IBM Software Group

WebSphere Business Modeler V6.2

Modeling elements and flows

@business on demand.

© 2009 IBM Corporation
Updated April 23, 2009

This presentation will introduce you to the modeling elements available for creating business processes and business process flows with WebSphere® Business Modeler.

Goal

- To introduce you to process modeling elements available with WebSphere Business Modeler

2

Before you can start to create business models, it is good to know what you have to work with. This presentation will give you a quick tour of the elements that are available in WebSphere Business Modeler.

Agenda

- Overview of process modeling and the editor
- Projects, catalogs and wizards
- **Modeling elements and flows**
- The process editor

Modeling elements and flows
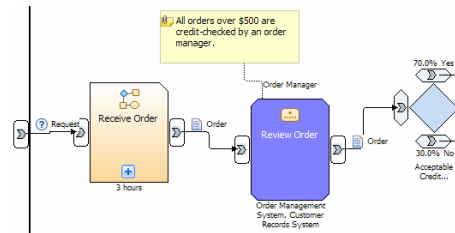
3

© 2009 IBM Corporation
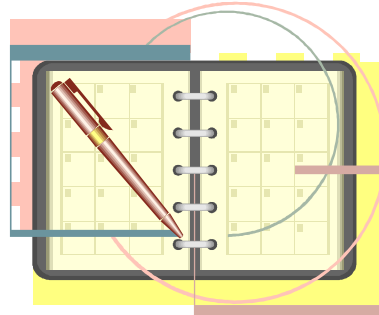
This presentation will cover the third topic on the agenda. The final topic is covered in a follow-on presentation.
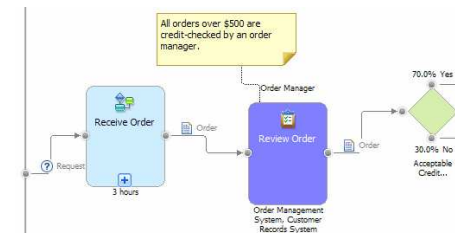
Modeling notation

- Original Style
  - ▶ Used with versions of WebSphere Business Modeler before V6.1.2

Original notational style

- BPMN 1.1
  - ▶ A subset of the full spec
  - ▶ A little more compact
  - ▶ Standard
  - ▶ Direction for the future

BPMN 1.1 notational style

© 2009 IBM Corporation

The modeling notation is something you'll have to decide about when you first create a project or business process. Luckily it does not have to be a permanent decision. The modeling notation can be switched at anytime.

There are two modeling notations available. The original modeling notation is provided to support compatibility with previous releases of WebSphere Business Modeler. The business process modeling notation, BPMN is a recognized and accepted standard which WebSphere Business Modeler supports, beginning with V6.1.2

At this time WebSphere Business Modeler supports a subset of the BPMN 1.1 specification.

Business process modeling notation 1.1

Modeling elements and flows

5

© 2009 IBM Corporation

Shown here are the BPMN icons. There are no semantic differences from the 'original style' icons so switching back and forth between them is a breeze. Just use the diagram settings from the toolbar and select the style you want to use. When creating a new business process you will also have the opportunity to select the presentation style you prefer. Alternatively you can change the style in the preferences to affect the mode for all new diagrams.

Each of these are discussed in more detail on subsequent pages.

Activities

- Tasks
  - ▸ Task
  - ▸ Human Task
  - ▸ Business Rules Task
  - ▸ Subprocess
- Control structures
  - ▸ While Loop
  - ▸ Do-While Loop
  - ▸ For Loop

Task

Human Task

Business Rules Task

Subprocess

While Loop

Do-While Loop

For Loop

Modeling elements and flows   © 2009 IBM Corporation

6
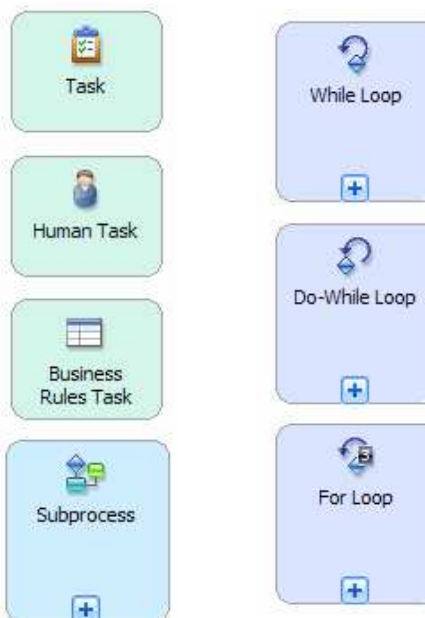
The activities collection consists of the tasks and the control structures.

Tasks are the basic building blocks representing activities in a process model. Each task performs some function. Visually, a task represents the lowest level of work shown in the process.

Tasks are atomic activities, in contrast to processes, which can be decomposed into another flow. For example, an Order Entry process might be made up of three tasks: Retrieve Customer Information, Enter Ordered Items, and Check Item Availability.

The Human Task and the Business Rules Task are specializations of the generic task. The Human Task is used when the task cannot be fully automated and some human interaction is required. The Business Rules Task is used when there is business logic which is expected to change frequently and can be easily described using if-then logic. Note that the business rules task is not invoked during a process simulation but can be fully tested using the interactive process design feature.

Besides the inputs and outputs, the specification of all task types includes the costs and duration, the organization unit that is responsible for the task and the resources or roles that are required to perform the task. The resources do not need to be associated with the organization unit that is responsible for the completion of the task; they can come from any organization unit.

The control structures are common programming constructs. It should be noted that certain constructs are not available for all functions. For example, in the Process Server modeling mode, only the While Loop is available. It is also important to know that the Business Rules Task is not invoked during business process simulations.

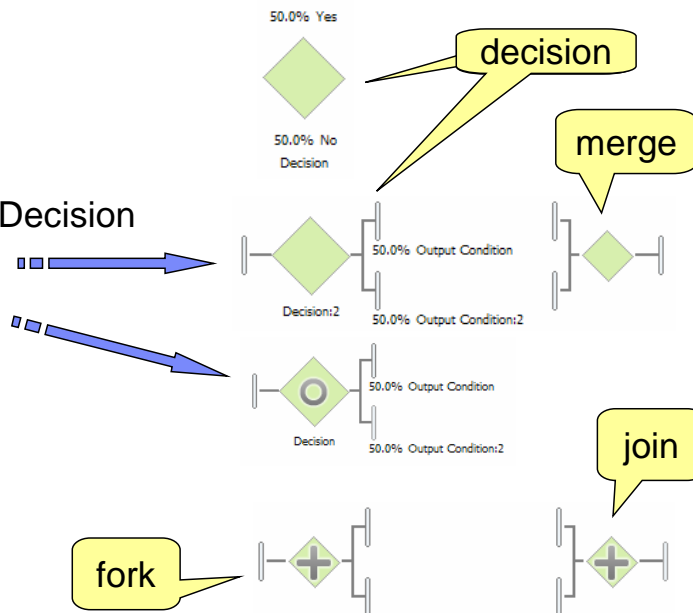The gateway collection consists of the elements for making decision and navigating the course of the flow.

The Simple decision is a simple yes/no decision element. There are only two possible output branches. In essence, it is a special case of the Multiple-Choice Decision. In general terms, they can both be thought of as decision elements.

There are two kinds of multiple-choice decisions available, the exclusive and the inclusive. The default is the exclusive decision. The exclusive decision will only traverse one of the output paths. If you want to traverse more than one of the output paths, based on the logic of the decision, then you can use the inclusive decision. This is the one with the circle in it.
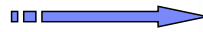
The Fork will create parallel paths that can be brought back together using the Join. There is no decision involved with the Fork. The join synchronizes the paths, by waiting for input to arrive at each of its incoming branches and only then permitting the input to travel on.
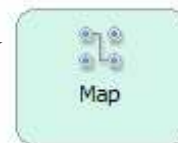
See also the section on limitations….

The data collection consists of the elements used to manage and manipulate data.

There are two elements, the Repository and the Map.

The repository is essentially a data variable used to hold data either for a loop test or to avoid passing the data through every task in the flow.

It can be a single data element or a collection of data elements. It can only represent one data type. When working with repositories, as with all modeling elements, you must be aware of the modeling mode your in. If you are in basic modeling mode you won't see all the details that are available.

Local and global repositories can be used in most places. Global repositories are only available in the basic and advanced modeling modes. They cannot be used with the technology specific modes.

The map element is a specialized task that transforms data from one structure to another. You can use a map to specify how to transform input into output.

For example, because the input and output of a loop or subprocess cannot connect directly to a local repository, you might want to use a map in the main process to pass the data into the local repository before the loop or subprocess runs. Then use another map to retrieve the data from the local repository after the loop or subprocess runs.

The events collection consists of those elements used for starting, ending or terminating a business process and those used to signal or receive some event occurring in the process.

A start node identifies the beginning of a process flow, and a terminate node marks the end. Start and terminate nodes are created automatically when you create a process. Every process, subprocess, and loop must have at least one terminate node. End nodes, by contrast, are visual markers within a process that identify the end of a particular flow. An end node stops the path that it terminates, whereas a terminate node stops the entire process

Notification broadcasters and notification receivers are specialized tasks that enable communication while a process is running. A notification broadcaster publishes notifications, and a notification receiver listens for notifications and produces output.

An observer is a specialized task that watches a process and its associated repositories, and initiates a flow when a certain condition becomes true. For example, an observer can start a flow when a repository exceeds a threshold value.

A timer is a specialized task that initiates a flow at a specified point in time. For example, it starts a batch process flow at 5:00pm every evening.

The broadcaster, receiver and the observer cannot be exported to WebSphere Integration Developer, WebSphere MQ Workflow Buildtime, or WebSphere Studio Application Developer Integration Edition and they have limitations when running simulations.

The elements

- Local versus global
- Some options are not available because of the modeling mode.
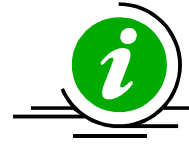 - Do-While Loop
  - For Loop
  - Global repository

There are several ways to create new modeling elements. You can grab them from the palette on the left, use the pop up menu from the Project Tree or use the pop up menu from the layout canvas. The source you use will determine the scope of the element, local or global. If you drag the element from the palette, it is local. If you use the menu bar or the pop up menu from the Project Tree, you will create a global element. Global elements will show up in the Project Tree and local elements will only be visible in the process diagram.

Shown here is the menu that you get when you use the pop up from the layout canvas. It lets you see all the possibilities at the same time.

Business items are the fundamental pieces of information that are passed through the business process. The business item is the key element used when specifying the input and output for a business process, task or decision.

The business item defines the data structure and meta-data associated with it. A business item can be a simple type or a complex type. The Order business item shown here is a complex structure, composed of other business items and a few elemental types. Using the parent template section at the top of the dialog, you can also create new business items using inheritance.

Business items and business item attributes can be fully specified. You can add descriptions, rules and define a set of possible states.

You can also define the cardinality, the default values and whether it is read-only or not.

Business Item instances are instantiations of a specific kind of business item. They are typically used to provided data for simulations.

Notifications are special purpose business items that are used with the broadcasters.

Resources

- ## Resources
  - ▶ People, equipment, or material

- ## Roles
  - ▶ Groups of people
  - ▶ Used with, but not limited to, human tasks

- ## Time tables
  - ▶ A calendar
  - ▶ The time for which a resource is available

12
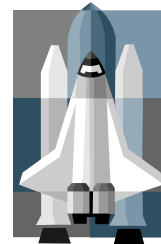
Resources represent the people, equipment, or material used to perform a project or a task. Examples of resources are Computers and Employees.

Resources are not the same as business items. Business items represent objects that undergo changes and are passed from one process step to the next. Resources represent the things that are performing the work or are required prerequisites, such as machines, fuel, vehicles, or skilled personnel.

The Role describes a group of people that are doing a task. The role is a key resource for the human task and maps to the group concept in the user registry.

You can learn more about resources in the project basics module and the product information center.
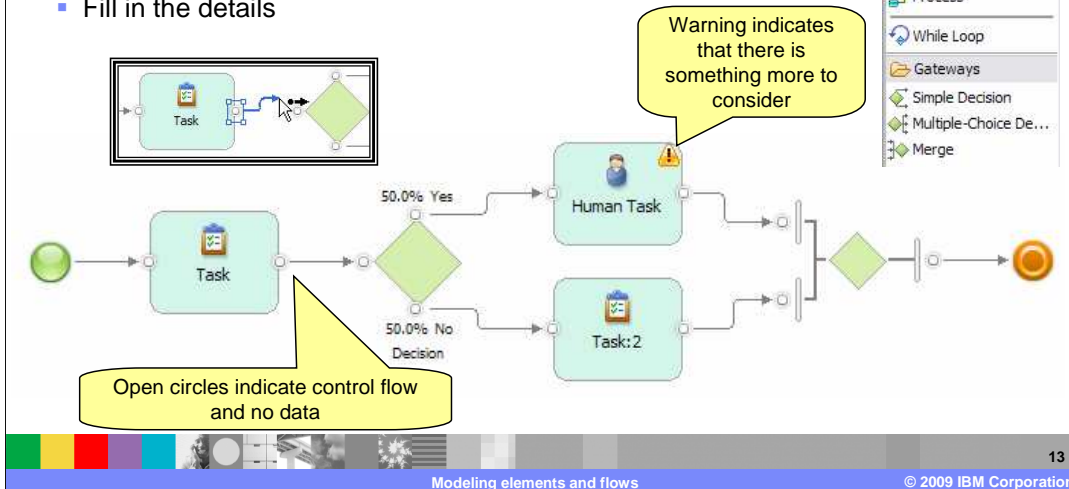
As you can see you can very quickly begin to get an idea of what your business process might look like without filling in all the details.

The inputs and outputs are there but there is no data associated with them at this time. At this point you can create your business items and then return to the business process and add them using the input and output pages of the attributes view.

Summary

- BPMN 1.1
- Activities
  - ▸ Tasks and control structures
- Gateways
  - ▸ Decisions, merge, fork and join
- Data
  - ▸ Repositories and maps
- Events
  - ▸ Start, stop, terminate, notification sender/receiver, observer and timer
- Flow

Modeling elements and flows

14

© 2009 IBM Corporation

Everything you need to construct a business process flow and then some.

A standard notation that provides a pathway to the future of business process modeling.

Activities that describe what needs to be done, by whom, when and how.

Gateways for controlling the flow.

Repositories and maps for managing and transforming the data.

Events for notifications and initiating and terminating the flows.

And last but not least, the process editor itself for linking all the parts and holding it all together.

Feedback

Your feedback is valuable

You can help improve the quality of IBM Education Assistant content to better meet your needs by providing feedback.

- Did you find this module useful?

- Did it help you solve a problem or answer a question?

- Do you have suggestions for improvements?

Click to send e-mail feedback:

mailto:iea@us.ibm.com?subject=Feedback_about_WBPMv62_Modeler_ModelingElements.ppt

This module is also available in PDF format at:
../WBPMv62_Modeler_ModelingElements.pdf

15

Modeling elements and flows

© 2009 IBM Corporation

You can help improve the quality of IBM Education Assistant content by providing feedback.

Trademarks, copyrights, and disclaimers

IBM, the IBM logo, ibm.com, and the following terms are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both:

WebSphere

If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of other IBM trademarks is available on the Web at "Copyright and trademark information" at http://www.ibm.com/legal/copytrade.shtml

Other company, product, or service names may be trademarks or service marks of others.

Product data has been reviewed for accuracy as of the date of initial publication. Product data is subject to change without notice. This document could include technical inaccuracies or typographical errors. IBM may make improvements or changes in the products or programs described herein at any time without notice. Any statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only. References in this document to IBM products, programs, or services does not imply that IBM intends to make such products, programs or services available in all countries in which IBM operates or does business. Any reference to an IBM Program Product in this document is not intended to state or imply that only that program product may be used. Any functionally equivalent program, that does not infringe IBM's intellectual property rights, may be used instead.

THE INFORMATION PROVIDED IN THIS DOCUMENT IS DISTRIBUTED "AS IS" WITHOUT ANY WARRANTY, EITHER EXPRESS OR IMPLIED. IBM EXPRESSLY DISCLAIMS ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT. IBM shall have no responsibility to update this information. IBM products are warranted, if at all, according to the terms and conditions of the agreements (for example, IBM Customer Agreement, Statement of Limited Warranty, International Program License Agreement, etc.) under which they are provided. Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products in connection with this publication and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products.

IBM makes no representations or warranties, express or implied, regarding non-IBM products and services.

The provision of the information contained herein is not intended to, and does not, grant any right or license under any IBM patents or copyrights. Inquiries regarding patent or copyright licenses should be made, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. All customer examples described are presented as illustrations of how those customers have used IBM products and the results they may have achieved. The actual throughput or performance that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput or performance improvements equivalent to the ratios stated here.

© Copyright International Business Machines Corporation 2009. All rights reserved.

Note to U.S. Government Users - Documentation related to restricted rights-Use, duplication or disclosure is subject to restrictions set forth in GSA ADP Schedule Contract and IBM Corp.