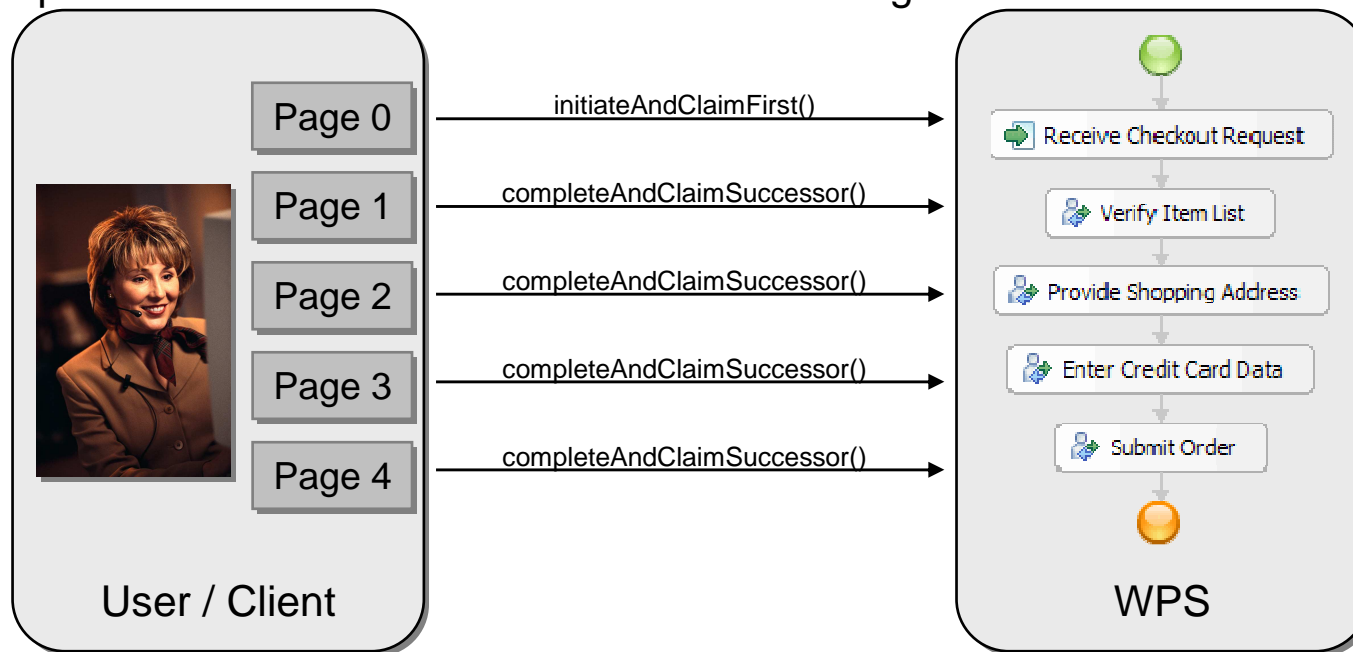
- SOA Core
- Mediation Flows
- Module Versioning
- Business Processes
- Human Tasks
  - Enhanced page flow / single person workflow
  - Standalone human task managed by calling process
  - History log for human tasks
- Business Space
- Administration

# Enhanced page flow / single person workflow

- Recap: Page Flow / allows to present a person with a series of UI screens when working on a series of inline human tasks of a particular business process („Next“ button)
- Now it is also possible to start the business process and claim its first human task in one go

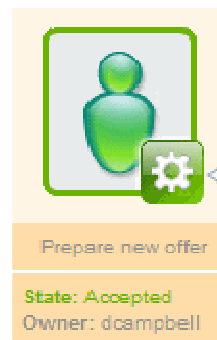
## Benefits

- Allows to create more easy to use custom clients
  - Less clicks needed to start and execute a process



# History log for human tasks

- The Human Task History provides the following information
  - Who has worked on a human task
  - What did the person do
  - When did it occur
- The Human Task History is considered to be data that is part of the human task instance, consequently its life-cycle is tied to the enclosing human task
- For auditing purposes, CEI or the audit log should be used
- Can be enabled/disabled in the admin console (Panels for BPC Container and HTM configuration)



## Benefits

- Empowers business users
  - Capture and show additional context information for human tasks
- Enhances productivity

The customer 'Sarah Jones' has requested a cancellation of his phone contract. Prepare a new offer for the customer.

### History

State	Name	Timestamp
Task created	bdaniel	10/23/08 3:50 PM
Task started	bdaniel	10/23/08 3:50 PM
Task accepted	bdaniel	10/27/08 2:57 PM
Task pending on other tasks	bdaniel	10/27/08 4:54 PM
Pending tasks completed	jjames	10/27/08 4:55 PM
Task transferred from bdaniel to dcampbell	bdaniel	10/27/08 4:55 PM

# Agenda

- SOA Core
- Mediation Flows
- Module Versioning
- Business Processes
- Human Tasks
- Business Space
  - Ad-hoc support for Business Users
- Administration

# Ad-hoc support for Business Users

- Business users can now...
  - Exploit subtasks
  - Skip and redo activities (see Case Handling)
- The following scenarios are supported
  - Create new subtask
  - View task status pending on subtasks
  - View status of subtasks for a given task
  - View result of finished subtask fro a given task
  - Cancel subtask of a given task
  - View created tasks and subtasks

## Benefits

- Empowers business users
- Enhances flexibility and productivity

View task status pending on subtasks

Create subtask

View subtasks and their status

# Agenda

- SOA Core
- Mediation Flows
- Module Versioning
- Business Processes
- Human Tasks
- Business Space
- Administration
  - Cleanup service for business processes / human tasks



# Cleanup service for business processes / human tasks

- New Cleanup Service allows for scheduled deletion of instances out-of-the-box
  - Specify when the service should run, how long it should run and how many instances it should delete in one transaction
  
- One or multiple Cleanup Jobs possible
  - Specify which instances should be deleted, and how long they should be kept after completion

## Benefits

- Simplifies maintenance of business processes and human tasks

**Cleanup Service**

Enable cleanup service

Frequency: 0 0 1 \* \* ?

Maximum duration: 120

Transaction slice: 10

[Application servers > server1 > Business Flow Manager > Cleanup Job](#)

Select	Cleanup Job	Templates	States	Duration deletion
<input type="checkbox"/>	<a href="#">Job 01 - Delete all terminated 3 days after completion</a>	*	TERMINATED	0 0 3 0 0
<input type="checkbox"/>	<a href="#">Delete all instances of "WhoCares?" template after 2 hours</a>	WhoCares		0 2 0 0 0
<input type="checkbox"/>	<a href="#">Delete all after 1 year</a>	*	FINISHED FAILED TERMINATED	0 0 0 0 1
Total				

[Application servers > server1 > Business Flow Manager > Cleanup Job](#)

Configuration

**General Properties**

Cleanup Job  
Job 01 - Delete all terminated 3 days after completion

Templates  
\*

**Cleanup States**

Restrict cleanup to instances in the following states:

FINISHED

TERMINATED

FAILED

**Duration Until Deletion**

Minutes: 0

Hours: 0

Days: 3



WebSphere Software

# WebSphere Business Monitor 6.2



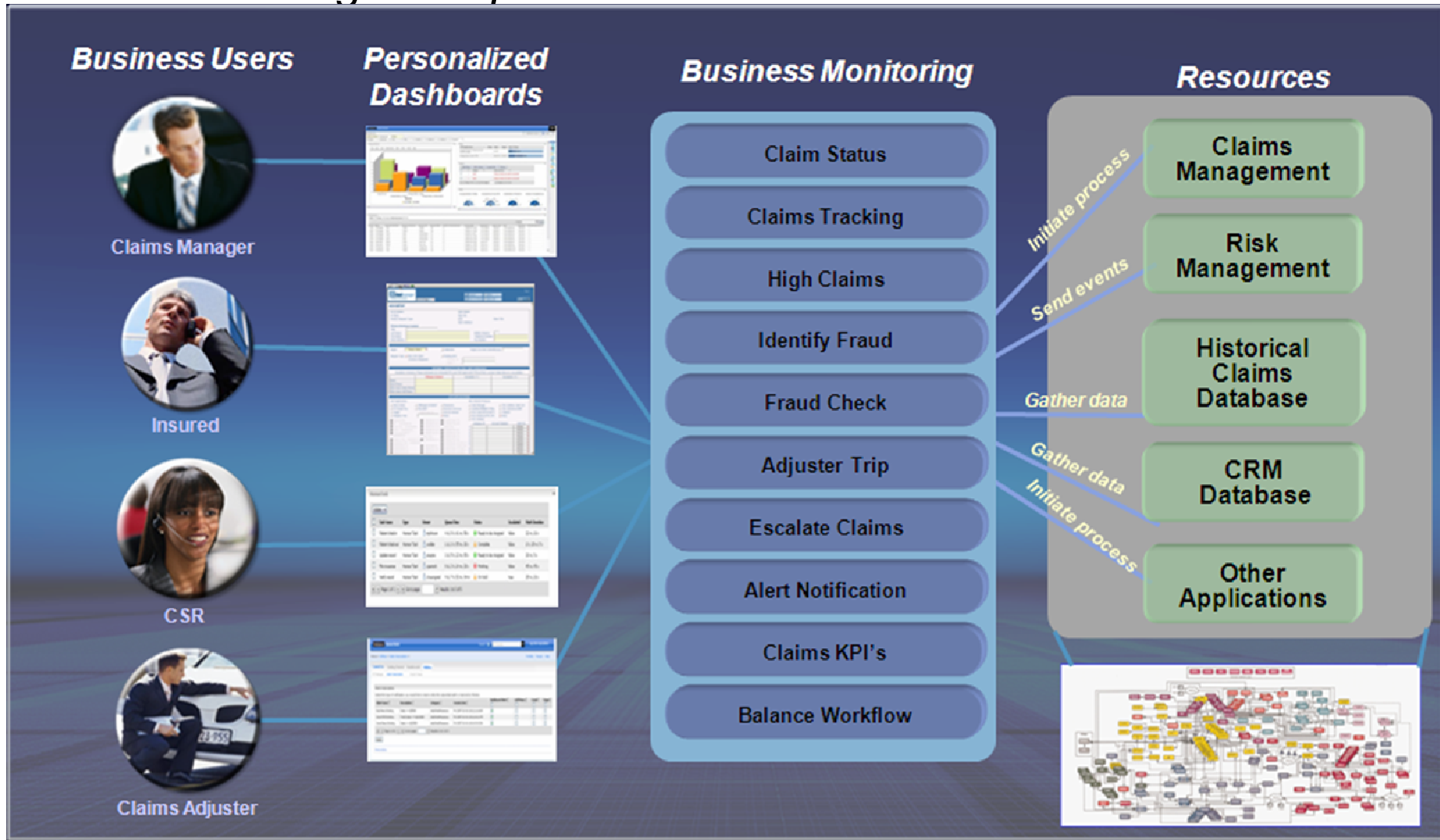
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# End to End Business [Process] Monitoring

## Claims Tracking Example



# Business Activity Information from Multiple Sources

*More comprehensive end-to-end visibility*

## Common Event Sources

### Workflow or process management such as:

- WebSphere Business Services Fabric
- WebSphere Process Server
- WebSphere MQ Workflow
- IBM FileNet P8

### Connectivity software such as:

- WebSphere Business Events,
- WebSphere ESB,
- WebSphere Message Broker,
- WebSphere Partner Gateway,
- DataPower XI50

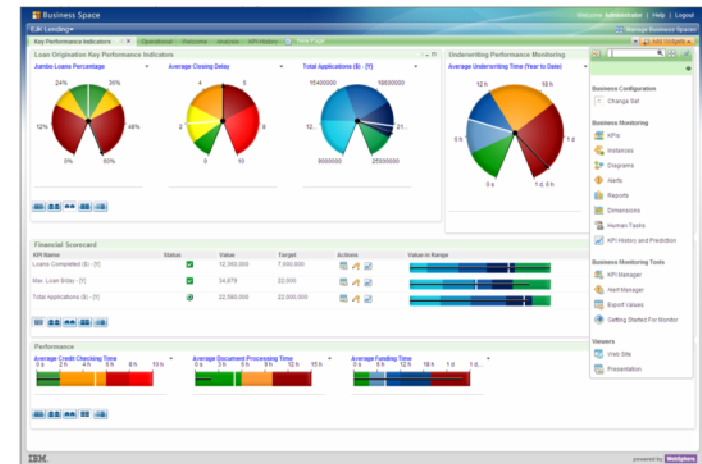
**SAP, Siebel CRM & other software** via an IBM ESB & Adapters or MQ

**Publish from other software** via Web service (WS-Notification) or REST API



## WebSphere Business Monitor Server

- Event capture and processing
- KPI calculation and prediction

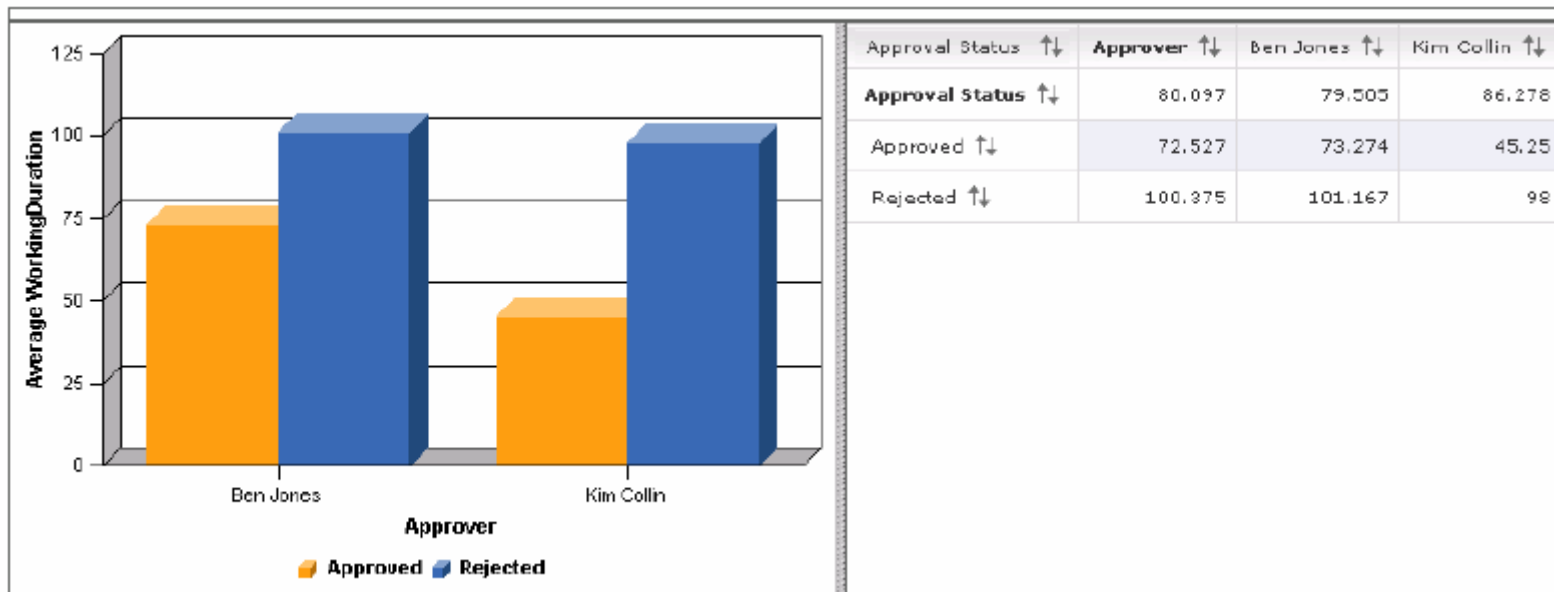


## Business Space Dashboards

- Visibility and analysis
- Dynamic alerts and ability to take action

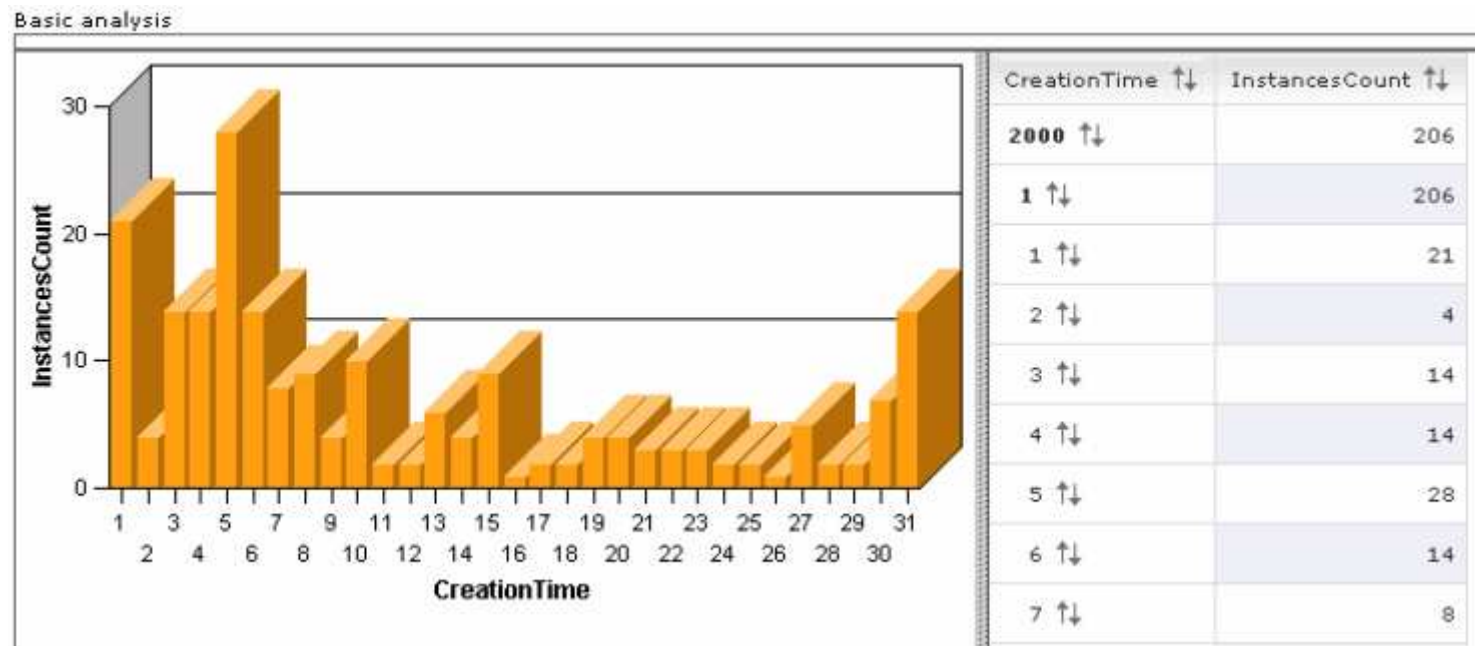
# Multiple views - Dimensional view

- Displays multidimensional reports that analyze different aspects of data retrieved from a multidimensional data mart
  - Charts and grids present data for analysis against different dimensions



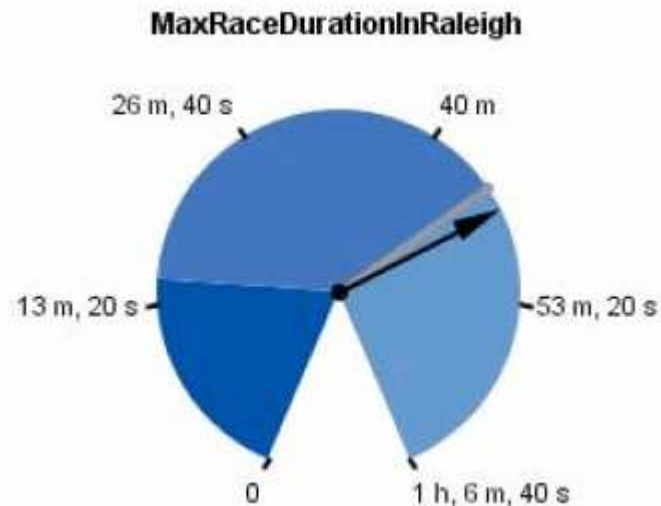
## Multiple views - Report view

- Displays performance reports relative to a time axis
- Analyze historical values of numeric business measures that belong to a cube
  - Typically represented in tables and graphs
- Drill up or down using dimensions



## Multiple views - Gauge view

- Displays an individual Key Performance Indicator (KPI) value, relative to the KPI range and target, if applicable
- Each gauge represents the value of a single KPI
- Gauge minimum and maximum are defined in the view configuration
- Lower and upper limits for the KPI are defined in the monitor model



# Business User Alerts

Allow business users to set and control the conditions under which alerts are sent

The screenshot displays the Business Space interface. At the top, it says 'Business Space' and 'Welcome janedoe | Help | Logout'. Below that, there's a navigation bar with 'Lightning I5 Demo' and 'Manage Business Spaces'. The main content area is divided into two sections: 'KPIs' and 'Alerts'.

**KPIs Section:** It features two gauge charts. The first is titled 'Daily Orders' with values 12000, 18000, 24000, and 30000. The second is titled 'Month-to-Date Average Amount of Loan Application' with values 600000 and 800000. A context menu is open over the second gauge, showing options: 'KPI Properties', 'Alert Manager', and 'History and Prediction'.

**Alerts Section:** It contains a table of alerts with columns for 'Subject' and 'Date and Time'. The table has 7 rows of data, with the first row highlighted in orange.













Subject	Date and Time
● Predicted Daily Orders below \$12000	October 26, 2008 11:54:10 PM
● Predicted Daily Orders below \$12000	October 26, 2008 11:53:10 PM
● MTD Avg Amount of Loan Application below \$300,000	October 26, 2008 11:53:10 PM
● Predicted Daily Orders below \$12000	October 26, 2008 11:52:10 PM
● MTD Avg Amount of Loan Application below \$300,000	October 26, 2008 11:52:10 PM
Predicted Daily Orders below \$12000	October 26, 2008 11:51:12 PM
MTD Avg Amount of Loan Application below \$300,000	October 26, 2008 11:40:10 PM

At the bottom of the alerts section, there is a pagination control showing '1 - 7' and '7'.



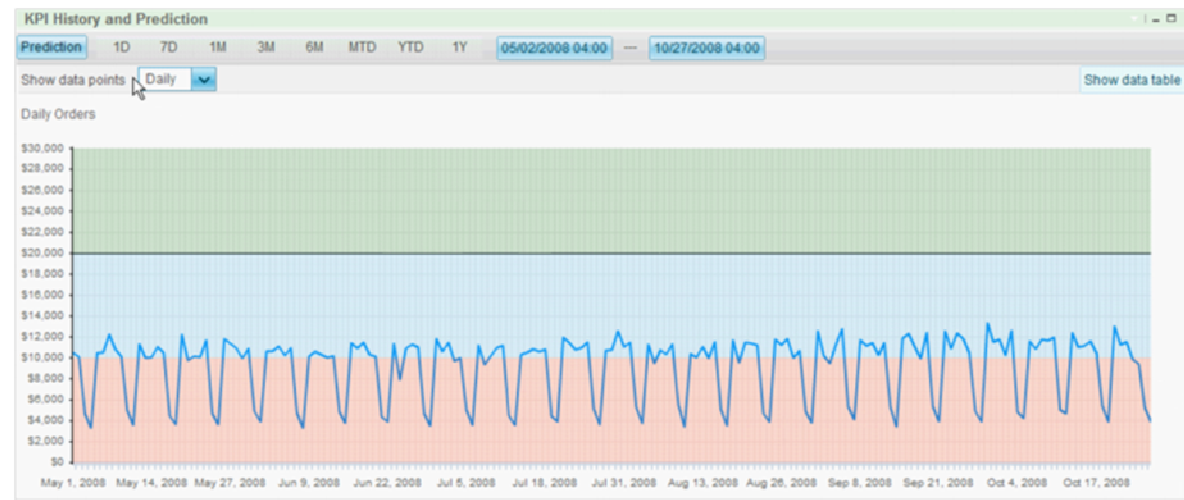
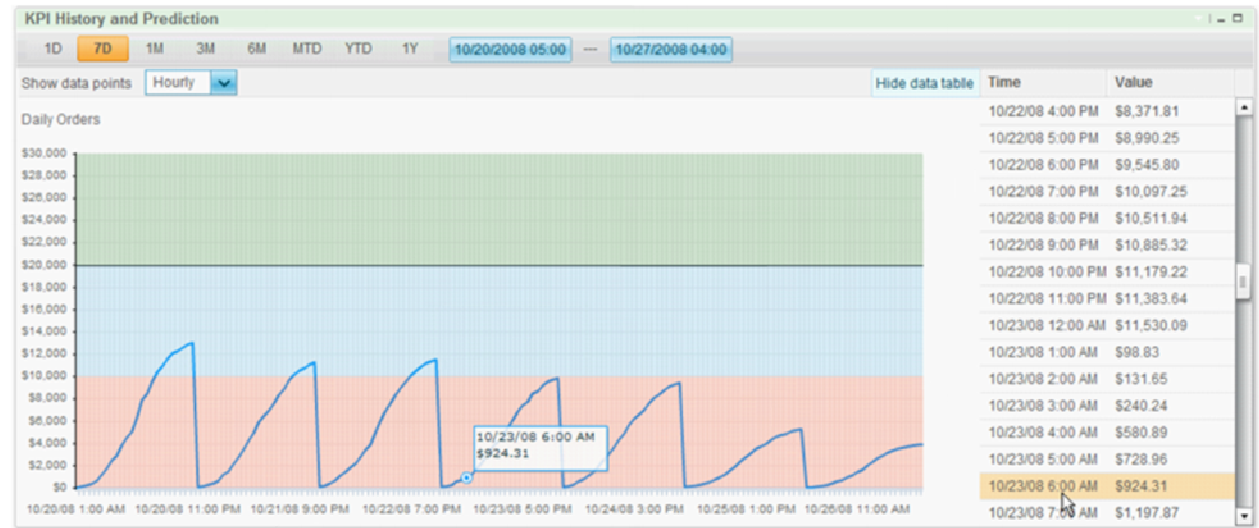
# Business User Alerts

- New Alert Manager widget replaces Alert Subscriptions, and adds additional function to create, edit and delete Business User Alerts, as well as change subscriptions

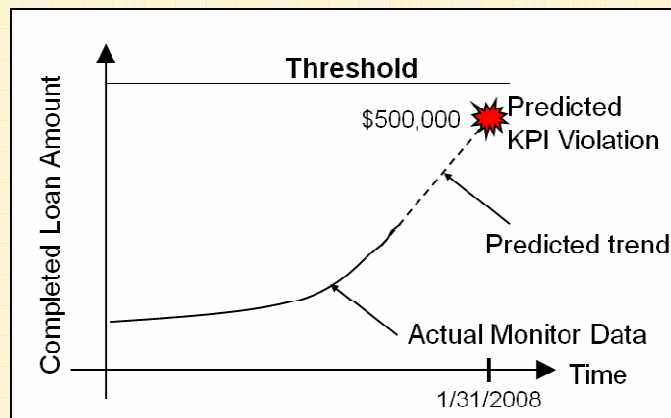
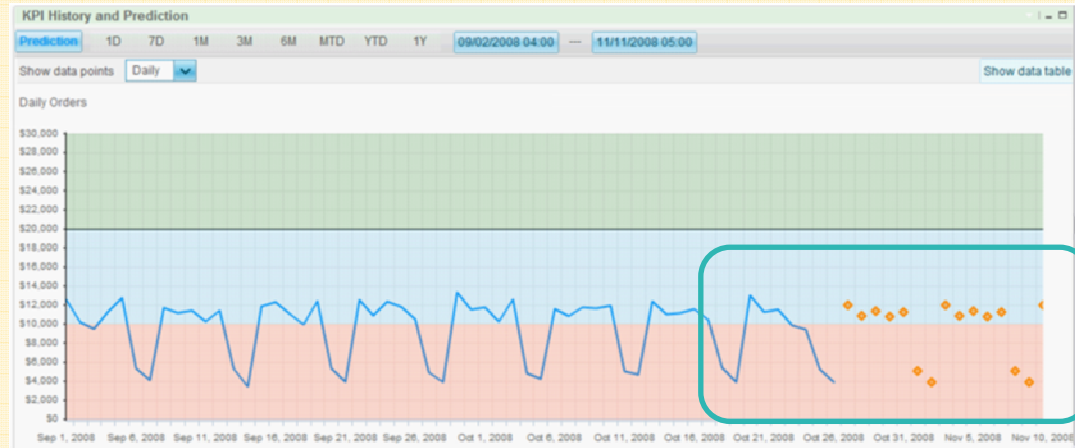
							New Alert	Save
Alert Name	Description	Dashboard Alert	Cell Phone	E-Mail	Pager	Actions		
Varad's Alerts	Varad's alert desc	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	  		
Average Sales Revenue Below Expectation	Average sales revenue below expectation al	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	  		
Average Sales Revenue Above Expectation	Average Sales Revenue Above Expectation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	  		
Average Sales Revenue below expectation	this is not good	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	  		
Good News - email	Good News - email	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Good News - alert	Good News - alert	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Good KPI	Good KPI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Excessive Order	Excessive Order	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Duration Too Long	Duration Too Long	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Decision1.False	Decision1.False	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

## KPI History

- View KPI value history over time
- Variable data frequency
  - Show daily values
  - Show monthly values
- Show targets and ranges
- Mouse over data points and ranges to get extra information
- Interactive chart for changing time range



# Predictive Monitoring



## –Predictive KPIs

- Use current trends and historical seasonal/cyclical patterns to compute the future values of KPIs

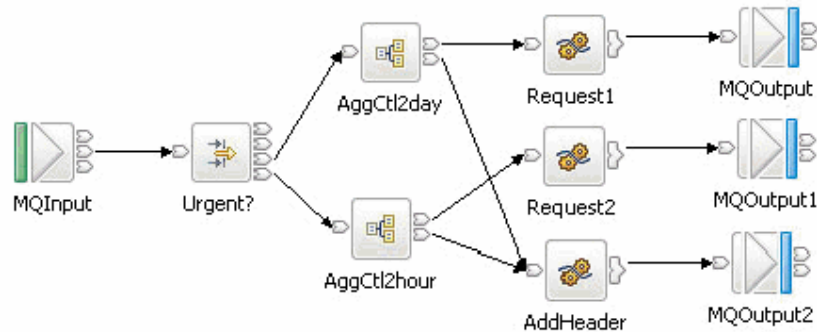
## –Predictive alerts

- Use predictions to detect potential violation of threshold conditions. Take proactive action through a process or by changing a process

## –Pattern detection with WBE

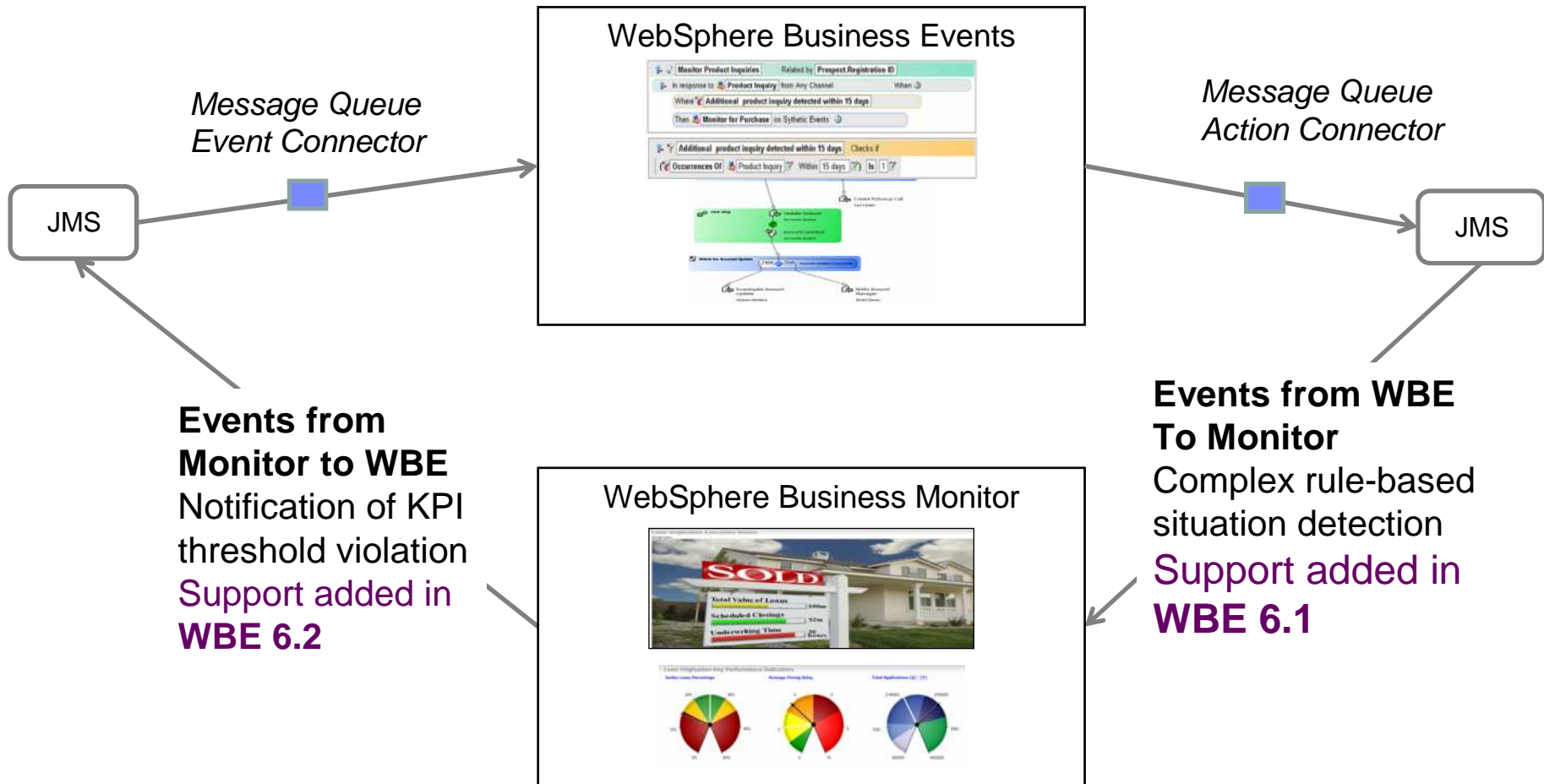
- Send predictive alerts to WebSphere Business Events to detect complex situations indicating a potential business problem that might otherwise go undetected.

## Enhanced **Message Broker** monitoring



- **More capable:** Events can now contain complex, structured content
- **Broader visibility:** In addition to raising events on input nodes (as with 6.1), can now raise events from any terminal in the flow (6.1.0.3)
- **Easier development:** New MB Toolkit support for creating xpath expressions to populate event content
- **Easier administration:** Graphical administration tools for enabling event emission

# Enhanced WebSphere Business Events integration



**Events from Monitor to WBE**  
Notification of KPI threshold violation  
Support added in **WBE 6.2**

**Events from WBE To Monitor**  
Complex rule-based situation detection  
Support added in **WBE 6.1**

# Improve Productivity of Developers through **Graphical Debugger**

- New features in 6.2 to improve speed to accurate models
  - Ability to process events directly from CEI (use of ITC now optional)
  - Significant Usability and Performance improvements

The screenshot displays the WebSphere graphical debugger interface. The top window shows the 'Servers' view with a tree structure for 'WarehouseMonitorDebugConfig [Monitor Model]'. The 'Debug View' window is open, showing 'Inbound Event Definitions' on the left and 'Steps' in the center. The 'Steps' list includes: Evaluate filter condition, Evaluate correlation predicate, Evaluate Instances, Reset stopwatch 'timeSinceLastWithdrawal' to zero, Start stopwatch 'timeSinceLastWithdrawal', Increment counter 'numberOfWithdrawals', Update value of metric 'quantityInStock', Update value of metric 'quantityWithdrawn', Update value of metric 'dateOfLastWithdrawal', Evaluate trigger 'lowInventory', and lowInventoryAlert. Below the steps is a 'Filter Condition' field containing the expression: `fn:exists(cbe:CommonBaseEvent/tns:withdrawal/@tns:sku)`. The bottom status bar shows the current view is 'Debug'.

Name	Value
cbe:CommonBaseEvent	
creationTime	2008-01-02T10:00:01.214-05:00
globalInstanceId	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
version	1.0.1
xmlns:cbe	http://www.ibm.com/AC/commonbaseevent1_0_1
xmlns:tns	http://www.example.com/WarehouseMonitor

# Flexible Access to Business Indicators and Alerts: Mobility and Integration into Business User Experiences



**Business Users**



**Process Owner**

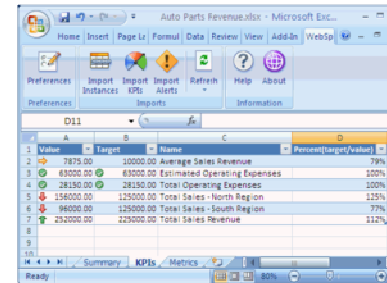
**Business Analyst**



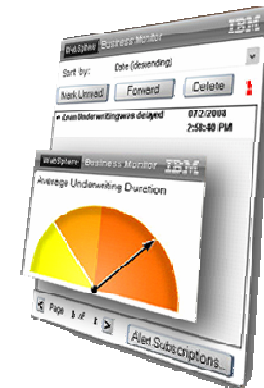
**Business Leader**



**On Blackberry smartphones and iPhones**



**In Excel**



**Through Google Gadgets and Google Desktop**



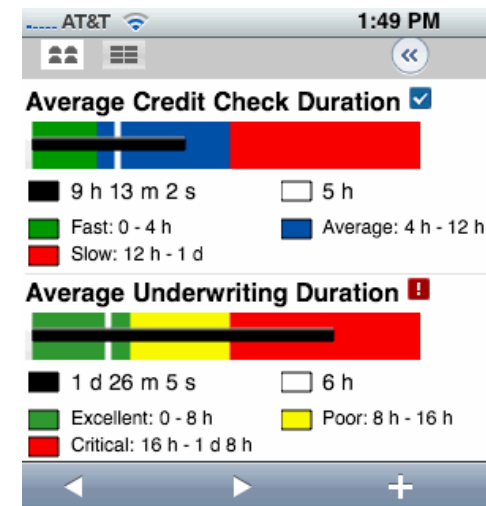
**Lotus Sametime and Notes**



**Business Space and Portal**



# Experience Monitor through your iPhone





# Thank You

