



IBM SOA Technology Summit

Modeling & Monitoring Business Processes

Offering & Best Practices

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IMT France and North West Africa

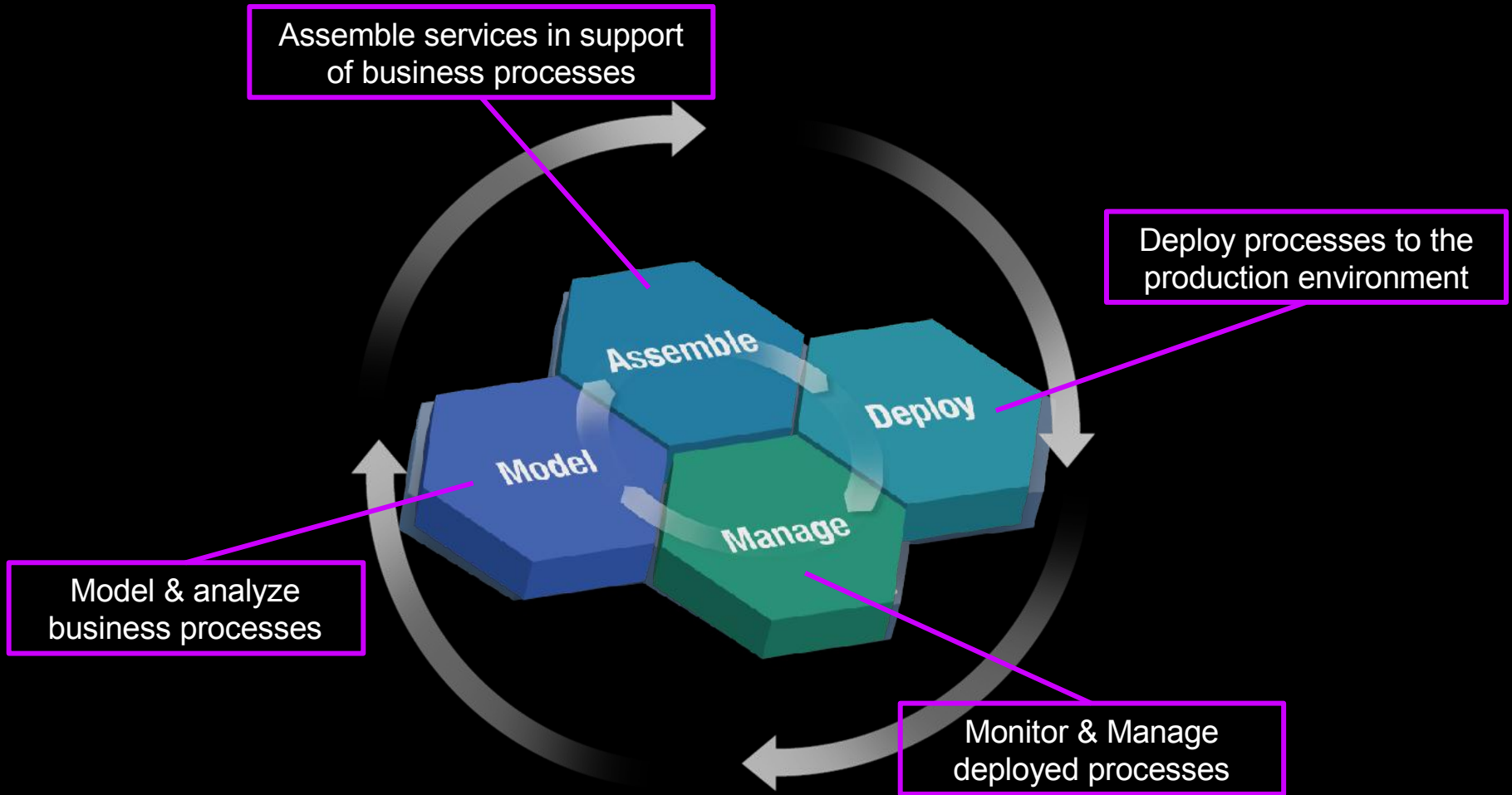
SOA on your terms and our expertise



Agenda

- BPM & SOA: The IBM Vision
- Modeling Business Processes
- Assembling & Deploying Processes
- Monitoring Business Processes
- Paths to BPM

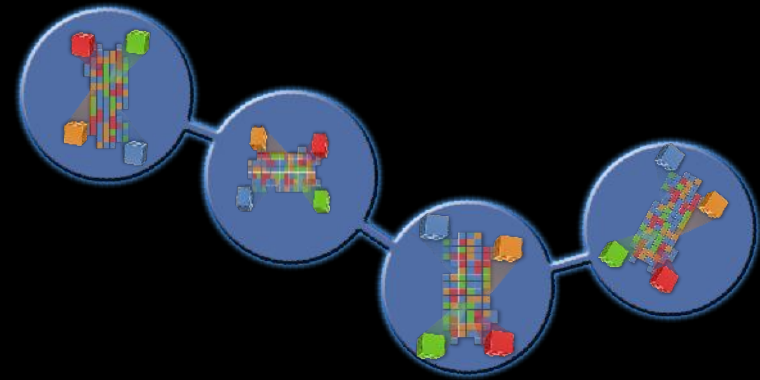
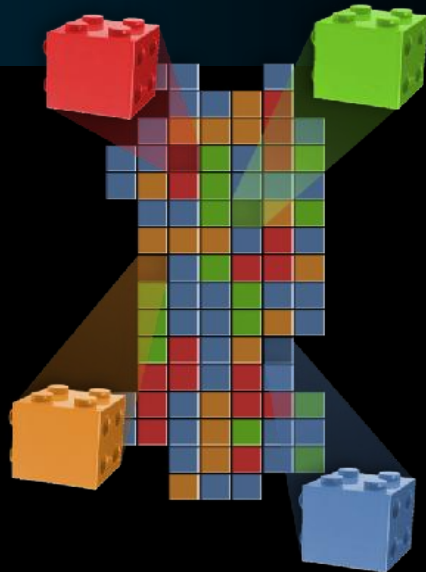
BPM is an end-to-end cycle



BPM & SOA: The IBM Vision

SOA allows you

To create a set of related and integrated services that support a business process



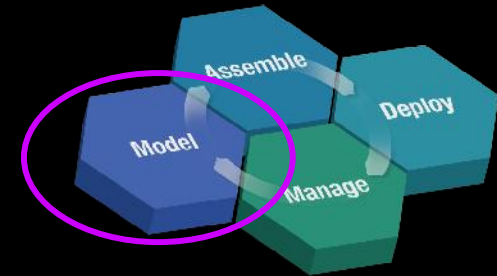
SOA is at the core of BPM

SOA improves how you Design, Manage, and Optimize your business processes by enabling:

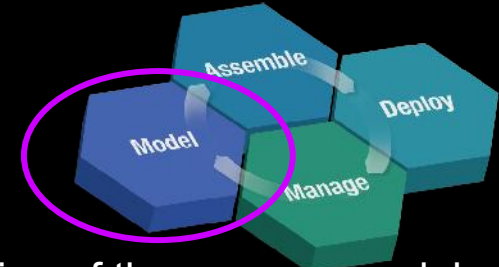
- Reuse of existing assets
- Flexibility in change
- Solution Building Efficiency

Modeling Business Processes

- **WebSphere Business Modeler**
- **Design**
 - Resources (people, hardware, ...)
 - Information (data objects)
 - Process flow
 - Roles, Costs & Durations
 - Observation model (KPIs)
 - Collaborative design
- **Simulate**
 - Virtual Execution of n runs of the process with specific data, timing, etc.
- **Analyze**
 - Aggregated costs, durations
 - Comparison of simulation runs
- **Prepare for Implementation**
 - Export: BPEL, UML

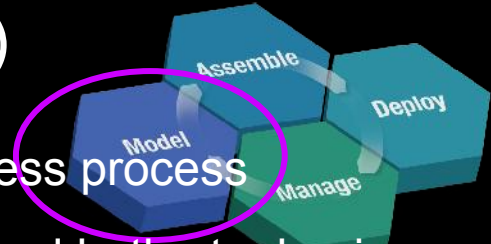


Modeling takes a few models



- Process Model
 - Drag & Drop to create the graphical view - the visual representation of the process model.
- Resource Model
 - Define resource types, templates and instances – and associate them to the process
- Information Model
 - Define the data & its attributes – show how data is used within a business process.
- Organization Model
 - Define organization units, locations – show roles, resources and other organizational elements in structured diagrams
- Analysis Model
 - Define and analyze process elements for their static relationships, as well as their simulated dynamic behavior
- Business Measures Model
 - Define Key Performance Indicators and Metrics that represent the critical performance characteristics to be Monitored

Modeling: KPIs (Business Measures Model)



- Defines what is monitored during the execution of the business process
- Key Performance Indicators (KPIs) and Metrics can be defined both at a business process and activity level of granularity
 - Example KPI - Percentage of Approved requests
 - Example KPI – Average time to process requests from Gold customers
- Situation and situation outcomes can be defined in order to make KPIs and metrics actionable



KPIs – measurements of high business value, built from these other constructs, monitored as gauges and displays in Monitor dashboard



Timers – measure durations



Triggers – determine when to start and stop measuring

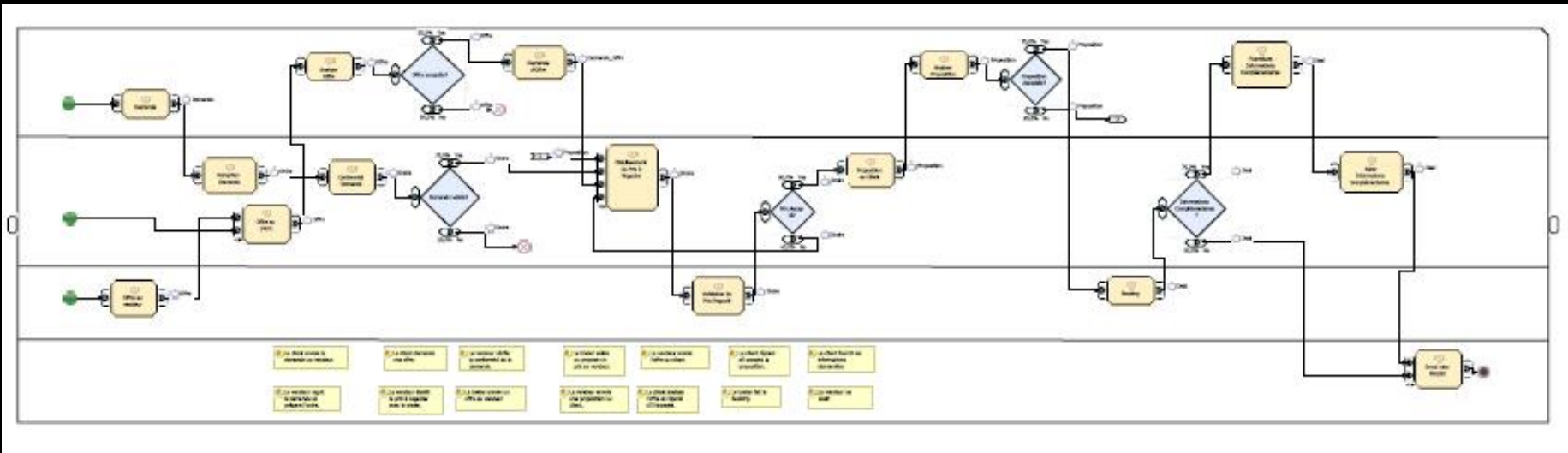
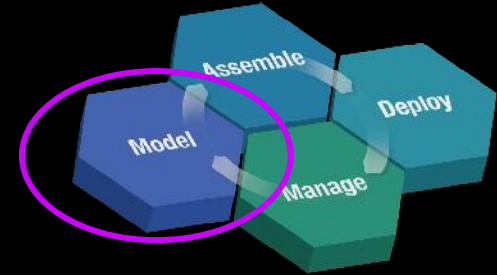


Counters - measure the number of occurrences of events

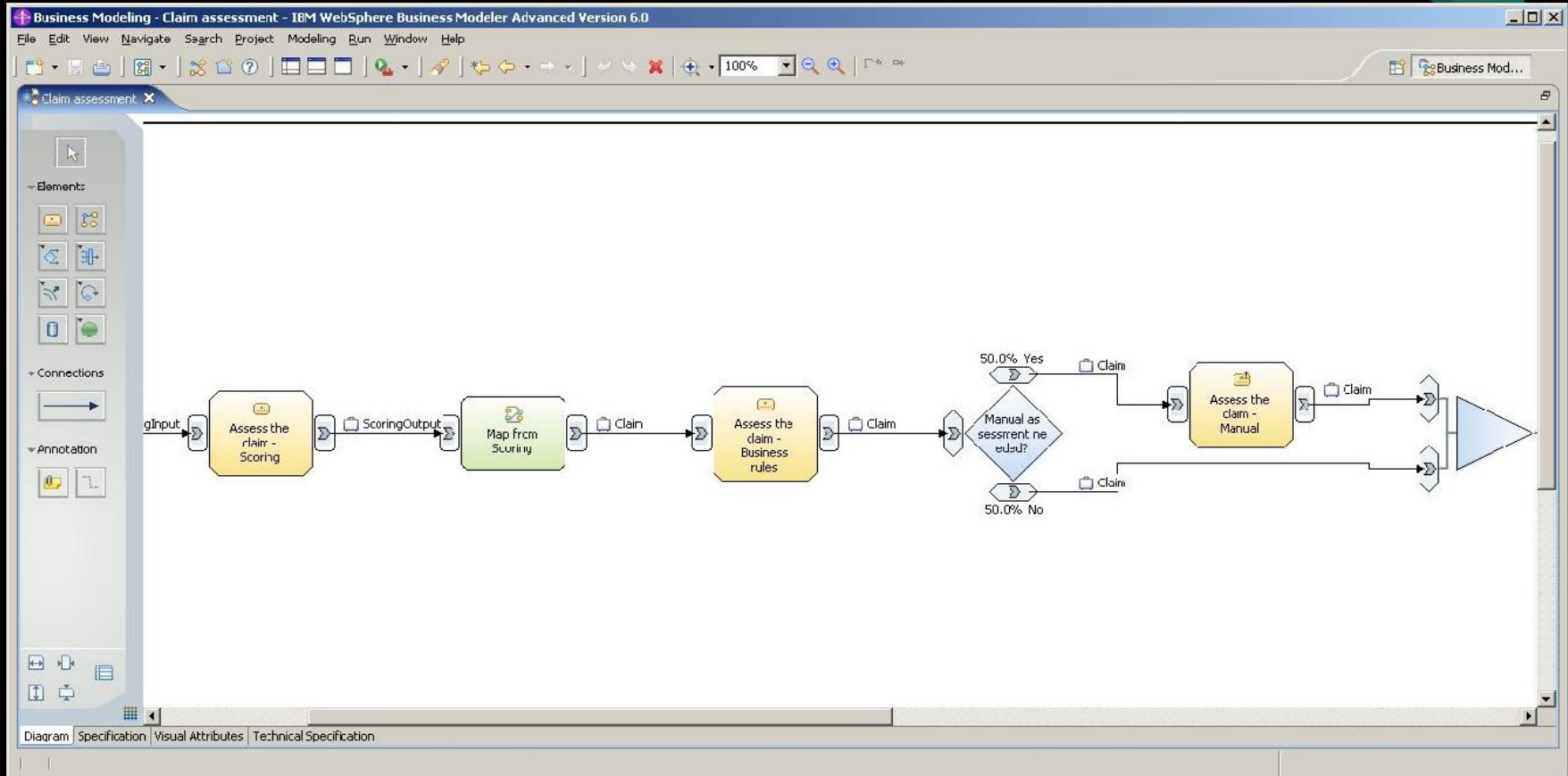
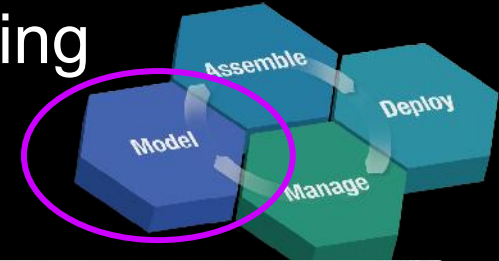


Metrics – used for capturing data and calculating composite measurements

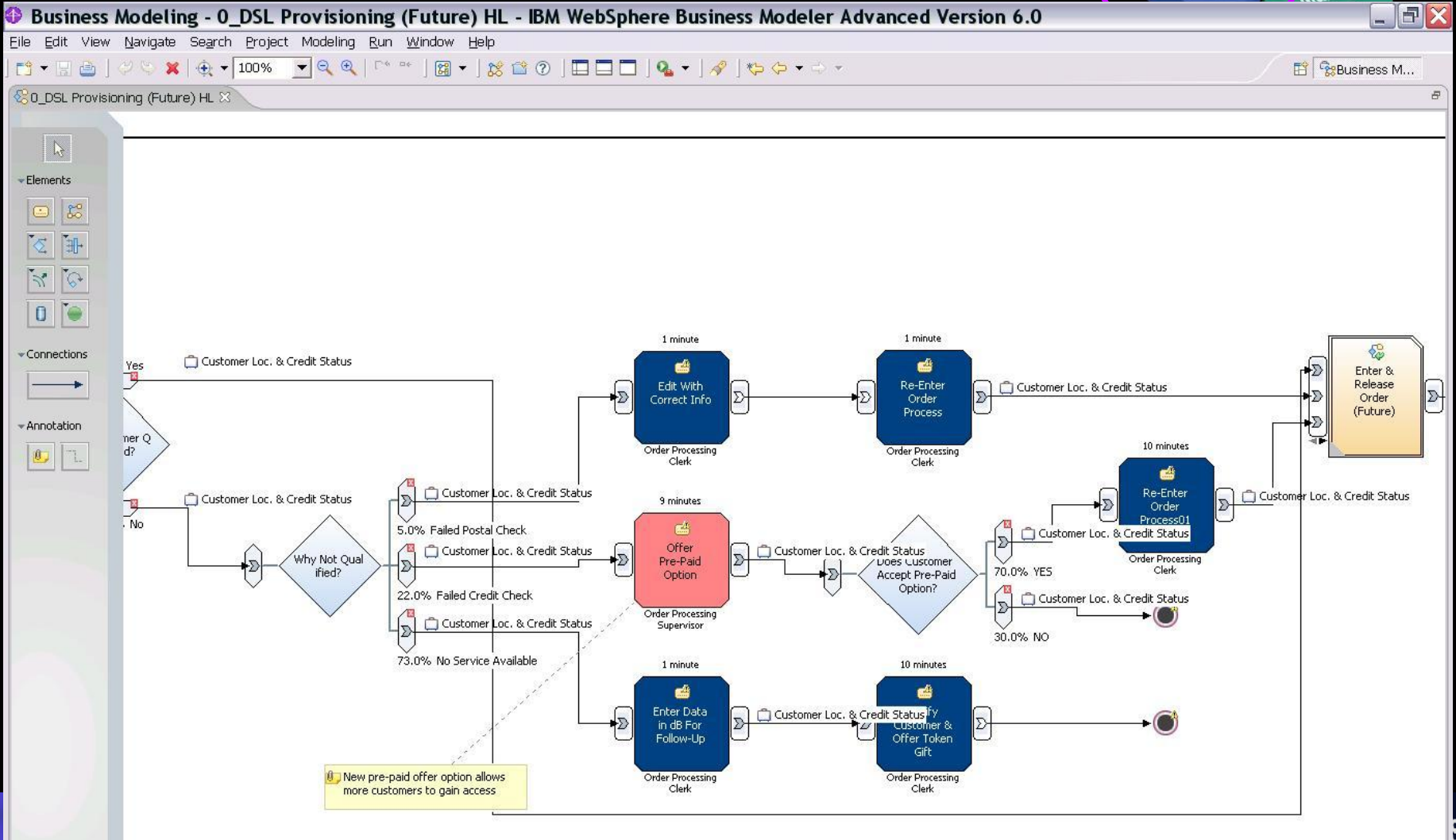
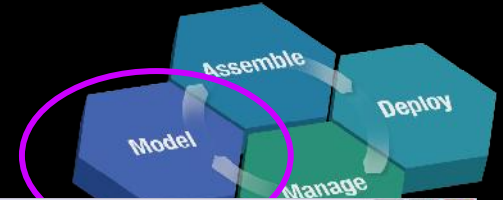
Modeling samples: Financial markets, complex products



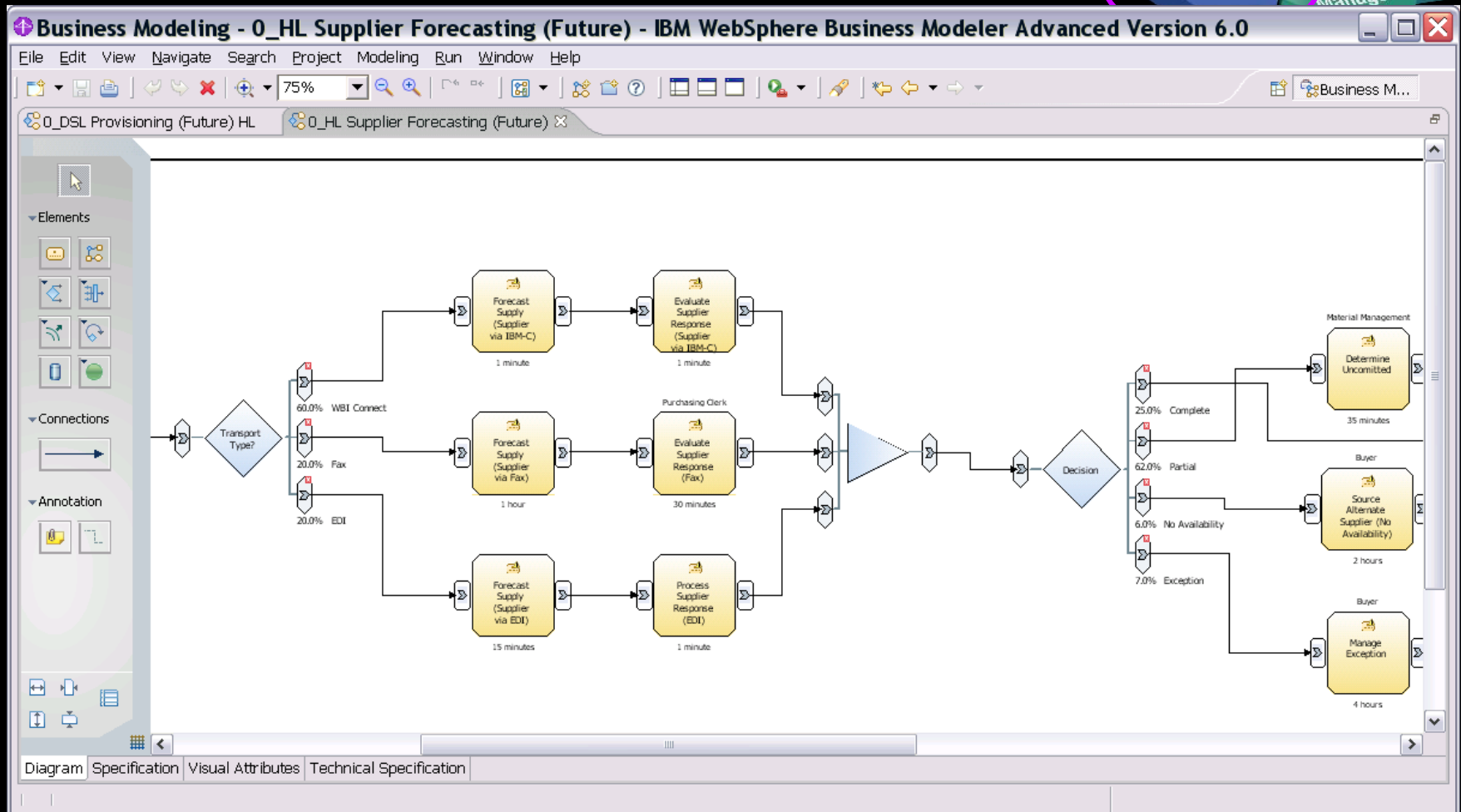
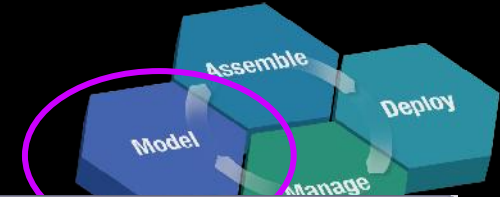
Modeling samples: Insurance, claims handling



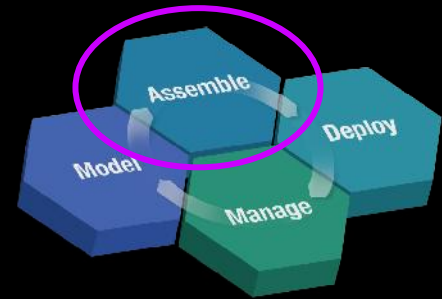
Modeling samples: Telco, DSL provisioning



Modeling samples: Industry, supplier management



Assembling Processes

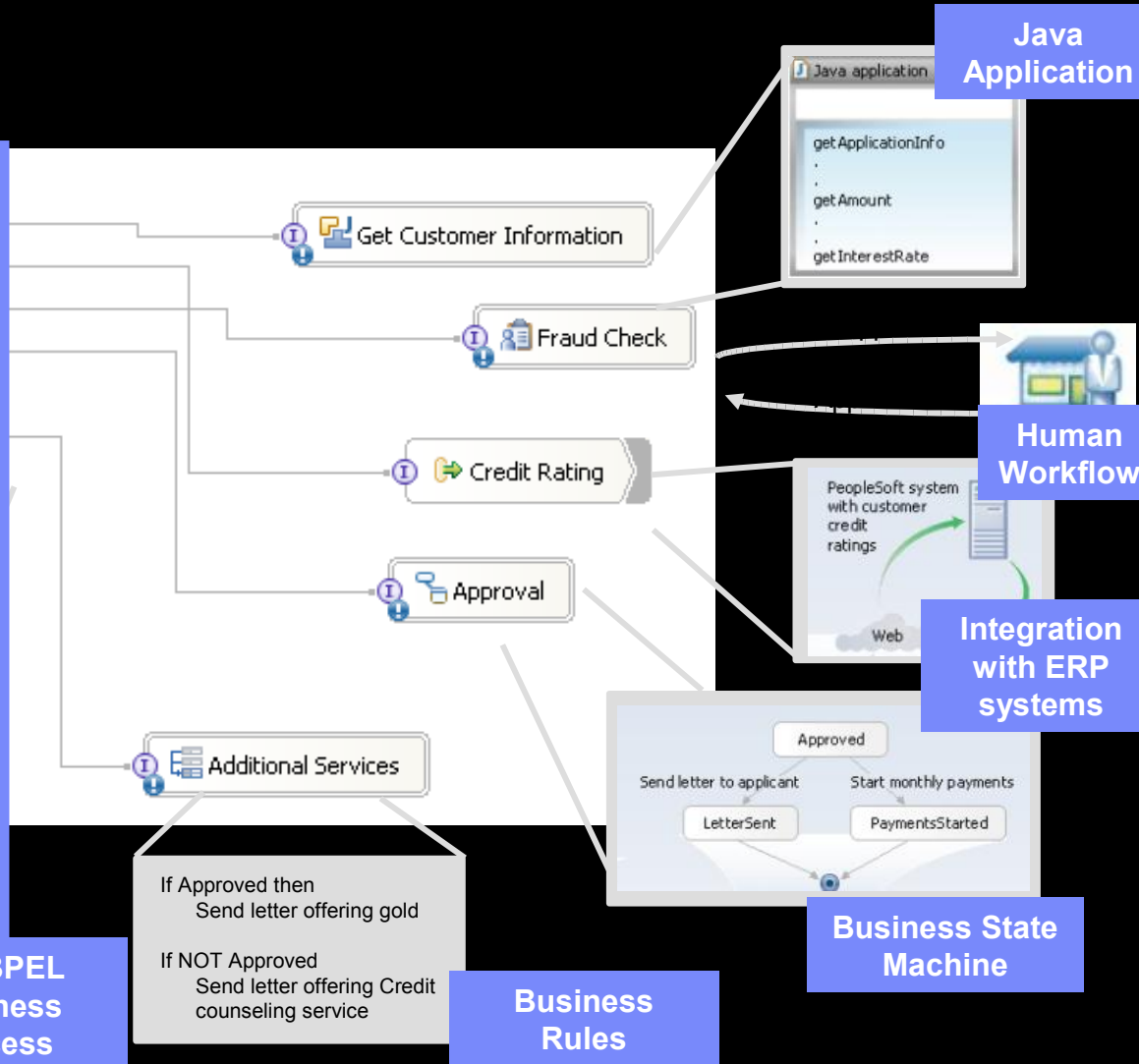


- **WebSphere Integration Developer (WID)**
- Enable process for execution by linking business activities to services that will perform the necessary operations
 - External services (Web Services, J2EE, JCA Connectors, JMS)
 - (Human) Workflow
 - Business Rules
 - Other Processes
- Implements a powerful programming model for assembling blocks of services: Service Component Architecture (SCA)
 - Assemble & Parameterize vs. Program

Assembling processes

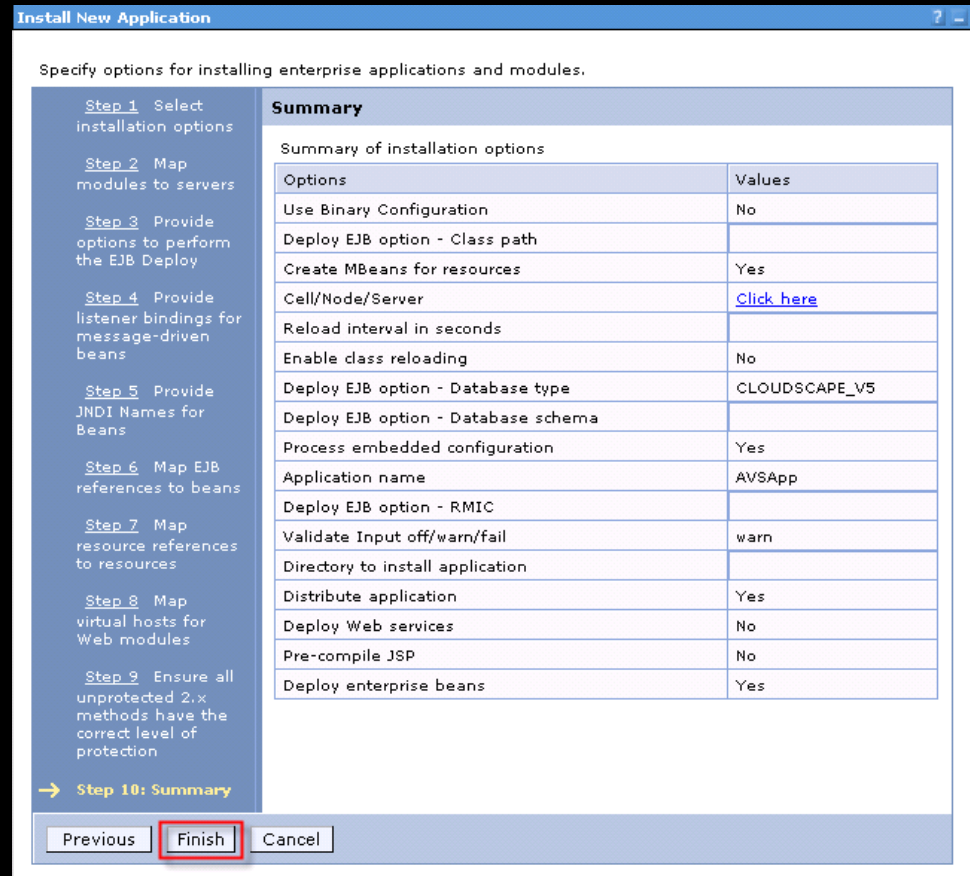
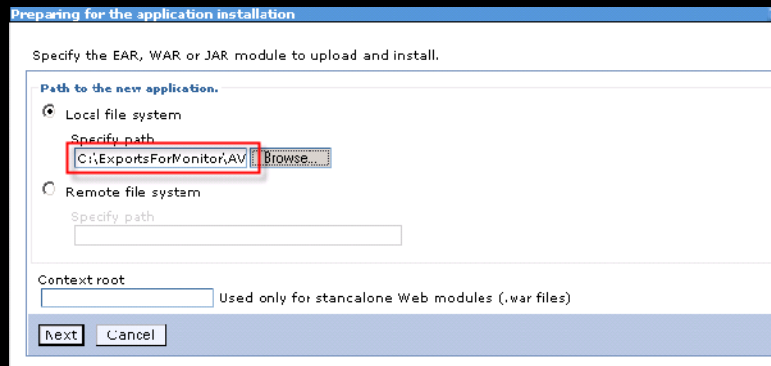
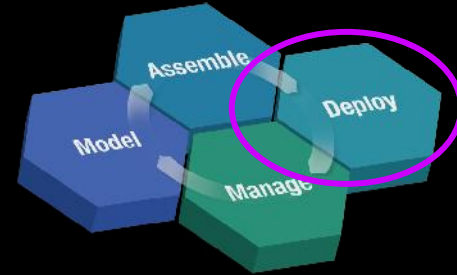
One Tool
One Server
One vendor

WS-BPEL
Business
Process

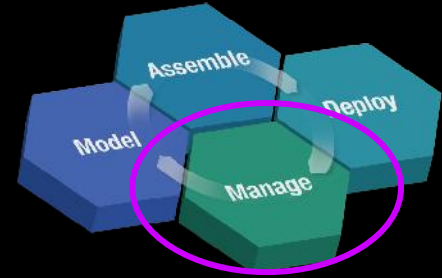


Deploying Processes

- **WebSphere Process Server (WPS)**
- A single, standards compliant, J2EE-based execution platform for integration, process management, workflow, services orchestration

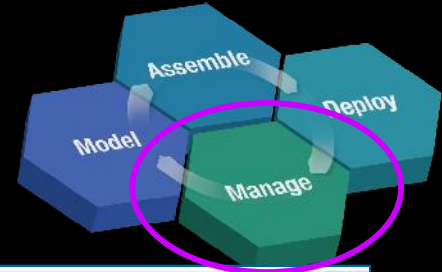


Monitoring & Managing Processes



- **WebSphere Business Monitor**
- Business monitoring vs. Technical monitoring (Tivoli)

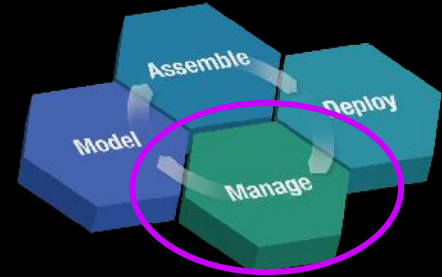
WebSphere Business Monitor - Capabilities



- **Manage in flight processes**
- **Monitor the Business Performance of active processes**
- **Detect Business Situations and take action**
- **Gather Business Intelligence from collected process data**
- **Create intuitive role based dashboards**



Manage in flight processes



Monitor executing processes

- Process Status
- Execution paths
- Inspect process instance data
- Examine durations, costs

Administer process instances

- Start/Stop claims processes if a high value claim is being handled incorrectly
- Transfer work items to users with the appropriate authority

Export actual process data to Modeler

- Run new simulations based on REAL data
- Improve accuracy – reduce risk

Active Instances

This view shows the running instances of a certain process and its activities. You can drill down through the instances.

ReserveFlight

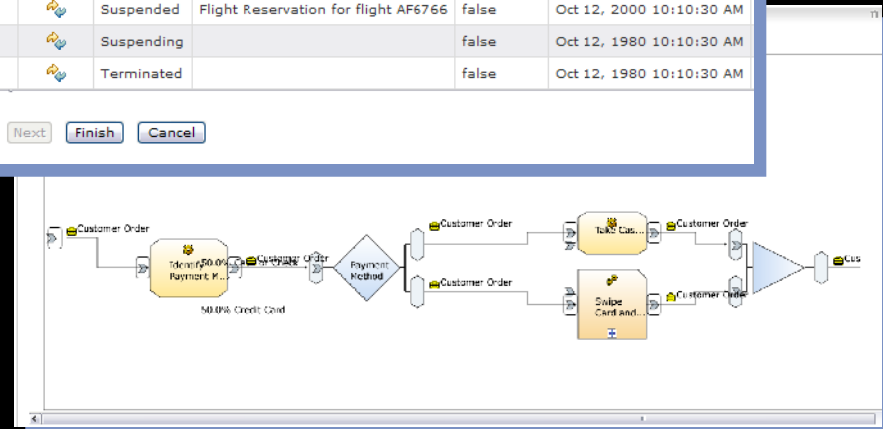
Shows old instances

File Edit View Data Tools Help

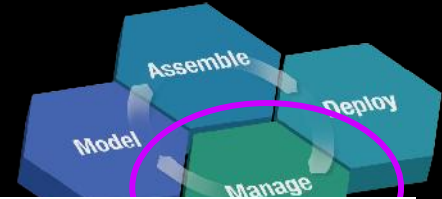
Results 1 to 7 of 7

Actions	Diagram	State ↑↓	Description	Is Delayed	Start Time
		Completed		false	Oct 12, 1980 10:10:30 AM
		Completing		false	Oct 12, 1980 10:10:30 AM
		Ready		false	Oct 12, 1980 10:10:30 AM
		Running	Flight Reservation for flight AF6755	false	Oct 12, 1990 10:10:30 AM
		Suspended	Flight Reservation for flight AF6766	false	Oct 12, 2000 10:10:30 AM
		Suspending		false	Oct 12, 1980 10:10:30 AM
		Terminated		false	Oct 12, 1980 10:10:30 AM

Back Next Finish Cancel



Monitor the Business performance of active processes



View Key Performance Indicators (KPI's) calculated from live process data

- Display KPIs graphically as scorecards and gauges

Internal Business Process

KPI Name	Status	Value	Target	Score
Mortgage.Actual Interest Income YTD		10.8	15	72%
Credit Cards.Actual Interest Income YTD		140	155.8	90%

Learning & Growth

KPI Name	Status	Value	Target	Score
Credit Cards.Actual Interest Income YTD		140	155.8	90%
Wholesale.Actual Interest Income YTD		160	150	107%

Customer

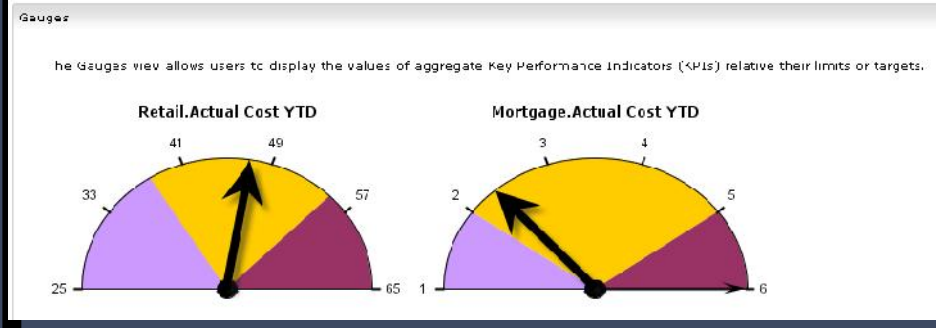
Score
108%
107%

Key Performance Indicators (KPI's)

The KPI view allows users to monitor Key Performance Indicators

KPI	Status	Value
Retail.Forecast Cost	N/A	48
Retail.Actual Cost MTD	N/A	8
Retail.Actual Cost YTD		47
Retail.Actual Capital MTD	N/A	0
Mortgage.Actual Cost MTD	N/A	2.4
Mortgage.Actual Cost YTD		6
Retail.Actual Capital YTD	N/A	0
Retail.Actual Interest Income YTD		470
Retail.Actual Interest Income MTD	N/A	83

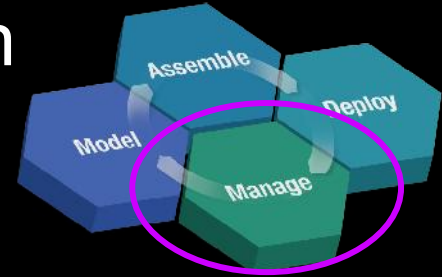
Below limit Within limits Above limit



What is a Key Performance Indicator (KPI)?

A KPI is a critical measurement that is associated with targets and limits

Detect Business Situations and take action



Anomalous situation detection to allow for automatic corrective actions

- Notifications sent for manual response
 - Email supervisors to inform them of delays of a high value claim
 - Alerts contained within the business monitor that can show all high risk credit requests that require additional approval.

- Invoke automated responses
 - A corrective actions process that (BPEL Process)
 - A Business Service that sends a courtesy letter to a customer (Web Service)

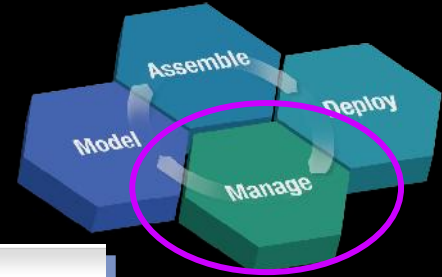
Alerts

Use this view to handle incoming alerts. You can mark an alert read or unread, or remove an alert from the view by using the top buttons. Subject hyperlink.

1 to 10 of 10

<input type="checkbox"/>	Time ↑↓	Subject ↑↓	Alert Source ↑↓
<input type="checkbox"/>	Jun 17, 2005 1:52:28 PM	Credit Request AABBOC is a high risk request.	BANK X Model.Credit Request
<input checked="" type="checkbox"/>	Jun 17, 2005 1:52:28 PM	Credit Request EEEFFG has been approved by Kim Collin.	BANK X Model.Credit Request
<input checked="" type="checkbox"/>	Jun 17, 2005 1:52:28 PM	Credit Request HHIIJJ is a low risk request.	BANK X Model.Credit Request
<input type="checkbox"/>	Jun 17, 2005 1:52:28 PM	Retail Business Unit Actual Cost YTS is high.	BANK X Model.Business Unit
<input checked="" type="checkbox"/>	Jun 17, 2005 1:52:28 PM	Credit Request EEEFFG has been approved by Kim Collin.	BANK X Model.Credit Request

Gather Business Intelligence from collected data

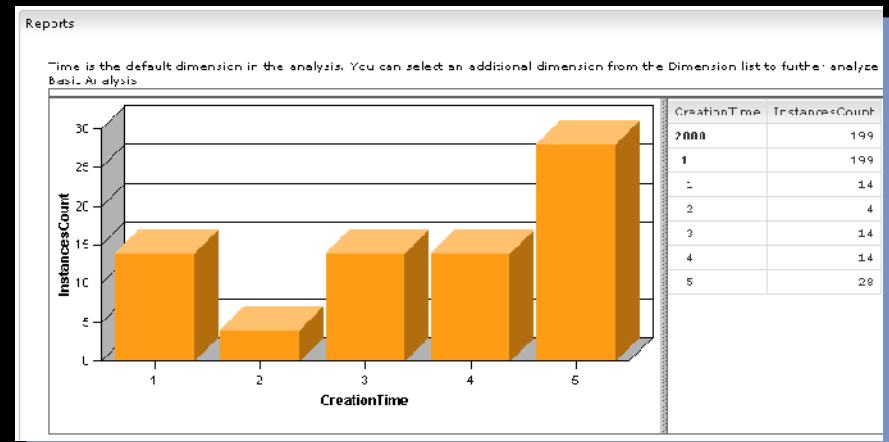
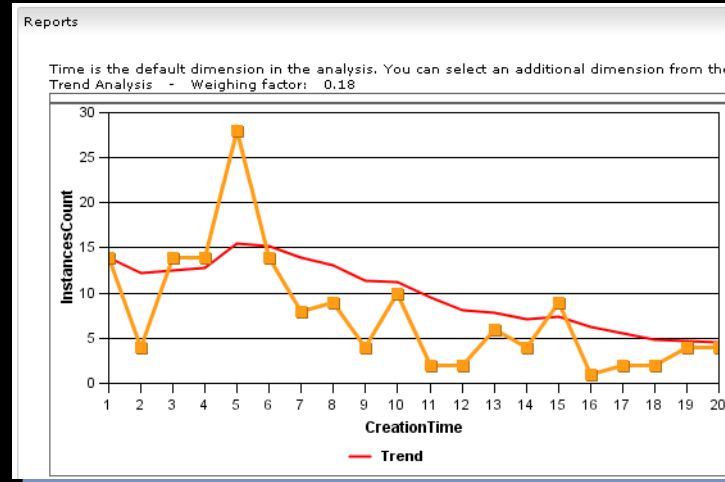


Analyze business metrics over time to identify trends- # of high value orders in a given time period

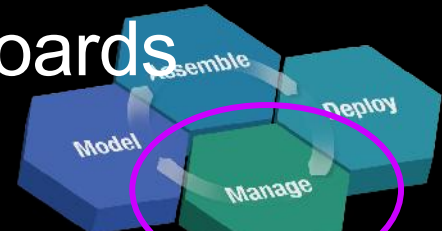
Discover previously hidden patterns using dimensional analysis

- Slice & dice process data to show processing time by order type
- Drill up & down

Populate a business performance warehouse in near real time



Create high productivity role based Dashboards



Assemble dashboards from different views

- Monitor view
- Report view
- Dimensional view
- KPI view
- Scorecard view
- Gauge view
- Alert view
- Organizational view

Mortgage Business Unit Costs By Location

Business Units Costs YTD

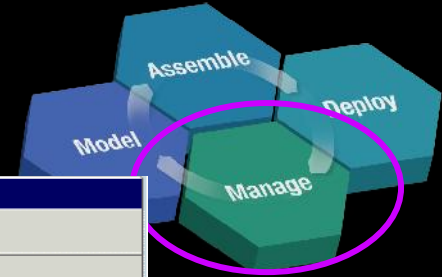
KPI	Status	Value
Credit Cards Actual Cost MTD	🟢	22.1
Credit Cards Actual Cost YTD	🔴	153.2
Mortgage Actual Cost MTD	🟢	2.4
Mortgage Actual Cost YTD	🔴	5
Retail Actual Cost YTD	🟢	3
Retail Actual Cost YTD	🟢	47
Trade Finance Actual Cost YTD	🔴	143
Wholesale Actual Cost YTD	🟡	31.2

Credit Cards Actual Cost YTD Gauge

Legend: 🟢 Within limits, 🔴 Above limit, 🟡 Not Available

Combine standard & custom portlets to meet any business need

Monitor and Process Tracking Views



WebSphere Business Monitor

File Edit View Favorites Tools Help

Back Search Favorites Media

Welcome, Olive. You have 5 unread mails and 3 unread alerts.

Business Dashboard Reports / Alerts Collaboration

Start Date: 2005-02-01

End Date: 2005-02-05

Frequency: Daily

Date	Value (%)
2005-02-01	2.55 %
2005-02-02	3.68 %
2005-02-03	2.40 %
2005-01-04	3.41 %
2005-02-05	5.61 %

Key Performance Indicators	Status	Trend	Value	Target	Process
Manual Intervention Ratio	■	▲	5.61 %	< 5 %	Cleanse-Publish
Average Data Synchronization Time	■	▶	9.5 min	< 10 min	Cleanse-Publish
Synchronization Failure Ratio	■	▲	0.5 %	< 1 %	Cleanse-Publish
Synchronization Failure Recover Time	■	▲	12 min	< 30 min	Compensation II

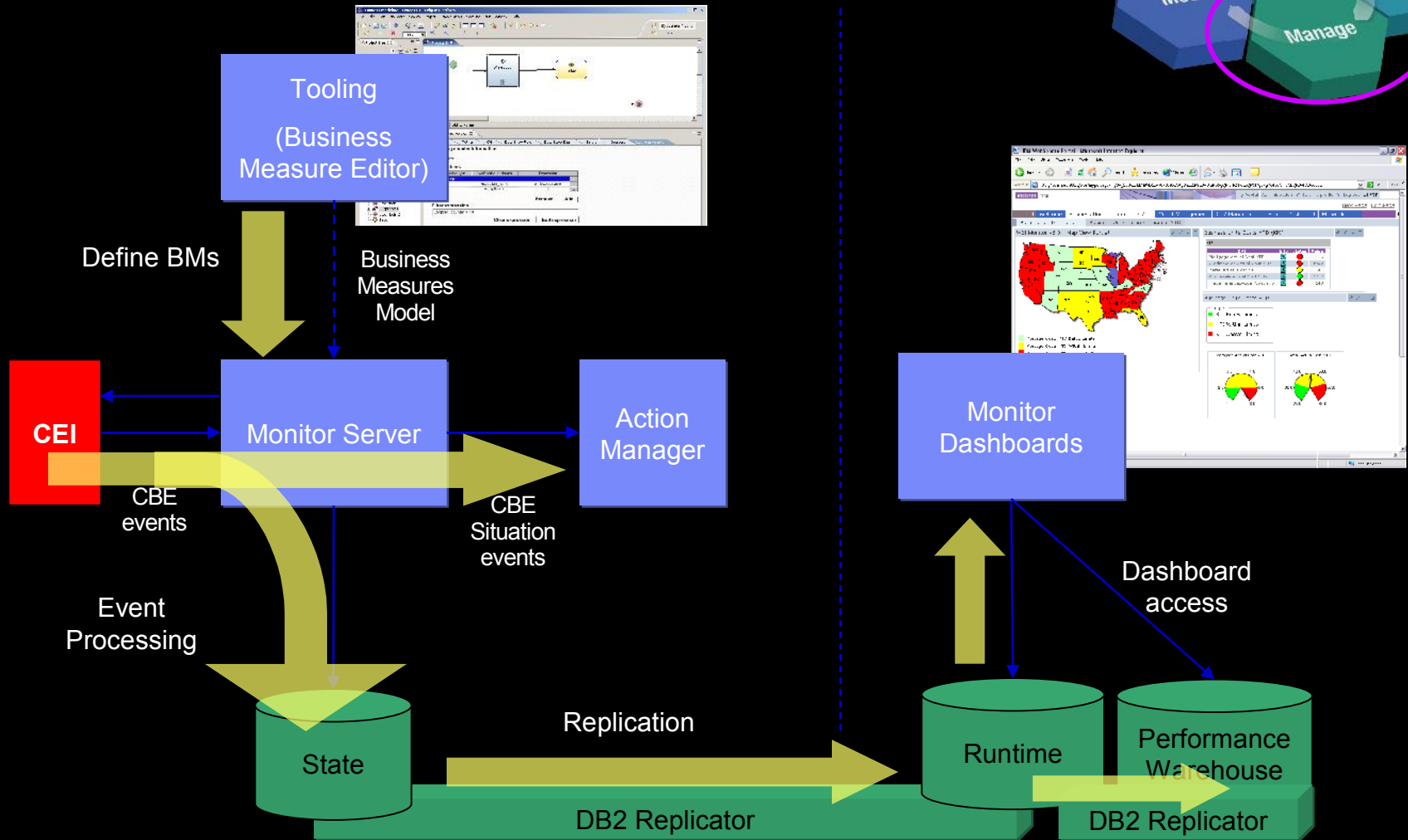
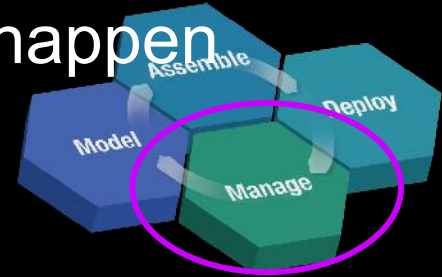
Order Handling Process Diagram

Process Owner: **Matthew Benzic**

Business Analyst: **Bob Adam**

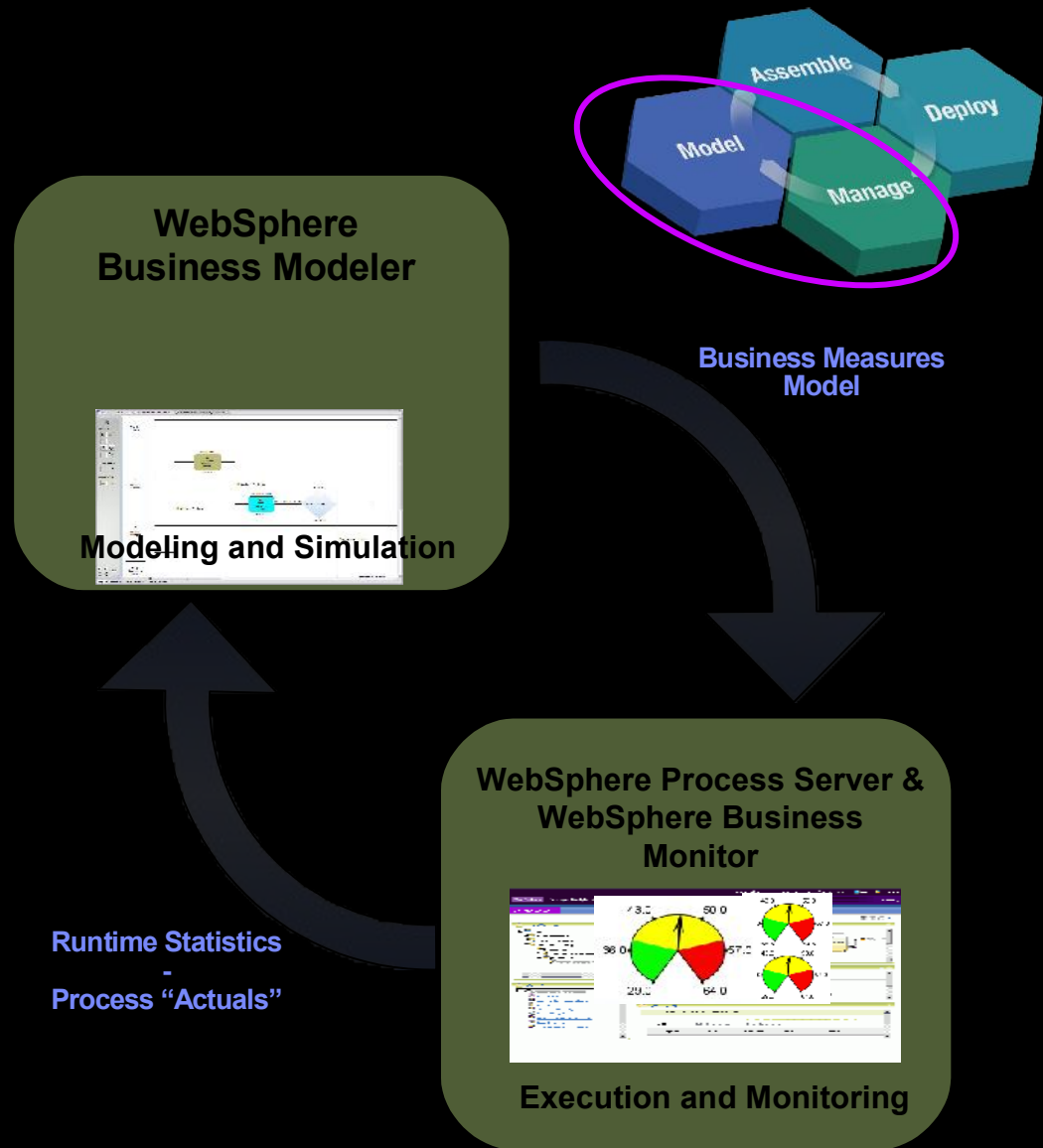
System Administrator: **Ivan Tackett**

How WebSphere Business Monitor makes it happen

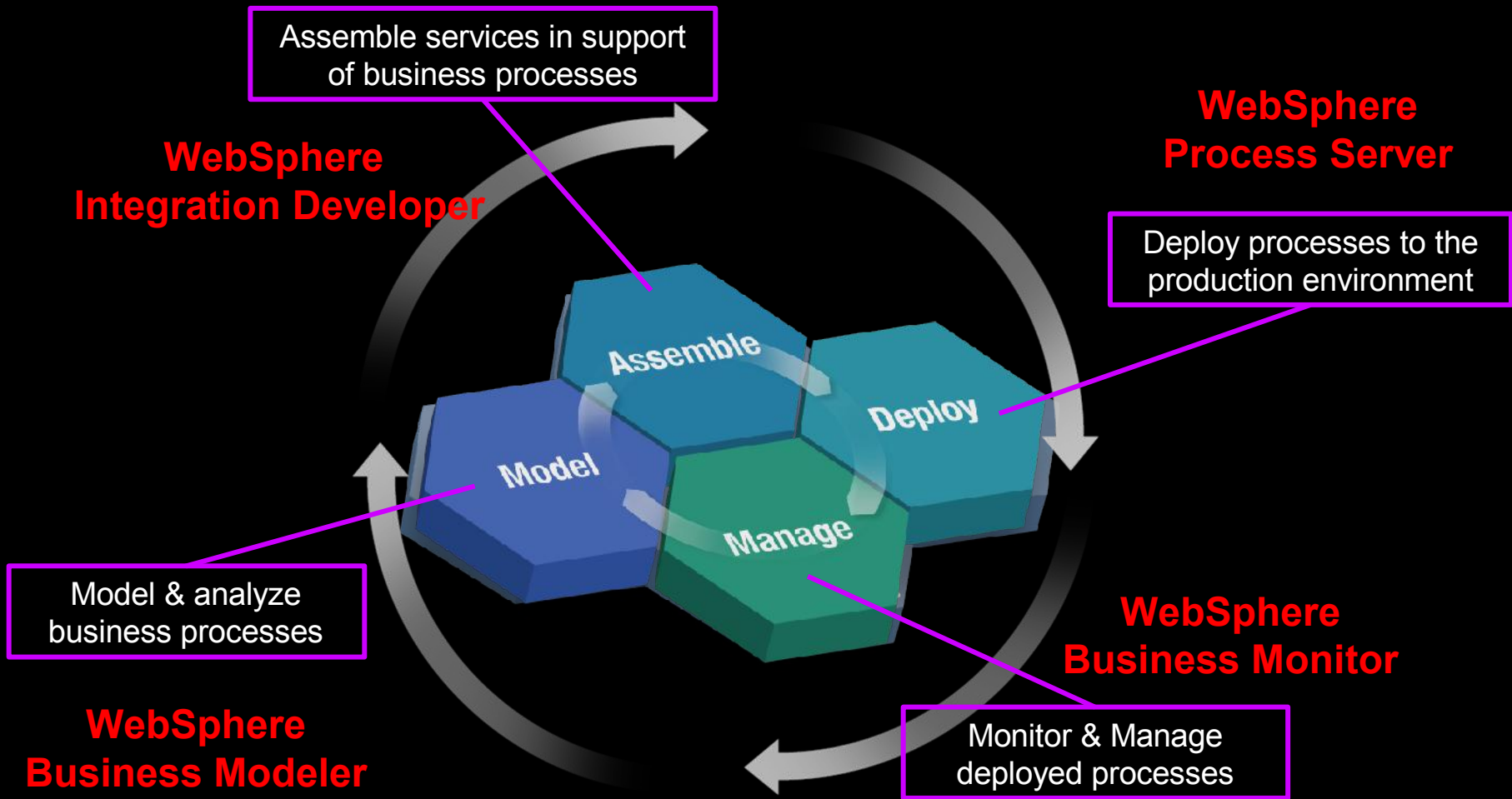


The Virtuous Circle

- Feedback from monitoring to modeling: closing the loop
- Update primary design hypotheses with actual data: core business facts (runtime statistics: durations, % of distribution in branches) from Monitor are passed back into Modeler for simulation, analysis, diagnosis, and action



Offerings for the IBM Vision

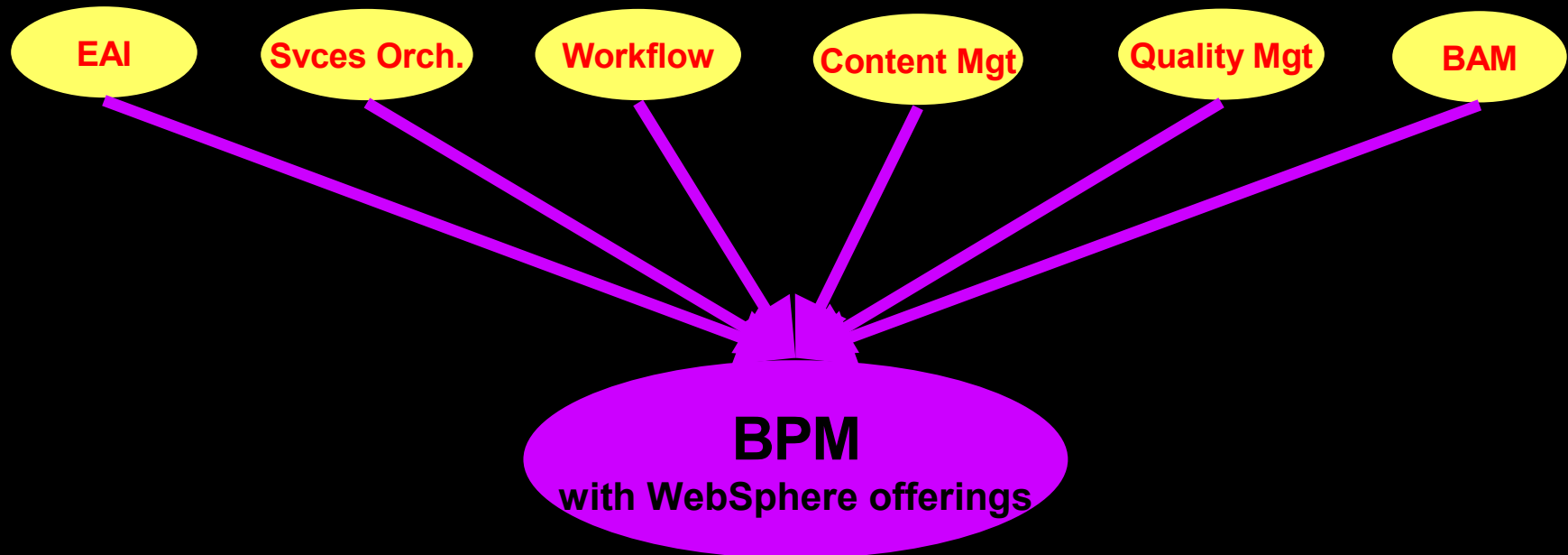


The key to it all: standards

- BPEL, XML, WS-*, JCA, JMS, SCA, SDO, CBE...
- J2EE-based platforms for process execution (including integration, workflow, service orchestration) and runtime monitoring
- A single development framework (Eclipse)

In Practice: Possible Paths towards Process

- To become process-minded is a cultural change
- BPM is end-to-end management of processes: design-assemble-deploy-manage
- Our customers are moving to BPM along different paths:



For more information

- DEMO at our BPM pedestal outside
- <http://www.ibm.com/soa>
- <http://www.ibm.com/developerworks/soa>
 - Download and try WebSphere Business Modeler !