WebSphere Education

Introduction to WebSphere Business Modeler and business process management

Unit 2

Unit objectives

After completing this unit, you should be able to:

- Define business process management (BPM)
- Describe how service-oriented architecture (SOA) supports process improvement
- List and describe the IBM products that support the SOA approach to business process management
- Identify the primary capabilities of WebSphere Business Modeler
- List the advantages of modeling business processes
- Explain the purpose of process simulation and analysis

CEOs want technology to support business goals

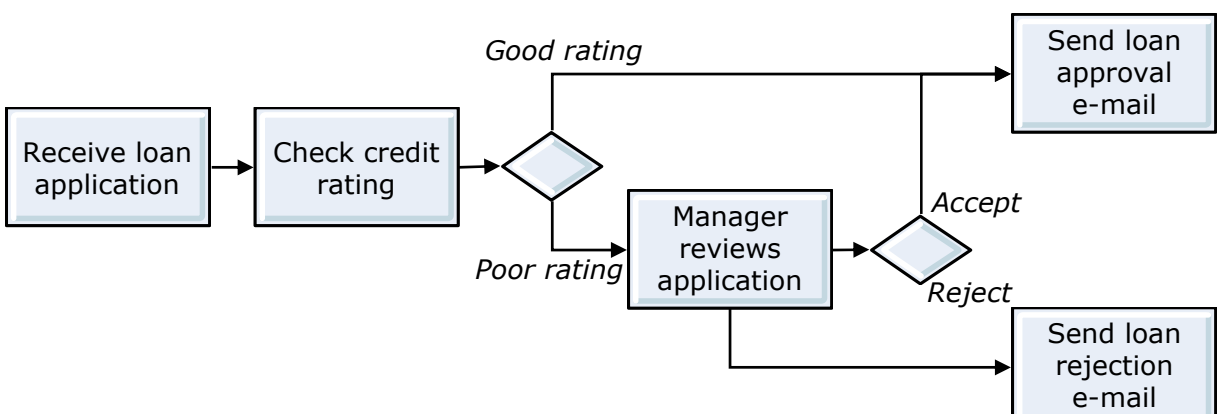
CEO needs	CIO challenges
Revenue growth with cost containment	**Aligning IT and business goals** to grow revenue and contain costs
Responsiveness to business conditions and ability to pursue new market opportunities	Building **responsiveness and agility** into the organization through IT
Improving **internal skills, capabilities, and leadership** as a first step toward growth	**Enabling people and teams** to be more effective through IT

Source: Your Turn: The Global CEO Study, IBM Corp.

Source: Operating Environment Market Drivers Study, IBM Corp.

Business processes support business goals

- A business process is a set of linked activities that create value by transforming an input into a more valuable output.
  - Both input and output can be artifacts or information, or both
  - The transformation can be performed by human actors, machines, or both.
- Example:



Business process management (BPM)

- Refers to activities performed by organizations to manage and improve their business processes
- Describes activities and events which are performed to optimize a business process
- Uses systematic approach to improve business processes for organizations
- Aims to make business processes more effective, more efficient, and more capable of adapting to a rapid changing environment

Related process improvement methods

- Business Activity Monitoring (BAM):
  - BAM refers to the aggregation, analysis, and presentation of real-time information about activities inside organizations and activities involving customers and partners
- Six Sigma:
  - A business improvement methodology, originally developed by Motorola to systematically improve processes by eliminating defects
- Lean Enterprise:
  - A management philosophy focusing on reduction of the seven wastes to improve overall customer value:
    - Transportation, inventory, motion, waiting time, overproduction, processing, defective products (scrap in manufactured products)
- Lean Six Sigma:
  - Combines Lean Enterprise's focus on speed with Six Sigma's focus on quality
  - The result is better quality, faster

Business process management systems

- Help to expedite process improvement projects and reduce costs
- Used to monitor the execution of the business processes so that managers can analyze and change processes based on data, rather than just a hunch

Tools and technologies for process improvement

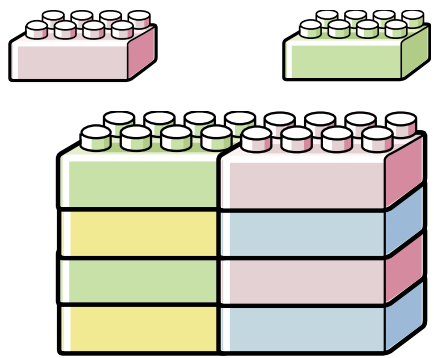
- Software tools and technologies (such as WebSphere Business Modeler) are used in business process improvement efforts to:
  - Model processes
  - Simulate processes
  - Define requirements
  - Create workflow systems
  - Develop integration applications
  - Monitor processes
  - Identification of reusable business services

- Service-oriented architecture (SOA) is a driving technology behind the increased interest in process improvement.

Services and service-oriented architecture defined

What is a service?

A **repeatable business task** — such as check customer credit, open new account



What is service orientation integration?

A way of integrating a **business as linked services** and the outcomes that they bring

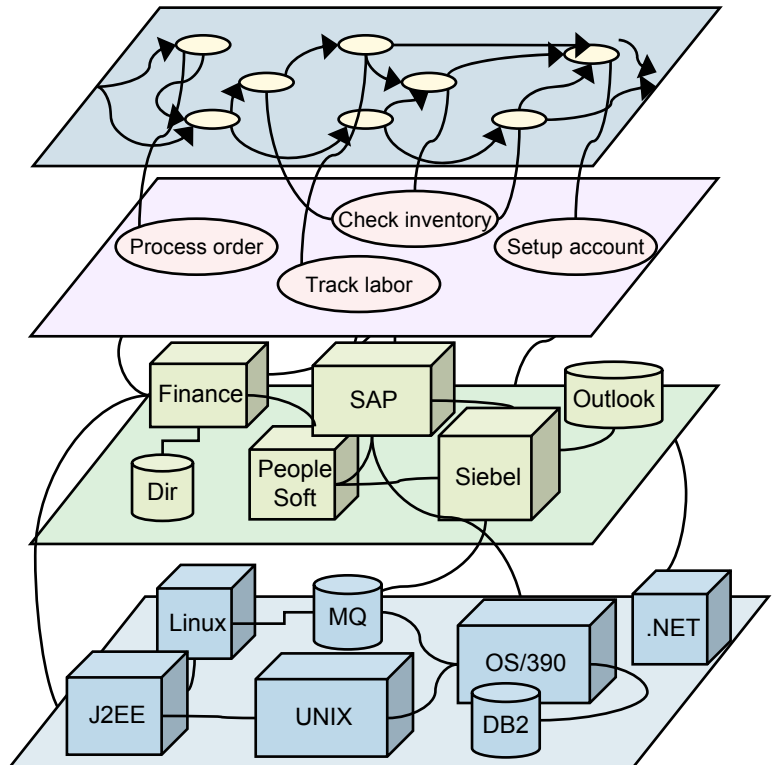
What is service-oriented architecture (SOA)?

An IT **architectural style** that supports service orientation

What is a composite application?

A set of **related and integrated** services that support a business process built on an SOA

Tying business processes to IT through SOA



- **Business process layer**
  - Cross functional end-to-end sales order process
- **Service layer**
  - Used to connect sales to customer, for example
- **Application layer**
  - Applications, components, software
- **Technology layer**
  - Hardware, network
  - Connect J2EE to .NET

Source: CBDi Forum:
http://www.cbdiforum.com

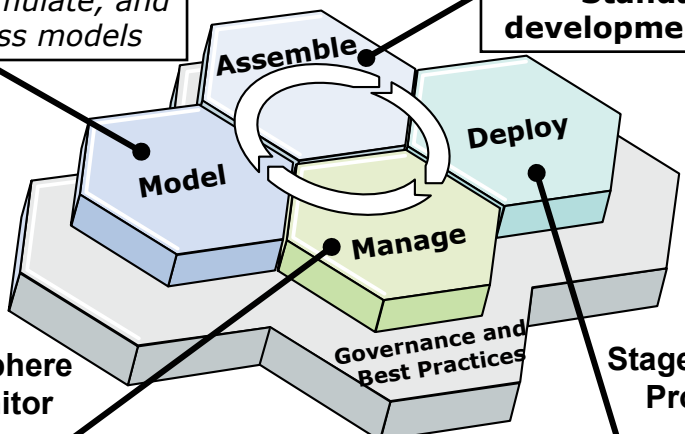
IBM products support each stage of the SOA life cycle

Stage 1: WebSphere Business Modeler

Gather requirements
Design, model, simulate, and optimize business models

Stage 2: WebSphere Integration Developer

Discover, assemble, test
Standards-based development environment



Stage 4 :WebSphere Business Monitor

Business monitoring for coordinated action
Analytics and optimization of processes
Real-time visibility into business processes, enabling intervention and continuous improvement

Stage 3: WebSphere Process Server

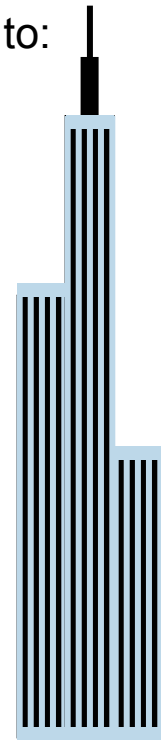
Integrated deployment of processes
Support human-intensive processes with automated steps and information flows

When do you use a model?

- Modeling is the standard approach in engineering to:
  - Manage complexity
  - Mitigate risk
- Software development is the same as every kind of engineering in this respect
- When do you model and why?

Dog house
Not required

For documentation
(blueprint)



For documentation
and analysis

Models support design

- Simple things do not necessarily need a model.
  - The solution is relatively easy to construct
  - Few people collaborate or use the solution (often only one)
  - The scope of future needs is unlikely to grow substantially

- Certain complex systems must begin with a design or another abstract representation.
  - Construction of an office building needs architectural plans and a mock-up for visualization

- Modeling provides visualization of the entire system.
  - Allows assessment of various options
  - Communicates design risks before actual construction

Models are the foundation for complex analysis

- A model serves as an abstraction of the item being built.
- Business analysts, engineers, scientists, and other professionals who build complex structures or systems create models.
  - Sometimes the models are physical
    - Scaled mock-ups of airplanes, houses, or autos
  - Sometimes the models are less tangible
    - Financial models, market trading simulations, electrical circuit diagrams
- Traditional flow charts are a common method for representing the paths of a process.
  - Structure charts, or simple block diagrams with arrows, are often used on whiteboards.

Today's business processes require modeling

- One-dimensional flow charts or models miss key attributes.
  - Business processes have a flow of work items and more.
- Organizational and business information are key attributes.
  - How long does it take?
  - How much does it cost?
  - Who provides the service?
  - What policies, procedures, and business rules apply?
  - When is the process efficiency optimized?
- Process models document the business and assist in communicating organizational change to the enterprise.
  - Once documented and shared with the organization, the process needs to be monitored and updated to provide optimal performance.
  - Corporate governance: Implementing controls to help ensure legal compliance with the Sarbanes-Oxley Act for accurate financial forecasting and reporting.

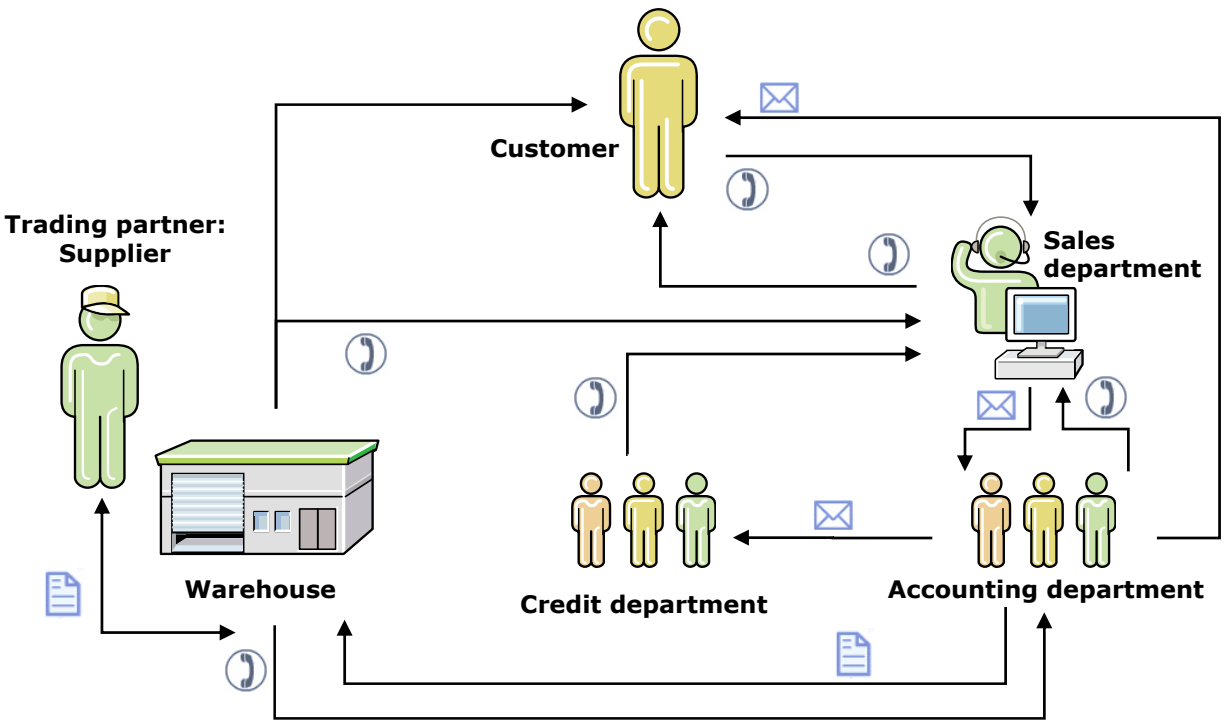
Purposes of business process modeling

- Business process models serve many purposes, including:
  - Documenting existing procedures
  - Determining requirements for staff, systems, and facilities
  - Planning changes to existing processes and systems
  - Testing and analyzing existing and proposed processes
  - Identifying defects in your processes (bottlenecks, and so forth)
  - Process model data can support other business applications that rely on this information:
    - Workflow, policy and procedure documentation, application development
- Models visually represent an organization's current workflow (an as-is model) and allow what-if scenarios for future (to-be) designs.
- Effective models need a well designed modeling structure.
  - To understand what it takes to complete the activities
  - Ensures consistent and complete representation of information
    - Including normal operations, alternatives, and exceptions to standards

Business process modeling begins with understanding the current environment

- Both BPM and SOA start with an understanding of the current business environment.
- The focus of this course is using business process analysis to create accurate process models of the current business environment.
- IBM WebSphere Business Modeler is used to document and analyze the current as well as the future business process models.
- WebSphere Business Modeler also supports the follow-on stages:
  - Generates code to execute the business processes
  - Creates the business measures to monitor the executing processes
  - Imports execution results to update the current model for analysis

The business process model includes the entire process: Manual and automated



Purpose of WebSphere Business Modeler

- WebSphere Business Modeler is the first product in the SOA life cycle.

- WebSphere Business Modeler is used to:
  - Document and analyze the performance of current processes
  - Gather process-related business requirements
  - Model resources, roles, organization, information, and business metrics
  - Simulate the modeled business processes based on modeled and actual data
  - Identify problem areas in a process
  - Facilitate team and user discussions
  - Design and evaluate new business processes
  - Make informed decisions before deployment
  - Add technology-dependent configuration parameters
  - Generate code for Web-based workflow systems
  - Receive process-related results from production

Capabilities of WebSphere Business Modeler

- WebSphere Business Modeler capabilities are central to the understanding of the business process model.
  - **Modeling** allows you to create a graphic diagram or a business process plus all the related process information.
  - **Simulation** supports the time and cost analysis of a process under real-time conditions.
  - **Analysis** provides a number of tools to extract details from the model and from simulation results.
  - **Reporting** creates several documents that can be used to communicate the results of process documentation and analysis.
  - **Code generation** generates workflow code that can be used as a starting point for automation.

Modeler's multidimensional business model (1 of 2)

- WebSphere Business Modeler uses several different models to represent the different aspects of a business process. Together, the different models provide a complete representation of the business process.

- **Process model:** Work being performed
  - Provides a pictorial representation of the process model

- **Data model:** Information used in the work
  - Provides a view of data and objects used in a business process

- **Resource model:** Who performs the work
  - Defines the resource types and instances associated to the model

- **Organization model:** How process participants are organized
  - Definition and structure of the organization and associated resources

Modeler's multidimensional business model (2 of 2)

- WebSphere Business Modeler uses additional models for other process modeling related work.

- **Analysis model:** What is analyzed
  - Definition of key process metrics and attributes analyzed in both a static and dynamic manner

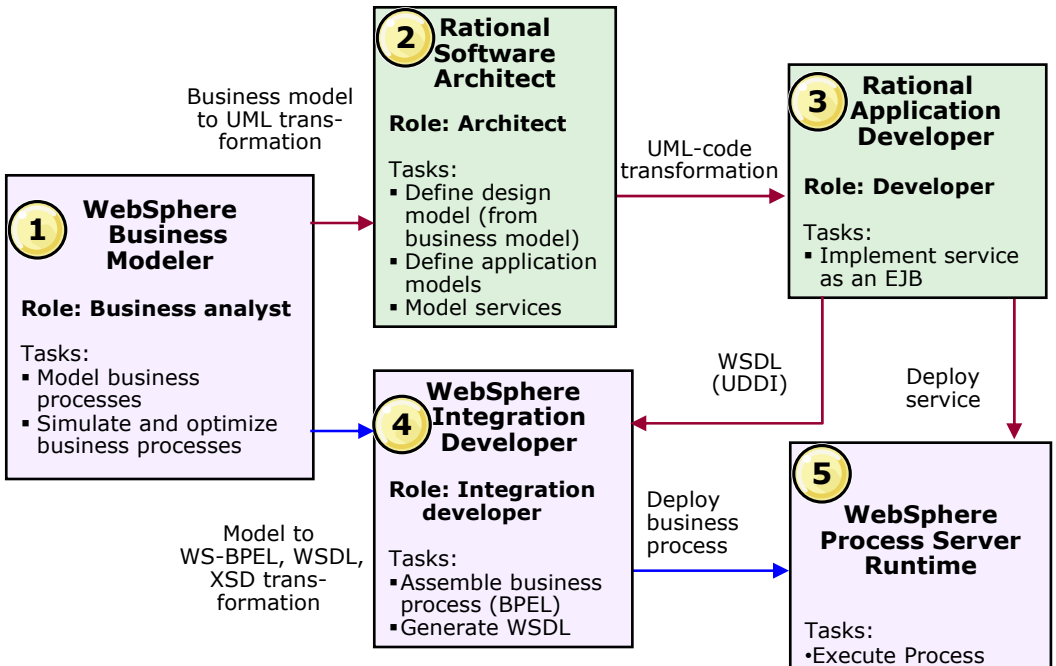
- **Collaboration model:** How analysts share work
  - Allows for model and deployment collaboration on process models

- **Business measures model:** What is to be monitored
  - Definition of key performance indicators (KPIs) and metrics to measure system and process performance triggers

Process model development

- Business and engineering analysts create current models (“as-is”)
- They analyze what works and what needs improvement
  - Use WebSphere Business Modeler to simulate these models based on key variables, such as time, costs, and resources
- Current models are redesigned (“to-be”)
  - “Future” models serve as key drivers for development
  - “Future” models can be specified to such rigor that complete applications can be generated from the models
- Process models are exported to WebSphere Integration Developer for process choreography or to Rational Software Architect for code development when required

Workflow development starts with a process model



WebSphere Business Modeler product offerings

- Modeler editions provide different capabilities based on needs

WebSphere Business Modeler Basic

- **Process modeling**
- **Eclipse integration**
- **Supports Six Sigma**
- **Version control**

- Provides a low-cost option for business users who need a simple, easy-to-use tool to model, document, and print their business processes

WebSphere Business Modeler Advanced

- **Process modeling**
- **Performance simulation**
- **Business analysis**
- **Rational integration**
- **WSBPEL support**
- **Support for WebSphere Business Monitor**

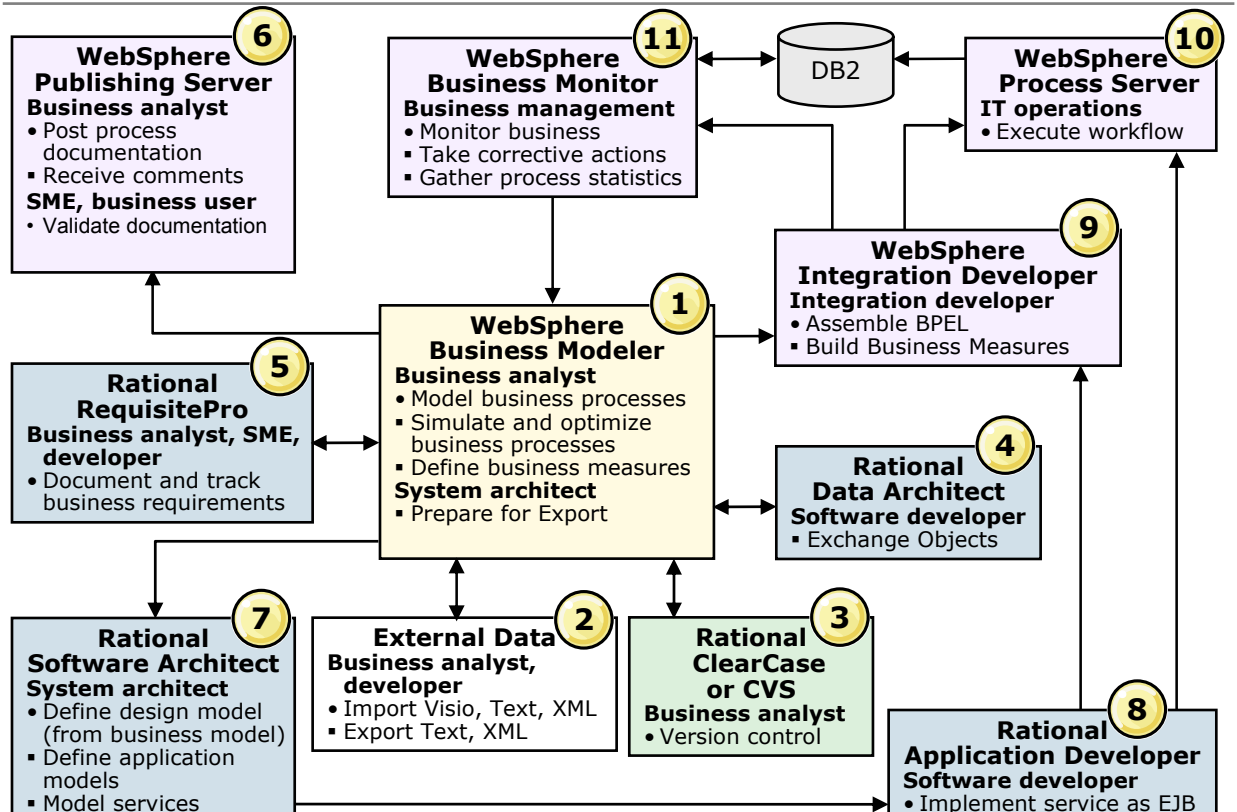
- Basic features plus complex model simulation and analysis capabilities
- IT-focused users can export models to multiple development environments to "jump-start" application development

WebSphere Business Modeler Publishing Edition

- **Publish process models to Web**
- **Feedback capabilities**
- **Publishing Server consists of WebSphere Portal Server and a database**

- Advanced features plus the ability to publish business process models to a portlet-based server
- Subject matter experts can examine and review models simultaneously through a Web browser

Modeler's relationship with other products



Checkpoint: WebSphere Business Modeler and BPM

Your instructor will review these questions with you as a group. If time permits, the instructor may provide you time to answer the questions on your own before the group discussion.

1. Which business process management methodology focuses on improving customer value by reducing waste in: transportation, inventory, motion, waiting time, overproduction, processing, and defective products?

2. Which of the WebSphere Business Modeler product editions supports simulation and analysis features?

3. What type of model defines the key performance indicators and metrics used to measure the process?

4. Define business process management.

5. What capability in WebSphere Business Modeler is used to emulate real-world situations?

Checkpoint solutions: WebSphere Business Modeler and BPM

1. Lean Enterprise
2. Advanced edition
3. Business measures model
4. Business process management (BPM) is a discipline combining software capabilities and business expertise to accelerate process improvement
5. Simulation

Unit summary

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