

# Understanding Business Process Management

Version 8.2

April 2012

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This document applies to webMethods Product Suite Version 8.2 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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# Table of Contents

|  |          |
|--|----------|
| <b>About this Guide</b> .....  | <b>5</b> |
| Document Conventions .....   | 5        |
| Documentation Installation .....   | 5        |
| Online Information .....   | 6        |
| <br>   |          |
| <b>1. Business Process Management</b> .....                                | <b>9</b> |
| Business Process Management .....  | 10       |
| Designing Business Processes .....   | 10       |
| ARIS Business Designer and ARIS Business Architect .....                   | 11       |
| Software AG Designer .....   | 12       |
| Governing Business Process Models .....                                    | 13       |
| ARIS Process Automation Architect and ARIS Process Governance Server ..... | 13       |
| Implementing Business Process Models .....                                 | 14       |
| Software AG Designer .....   | 14       |
| Developing Services .....  | 15       |
| Developing Rules .....   | 15       |
| Developing Tasks .....   | 16       |
| Blaze Advisor .....  | 18       |
| Executing Business Processes .....   | 19       |
| webMethods Integration Server .....  | 19       |
| webMethods Broker .....  | 20       |
| My webMethods Server .....   | 20       |
| Business Process Model Implementation Details .....                        | 20       |
| Configuring Process Steps .....  | 21       |
| Creating Documents, Services, Tasks, and Rules .....                       | 21       |
| Developing Tasks .....   | 22       |
| Simulating and Debugging Business Processes .....                          | 22       |
| Logging and Monitoring Processes .....                                     | 23       |
| Mapping Process Steps to Run Times .....                                   | 23       |
| Developing in a Collaborative Environment .....                            | 23       |
| Developing Composite Applications .....                                    | 24       |
| Software AG Designer .....   | 25       |
| Blaze Advisor .....  | 26       |
| My webMethods Server .....   | 26       |
| webMethods Integration Server .....  | 26       |
| Developing in a Collaborative Environment .....                            | 27       |
| Extending Your Business Processes into the Mobile Space .....              | 27       |
| webMethods Mobile Designer .....   | 27       |

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## About this Guide

This guide discusses Software AG Business Process Management for 2012 and describes the products that can be part of this business solution.

## Document Conventions

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| Convention     | Description  |
|----------------|--|
| <b>Bold</b>    | Identifies elements on a screen.   |
| Narrowfont     | Identifies storage locations for services on webMethods Integration Server, using the convention <i>folder.subfolder:service</i> .                               |
| UPPERCASE      | Identifies keyboard keys. Keys you must press simultaneously are joined with a plus sign (+).  |
| <i>Italic</i>  | Identifies variables for which you must supply values specific to your own situation or environment. Identifies new terms the first time they occur in the text. |
| Monospace font | Identifies text you must type or messages displayed by the system.   |
| { }            | Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.                       |
|                | Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the   symbol.  |
| [ ]            | Indicates one or more options. Type only the information inside the square brackets. Do not type the [ ] symbols.  |
| ...            | Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).  |

## Documentation Installation

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You can download the product documentation using the Software AG Installer. Depending on the release of the webMethods product suite, the location of the downloaded documentation will be as shown in the table below.

| For webMethods... | The documentation is downloaded to...       |
|-------------------|---|
| 6.x               | The installation directory of each product. |

| For webMethods... | The documentation is downloaded to...   |
|-------------------|---|
| 7.x               | A central directory named _documentation in the main installation directory (webMethods by default).  |
| 8.x               | A central directory named _documentation in the main installation directory (Software AG by default). |

## Online Information

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You can find additional information about Software AG products at the locations listed below.

**Note:** The Empower Product Support Web site and the Software AG Documentation Web site replace Software AG ServLine24 and webMethods Advantage.

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| If you want to...   | Go to...  |
|---|---|
| Access the latest version of product documentation.   | Software AG Documentation Web site<br><a href="http://documentation.softwareag.com">http://documentation.softwareag.com</a> |
| Find information about product releases and tools that you can use to resolve problems.<br>See the <a href="#">Knowledge Center</a> to:   | Empower Product Support Web site<br><a href="https://empower.softwareag.com">https://empower.softwareag.com</a>             |
| <ul style="list-style-type: none"> <li>■ Read technical articles and papers.</li> <li>■ Download fixes and service packs.</li> <li>■ Learn about critical alerts.</li> </ul>  |   |
| See the <a href="#">Products area</a> to:   |   |
| <ul style="list-style-type: none"> <li>■ Download products.</li> <li>■ Download certified samples.</li> <li>■ Get information about product availability.</li> <li>■ Access older versions of product documentation.</li> <li>■ Submit feature/enhancement requests.</li> </ul> |   |

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| If you want to...   | Go to...   |
|---|--|
| <ul style="list-style-type: none"><li>■ Access additional articles, demos, and tutorials.</li><li>■ Obtain technical information, useful resources, and online discussion forums, moderated by Software AG professionals, to help you do more with Software AG technology.</li><li>■ Use the online discussion forums to exchange best practices and chat with other experts.</li><li>■ Expand your knowledge about product documentation, code samples, articles, online seminars, and tutorials.</li><li>■ Link to external Web sites that discuss open standards and many Web technology topics.</li><li>■ See how other customers are streamlining their operations with technology from Software AG.</li></ul> | <p>Software AG Developer Community for webMethods</p> <p><a href="http://communities.softwareag.com/">http://communities.softwareag.com/</a></p> |

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# 1 Business Process Management

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|   |    |
|---|----|
| ■ Business Process Management .....                             | 10 |
| ■ Designing Business Processes .....                            | 10 |
| ■ Governing Business Process Models .....                       | 13 |
| ■ Implementing Business Process Models .....                    | 14 |
| ■ Executing Business Processes .....                            | 19 |
| ■ Business Process Model Implementation Details .....           | 20 |
| ■ Developing Composite Applications .....                       | 24 |
| ■ Extending Your Business Processes into the Mobile Space ..... | 27 |

## Business Process Management

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A business process is a series of business activities that are performed in a specific order, by a variety of applications, systems, employees, and external businesses, according to defined business rules. Examples of business processes include handling a purchase order from receipt through fulfillment, taking a product from inception to market, and preparing for a new employee. Business processes are more complex and long-running than application integrations and can include activities performed by humans.

Business process management enables you to automate business processes. For example, the process of preparing for a new employee could be automated as follows:

- 1 The hiring manager submits an online form that contains information about the new employee.
- 2 The submission of the form triggers the first step in the process. This step adds the employee's information to the internal human resources (HR) database and registers the employee in various systems and applications, such as the enterprise's e-mail application.
- 3 The next step in the process uses the enterprise's trading network to notify the external payroll company to set up an account for the employee.
- 4 The next step sends the facilities department a task to assign office space and provide office equipment before the employee's start date.

Business processes typically involve many variables and conditions, and the longer they run, the more likely the variables and conditions are to change. For example, a supplier might temporarily run out of parts needed to fill orders. Business process management enables you to act on running processes in response to such changes; in the example above, you could suspend order fulfillment processes until parts are available again.

## Designing Business Processes

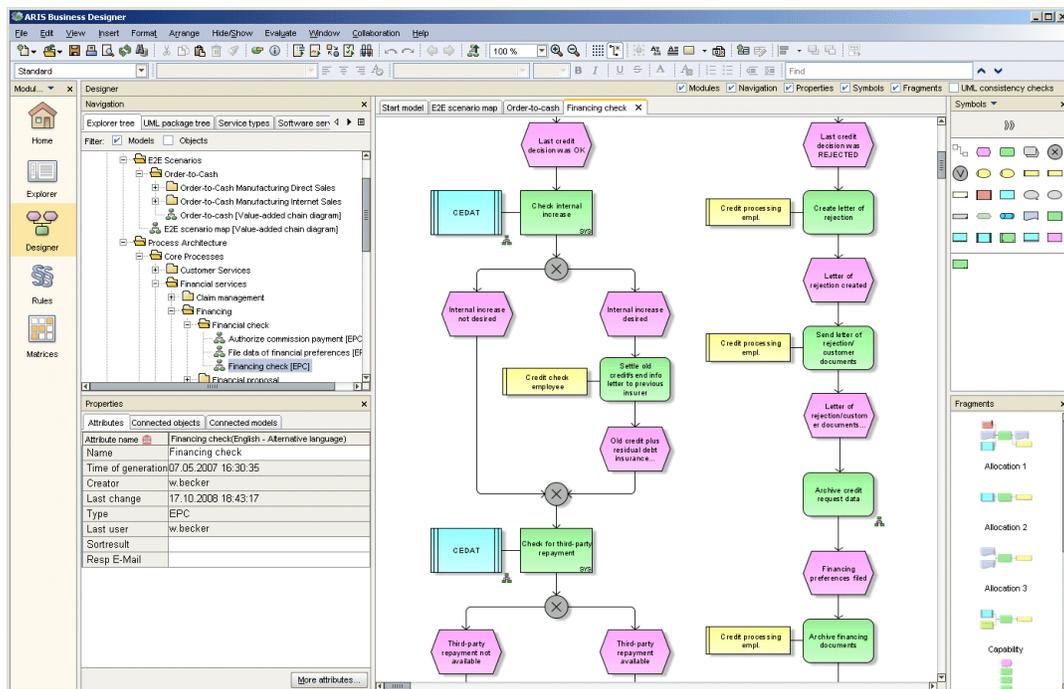
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Experts in your company's procedures and business rules, called business analysts, create *business process models* that are the designs for your business processes. Business analysts define the steps in business processes and specify rules that dictate the order of the steps and the conditions under which each step should run. Business analysts can use swimlanes to identify the departments that are responsible for performing each step.

The products you use to create business process models are ARIS Business Designer or ARIS Business Architect, or Software AG Designer. These products offer a wide range of graphical representation tools that enable you to focus on the high-level design of a business process without having to get involved in developing the underlying technology. After you create a business process model, you pass the model to business process developers to implement.

## ARIS Business Designer and ARIS Business Architect

ARIS Business Designer lets business analysts create business process models and store the models on ARIS Business Server, which acts as a central repository. Because all Business Designer users connect to Business Server, business analysts can collaborate on the creation of business process models. The illustration below shows a business process model in Business Designer.



ARIS Business Architect is Business Designer with administrative features for activities such as managing users and user access and managing the Business Server database. Like Business Designer users, all Business Architect users connect to Business Server. User management and configuration settings supplied by Business Architect users are stored in Business Server and promulgated to all Business Designer and Business Architect users.

After you create a business process model in Business Designer or Business Architect, you can do the following:

- Publish the model to the rest of the company using ARIS Business Publisher. Business Publisher is made up of Java server pages that run on the ARIS Business Publisher Server and display in an Internet browser.
- Pass the model to business process developers for implementation. You convert the business process into Business Process Modeling Notation (BPMN), a graphical representation for specifying business process models and the functionality and behavior of process steps. You then store the model in CentraSite, which operates as a shared database of metadata about assets (such as business process models) for

developers. Last, you notify the business process developers, who import the converted business process model from CentraSite into Software AG Designer and begin implementing it.

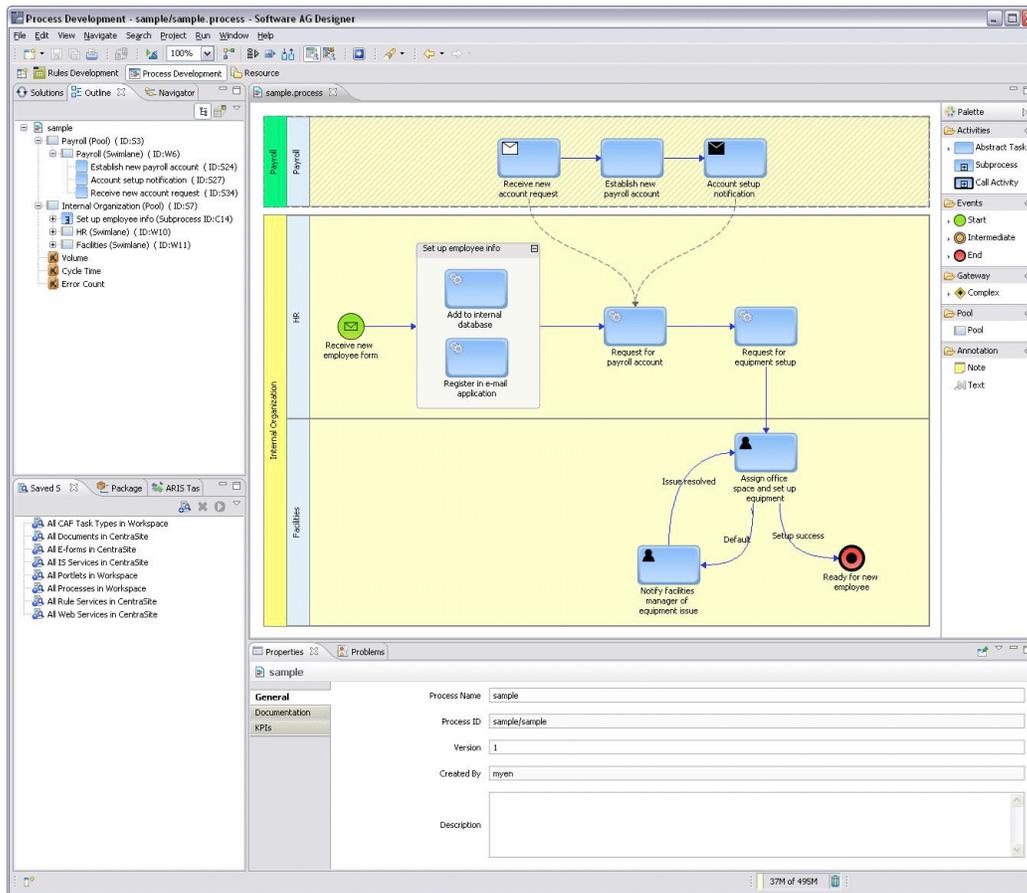
## Software AG Designer

Software AG Designer is an Eclipse-based graphical development tool that offers *perspectives* for different types of work. You use the Business Analyst capability of the Process Development perspective to create business process models.

You can document the requirements of the business process to help guide the business process developers who implement the business process model. For example, you can:

- Specify the input that each process step requires and the output that each process step should produce.
- Identify humans who are involved in the process (for example, a facilities manager, to set up office space).
- Specify how to handle errors.
- List KPIs to track so you can measure the effectiveness of the process (for example, the period of time it took to set up the office space).

The illustration below shows a business process model in the Business Analyst capability in Software AG Designer.



## Governing Business Process Models

Business process governance lets you control the lifecycle of business process models using standards, policies, and guidelines. Business analysts design workflows for governing business process models using ARIS Process Automation Architect and ARIS Process Governance Server.

## ARIS Process Automation Architect and ARIS Process Governance Server

Process Automation Architect lets you define workflows that govern aspects of BPM such as as business process model change requests, approvals, and release.

Anyone in your company who has viewed a published business process model might want to add, modify, or delete a process step, and would ask the business analyst to update the model. You design change request workflows for business process models in Process Automation Architect. You can also design screens and map data in Process Automation Architect.

You also use Process Automation Architect to define approval and release workflows for business process models. You can define tasks that send notifications to users who need to perform the actions in each step of the approval and release workflow. Tasks can call services provided with Process Automation Architect as well as standardized Web services. For example, you might define a task that calls a Web service that connects to a third-party product to retrieve data.

After a workflow definition is complete, you deploy it from Process Automation Architect to Process Governance Server. When a workflow is triggered (for example, by an incoming change request), Process Governance Server executes the workflow and the tasks in the workflow.

## Implementing Business Process Models

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The primary product that business process developers use to implement business process models is Software AG Designer. Developers might also use the webMethods products Blaze Advisor and CentraSite.

### Software AG Designer

Business process developers use the Software AG Designer Process Development perspective to implement business process models.

Business process developers implement a business process model in Software AG Designer by dragging and dropping graphical representations of process steps onto a design canvas, then configuring each step to perform a specific function. For example, process steps can:

- Receive data. Data can be in the form of documents from webMethods products, JMS messages, EDA events, and output data from Web services and services such as database query services.
- Invoke rules.
- Invoke services such as Flow services, Web services, rule services, and adapter services that in turn invoke programs on mainframes and UNIX systems.
- Invoke other business processes.
- Publish data for other business processes and services to consume.
- Publish EDA events.
- Define the way data passes through and is handled by your business processes. You define the order of steps in your processes, and the conditions under which they start, run, pass data, and end. Business Process Modeling Notation (BPMN) provides a graphical representation of the underlying model and of the functionality and behavior of its steps.
- Send activities, called *tasks*, to a human or group of humans to perform. Tasks in turn can invoke rules, rule sets, and services.

## Developing Services

Developers can develop services such as Flow, Web, and adapter services within Software AG Designer using the Service Development perspective.

After you develop the services, you can drag and drop them onto the business process model design canvas from Integration Server. In a collaborative design environment, you can also drag and drop assets from CentraSite. CentraSite operates as a shared SOA registry/repository of metadata about assets that were developed in Software AG Designer and that are stored on run-time servers such as Integration Server.

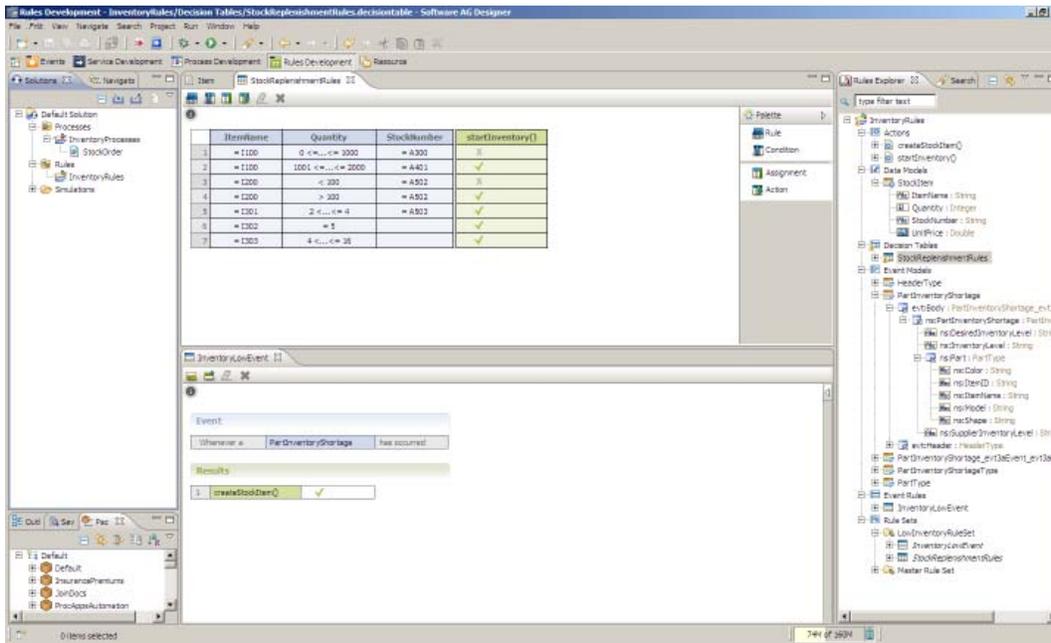
## Developing Rules

Developers can develop business rules within Software AG Designer using the Business Rules Development perspective. Rules can be expressed as decision tables or event rules. Rules can invoke services, and can operate on processes (for example, rules can start or stop, or suspend or resume processes) and tasks (for example, rules can assign tasks to users).

A decision table is made up of rows and columns, and each row defines a rule. A rule includes one or more condition columns and one or more result columns. For example, a decision table for health care insurance premiums could include a rule that specifies condition columns for gender, age, and smoker/non-smoker, and a result column that contains premiums to be paid.

An event rule consists of an event and one or more results. A result can assign a value or execute an action. For example, an event rule for an automobile parts distributor could specify that when inventory on parts decreases to certain levels, the event rule creates a data action. This data action creates data that is evaluated by rules in a decision table. Depending on the content of the new data, one of the rules in the decision table fires. Some of the rules launch a business process to replenish the stock in a result column.

You can group multiple decision tables and event rules into a *rule set*, and invoke the rule set from a process step or task. The rules in a rule set interact with each other, so that the conclusion drawn from one rule (the result) is used as input information (the condition) for a second rule. This is called *forward chaining*. In the example above for the automobile parts distributor, the event rule and the decision table could be grouped into a rule set. The illustration below shows the decision table and event rule in the rule set named LowInventoryRuleSet.



After you develop rules in Software AG Designer, you can drag and drop them onto the business process model design canvas. In a collaborative design environment, you can also drag and drop assets from CentraSite. CentraSite operates as a shared SOA registry/repository of metadata about assets that were developed in Software AG Designer and that are stored on run-time servers such as webMethods Integration Server and My webMethods Server.

You export rules developed in Software AG Designer to Integration Servers equipped with a webMethods Rules Engine for execution. Each Rules Engine execute the rules that it hosts when those rules are invoked by process steps or tasks.

Business administrators can make simple changes to rules that have been developed in Software AG Designer through the business rules browser-based user interface. Developers export the rules that business administrators want to edit to the My webMethods Server content repository. The business administrator edits the rules in the browser-based user interface and then redeploys the rules to the appropriate Rules Engines.

## Developing Tasks

Developers can develop tasks (that is, activities performed by humans as part of a business process) as specialized composite applications within Software AG Designer using the UI Development perspective. Within task applications, you develop user interfaces that present the tasks to end users. You can also define actions that you want to occur in response to specified conditions. For example, you can define an action that assigns critical priority to tasks that are not completed within a specified period of time. Software AG Designer provides a variety of built-in actions the task can use, or the task can invoke a service.

The user interfaces for a task can be displayed as Web pages, in the My webMethods Server user interface. The illustration below shows a task user interface.

My Inbox > New\_Employee\_Setup Details

Data View | Details View | Audit View | Comments | Collaboration | Content

**Employee Data:**

Employee Name:

Office Number:

Telephone:

**Furnishings:**

Delivered

Pending

Toggle Task Info

**Task Info:**

Name: Setup: ssmith

Description: New employee setup for Sam Smith.

Created On: 3/8/2011 8:27 AM By My webMethods Administrator

Last Modified On: 3/8/2011 8:32 AM By My webMethods Administrator

Expires On:

Status: Active

Complete | Assign to Users... | Submit | Return

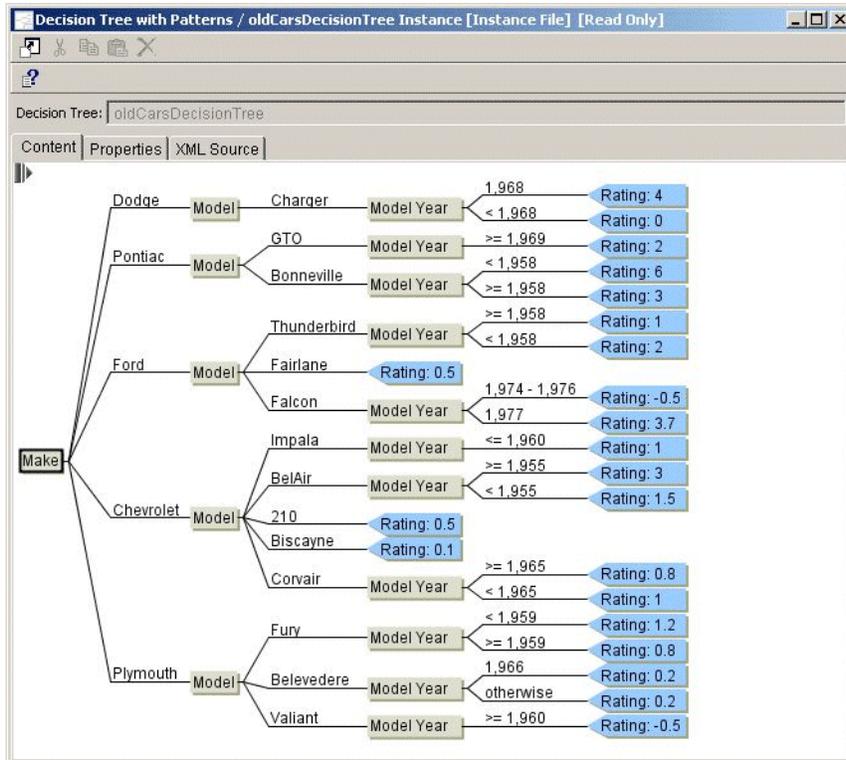
Some tasks require the performance of multiple activities. You could construct detailed logic within a task to anticipate all possible outcomes, but such logic would be labor intensive, error prone, and difficult to maintain. Instead, you can define *collaboration tasks*; that is, tasks configured to operate in a collaborative work environment. You can implement collaboration tasks in these ways:

- Automatic (within a *collaboration process*). You can configure a task so that when it receives specific business data, it creates child collaboration tasks and assigns them to specific roles or users. Suppose a satellite television company has a new order process that includes a task to install a dish and receiver. Different installation teams and equipment are required depending on the service ordered by the customer. You can configure the parent task to queue one collaboration task to the appropriate installation team and another to the appropriate equipment team based on specific information in the customer order. You can configure the parent task to complete automatically when the collaboration tasks are completed.
- Manual (by a user). You can configure a task so that a user who opens the task in his inbox can create child collaboration tasks and assign them to other users to help complete the parent task. Suppose a support person from a magazine company receives a task to resolve a customer complaint that issues of a magazine have stopped arriving. The support person could create and assign collaboration tasks to the database administrator and the circulation manager that request information needed to determine the problem.

You can use business rules to assign tasks to users.

## Blaze Advisor

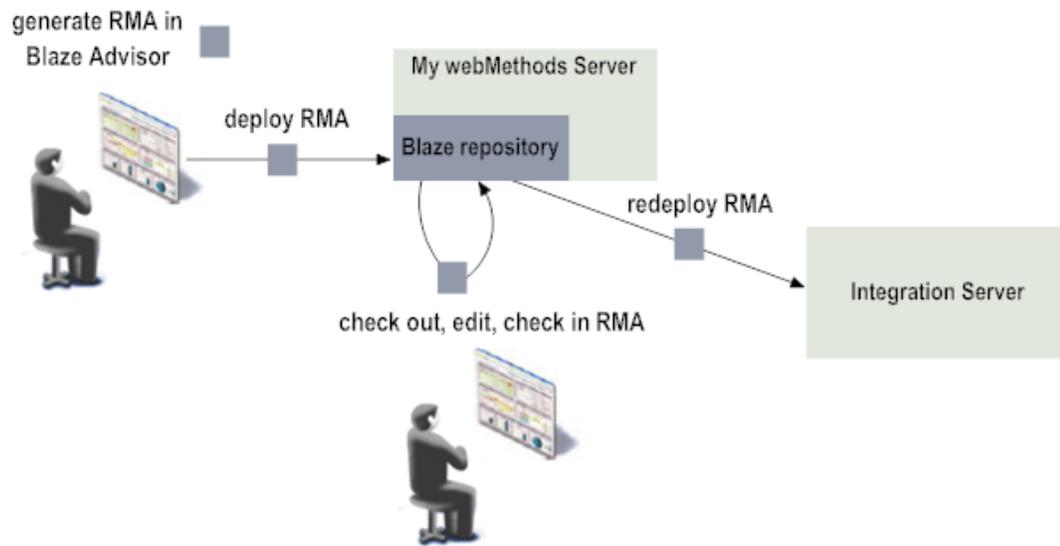
Developers can also develop rules in the enhanced implementation of Blaze Advisor that is part of the webMethods product suite. Blaze Advisor is a graphical development tool that lets you develop rules using decision trees and decision tables. The illustration below shows a rule decision tree.



You deploy rules from Blaze Advisor to Integration Server, which generates them as rule services and executes them at run time. You can view and test deployed rule services in Software AG Designer just like other services.

Blaze uses My webMethods Server to enable business administrators to make simple changes to rules without having to involve a developer. For example, after a developer builds the rule decision tree shown above in Blaze Advisor, a business administrator could display it in the Blaze browser-based user interface and easily add new car models to the table.

To make a Blaze rule available for editing, you generate a Blaze *rule maintenance application* (RMA) for the rule from Blaze Advisor. An RMA is a composite application that includes the Blaze browser-based user interface that displays the rule in editable form. You deploy the RMA from Blaze Advisor to My webMethods Server and check the rule into the Blaze repository, which serves as a version control system for the rule. The business administrator checks out the rule from the Blaze repository, edits the rule in the Blaze user interface, and checks the rule back in to the repository. Finally, the business administrator redeploys the rule to Integration Server, which regenerates it as a rule service and executes it at run time.



## Executing Business Processes

The products that execute business processes are webMethods Integration Server, webMethods Broker, and My webMethods Server.

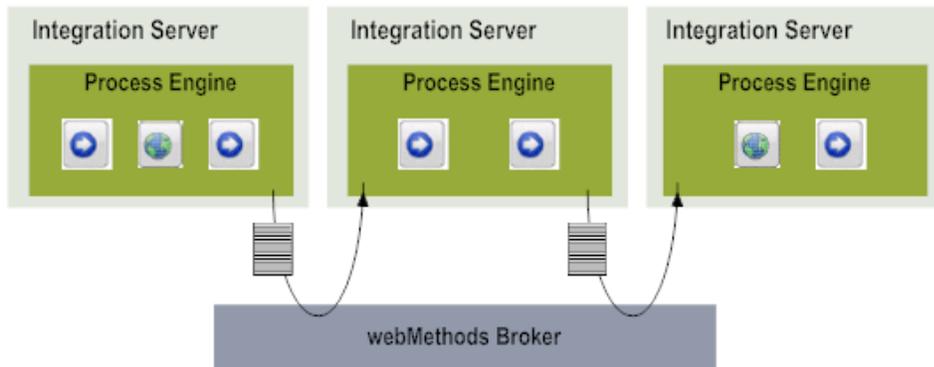
### webMethods Integration Server

Integration Server has several functions in business process management.

- Run-time logic for process steps developed in Software AG Designer is created on Integration Server. Integration Server executes business processes and process steps. Every Integration Server that runs process steps is equipped with a Process Engine that controls and directs process execution.
- Services such as Flow, Web, and adapter services that are developed in Software AG Designer are built on Integration Server. Integration Server executes the services when they are invoked by process steps, tasks, or services.
- Rules developed in the Software AG Designer Business Rules Development perspective are exported to Integration Servers equipped with a Rules Engine. The Rules Engines execute the rules when they are invoked by process steps or tasks.
- Rules developed in Blaze Advisor are deployed to Integration Server, which generates the rules as Blaze rule services. Integration Server executes Blaze rule services that are invoked by process steps or tasks.
- If a process step exchanges documents with an external trading partner, the step sends the document to Integration Server, which sends the document to the partner. The partner returns a document to Integration Server, which returns the document to the process so it can continue to its next step.

## webMethods Broker

To improve performance and reliability, you can distribute business process steps across multiple Integration Servers. In this scenario the Integration Servers must connect to a webMethods Broker that routes the process data across the Integration Servers.



## My webMethods Server

My webMethods Server has two functions in business process management:

- Execution of tasks. Software AG Designer publishes tasks applications, to My webMethods Server, where they are invoked by processes at run time. Each My webMethods Server that runs tasks is equipped with a Task Engine that controls and directs task execution. At run time, data and control pass from Process Engines to Task Engines and back again until the business process completes.
- Hosting of composite applications that provide the user interfaces for webMethods Broker and tasks, and the user interfaces for editing rules developed in Software AG Designer or Blaze Advisor.

## Business Process Model Implementation Details

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This section provides a high-level description of the activities a business process developer performs to implement a business process model.

A major feature of Software AG Designer is its collaborative focus, which allows users with different types of expertise to work together on different aspects of a process. The Software AG Designer perspective that business process developers use to implement business process models are the Process Development, Process Debugging, Process Simulation, Service Development, UI Development, and Rules Development perspective. Each of these perspectives supplies the tools needed by a particular category of users.

## Configuring Process Steps

The Process Development perspective offers an extensive set of programming tools that enable a technical user to focus on the detailed implementation of a business process model. You receive a new business process model from a business analyst and you work in the Process Development perspective to configure the process steps. For example, you configure steps to:

- Subscribe to business documents on webMethods Broker, or publish business documents to webMethods Broker.
- Invoke integration services or Web services.
- Invoke rules, tasks, other business processes, or Trading Networks.

You define the way data passes through and is handled by your business processes. You define the order of steps in your processes, and the conditions under which they start, run, pass data, and end. Business Process Modeling Notation (BPMN) provides a graphical representation of the underlying model and of the functionality and behavior of its steps.

## Creating Documents, Services, Tasks, and Rules

webMethods products provide data to processes in the form of *documents*. Each webMethods document is associated with a *document type*, a schema-like definition that describes the document's structure. For example, a document type named PurchaseOrder might describe the structure of data in a purchase order document.

In Software AG Designer, you can identify existing document types, services, tasks, and rules, or you can create the document types, services, tasks, and rules required by a business process, as follows:

- Browse Integration Servers for existing document types and services, and drag and drop them onto the design canvas.
- Browse CentraSite for document types, services, tasks, rules, and business processes, and reference these assets from process steps.
- Import supported electronic form (*e-form*) templates from a file system folder, a Web server, a My webMethods Server configured as a JSR-170 content repository, or a Content Service Platform repository. Software AG Designer converts the imported templates into Integration Server document types.
- Use Software AG Designer's Service Development perspective to develop Flow services and create document types for service inputs and outputs.
- Use Software AG Designer's UI Development perspective to develop tasks (see [“Developing Tasks” on page 22](#), below).
- Use the Software AG Designer's Rules Development perspective to develop rules.
- Launch Blaze Advisor so you can develop Blaze rule services.

- If you are working in a collaborative design environment, publish assets you develop in Software AG Designer to CentraSite.

## Developing Tasks

If a business process you are developing includes human activities, you use Software AG Designer's UI Development perspective to develop tasks. Tasks are created within a special type of composite application called *task application projects*. You can create a single task within a project, or you can group multiple related tasks within a project.

Within task applications, you design user interfaces that present the tasks to end users. You can also define how you want a task to behave when certain events occur. For example, you can specify that the task status should change to Critical when an uncompleted task reaches its expiration date. Software AG Designer provides a variety of built-in actions you can use, or you can use a service. You can use any of the methods listed in to invoke services from tasks.

You can preview the task user interfaces you create within Software AG Designer and adjust them as necessary. You can also run tasks in Software AG Designer to test their behavior. You can debug tasks, test them again, and so on, until the tasks meet your requirements.

You can create a task application that uses data from a supported e-form as some or all of the task's business data. You can also implement e-form-enabled tasks with download and upload capability. This capability lets the task user:

- Connect to My webMethods Server or the Content Service Platform to download the e-form data from the task in its original e-form format.
- Disconnect from My webMethods Server or the Content Service Platform and work with the e-form in the local environment.
- Reconnect to My webMethods Server or the Content Service Platform and upload the e-form. My webMethods Server applies the modifications to the task business data.

After you create a task, you can drag and drop it onto a business process. When you are done developing the process, you use Software AG Designer to deploy the tasks to My webMethods Server, so the process can invoke the tasks at run time.

The user interfaces you create in the task application can appear to end users in the browser-based task user interface. Most tasks are pre-assigned, using business logic contained in the task, but the task administrator can assign the tasks to individuals or roles as needed.

## Simulating and Debugging Business Processes

Detailed business process model implementation is an iterative procedure that involves developing, testing, and correcting your code. Software AG Designer's Process Simulation perspective enables you to test a business process by sending a document through it. Among other things, simulation enables you to:

- Discover business process bottlenecks, points of failure, and time lags.
- Predict business process behavior in multiple scenarios.
- Compare the behavior (performance, utilization, cost, and so on) of two or more different processes, or of two or more versions of the same process.

You can use actual historical run-time data in simulations.

You can debug the business process using the debugging tools offered by Software AG Designer's Process Debugging perspective and then simulate the process again, and so on until the process meets your requirements.

## Logging and Monitoring Processes

Within each business process model, you set the maximum level for audit logging for that process. The business administrator who monitors processes will refine this setting later to suit his needs. You also define quality of service settings that determine how the process executes at run time and that let you balance process performance, reliability, visibility, and control. For example, you can choose between improving performance by storing process run-time data in RAM or improving reliability by persisting the data.

## Mapping Process Steps to Run Times

When you are done developing the business process, you work with your system administrator to map process steps to the Integration Servers (equipped with Process Engines) on which the steps should run. You then deploy the process steps from Software AG Designer to those Integration Servers. Software AG Designer creates a package containing run-time execution information on each of the Integration Servers.

## Developing in a Collaborative Environment

ARIS and webMethods offer a variety of tools and methods you can use to create a collaborative development environment in which developers can easily share and reuse assets.

- A main tool for collaboration is CentraSite, which operates as a shared database of metadata about assets that are stored in Software AG Designer, Integration Server, and CentraSite. Business process developers can publish services, webMethods document types, and business processes from Software AG Designer to CentraSite, and can drag and drop these assets from CentraSite into Software AG Designer.
- Task application developers can define child collaboration tasks and processes that help complete a parent task. Developers can configure a parent task so that:
  - When the task receives specific business data, it creates child collaboration tasks and assigns them to specific roles or users. The task application developer can configure the parent task to complete automatically when the collaboration tasks are completed.

- A user who opens the task in his inbox can create child collaboration tasks and assign them to other users. When the child tasks are completed, the user can complete the parent task.

For more information on tools and methods you can use to create a collaborative development environment, contact Software AG Global Consulting Services.

## Developing Composite Applications

A *composite application* is made up of portlet applications and services that present data from multiple resources on one or more Web pages for the end user. Composite applications are also used to create modernized front ends for legacy systems. Suppose you have a mainframe program that stores customer orders and the names of sales representatives. You could create a customer management composite application that pulls that data from the mainframe program and displays it on a Web page. When the end user clicks an order, the composite application gets the order details from the mainframe program and displays it on another Web page. When the end user clicks a sales representative, the composite application gets customer data from the mainframe program and displays the locations and contact information for the sale representative's customers on a Google map.

The screenshot shows a webMethods application interface. At the top, there is a search bar and navigation links. The main content area is divided into several portlets:

- Sales Rep and Vehicle:** A form with a "Personnel ID:" field containing "2007100". Below it, a list of details for a sales representative:
 

|              |                    |
|--------------|--------------------|
| PERSONNELID: | 2007100            |
| NAME:        | RUEDI              |
| FIRSTNAME:   | SYLVA              |
| COUNTRY:     | USA                |
| CITY:        | NEWYORK            |
| ZIP:         | 10026              |
| Street:      | 2003 SARAZEN PLACE |
| SEX:         | F                  |
| BIRTH:       | Oct 26, 1945       |
| DEPT:        | HQM310             |
| LEAVEDATE:   | 21                 |
- GoogleMap:** A map showing a location in New York City, with a red pin and address "2003 SARAZEN PLACE, NEW YORK".
- Yahoo! Weather:** A weather widget for "NEW YORK NY" showing "Current Conditions: Cloudy, 44 F" and a "Forecast" for the next few days.
- Vehicle details:** A table listing vehicles:
 

| VEHICLEID | MAKE  | MODEL   | COLOR | YEAR |
|-----------|-------|---------|-------|------|
| 3067051   | FORD  | PINTO   | GREEN | 2000 |
| 3067201   | FORD  | MUSTANG | WHITE | 2000 |
| 3071420   | VOLVO | DL      | GREEN | 2000 |
| 3071651   | FORD  | MUSTANG | WHITE | 2000 |

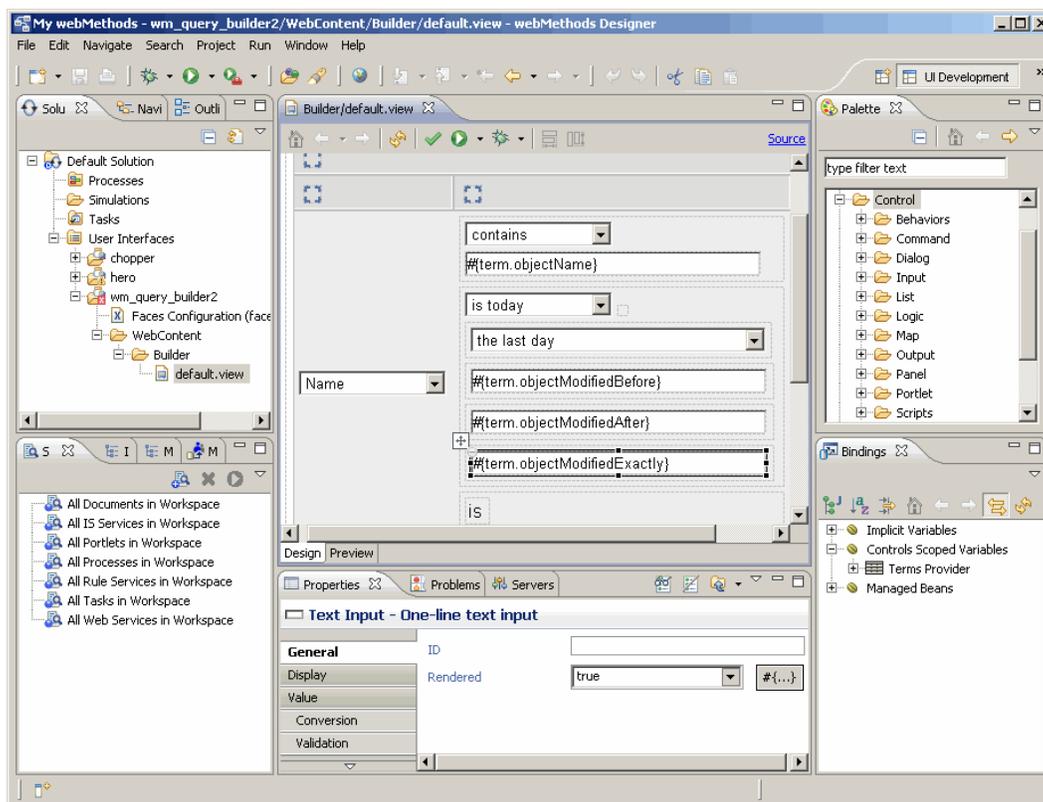
The primary product that composite application developers use to develop composite applications is Software AG Designer. Developers might also use Blaze Advisor and CentraSite. The products that execute composite applications are My webMethods Server and webMethods Integration Server.

## Software AG Designer

Software AG Designer offers software developers a UI Development perspective for designing composite applications.

You create the composite application interfaces in Software AG Designer by dragging and dropping JavaServer Faces (JSF) controls onto a design canvas. You configure each JSF control to perform a specific function, such as submitting a command, alerting a user, obtaining user input (for example, through check boxes or drop-down lists), or adding rendering logic to Web pages. Other JSF controls enable you to link and navigate among portlets and Web pages. Software AG Designer offers an extensive library of JSF controls. You can then add other components such as Java or Web services to the composite application to retrieve and manipulate data.

The illustration below shows a view from a portlet application in Software AG Designer.



The Web pages in your composite applications can invoke services such as Flow, Web, adapter, and rule services. Within Software AG Designer, you can develop Flow and Web services, and you can create adapter services that invoke programs on mainframes and UNIX systems. Software AG Designer builds its services on Integration Server. If you need to develop rule services, Software AG Designer can launch Blaze Advisor. Blaze Advisor deploys rules to Integration Server, which generates them as rule services.

You can drag and drop the services you want the Web pages to invoke onto the design canvas from Integration Server. In a collaborative design environment, you can also drag and drop services from CentraSite. CentraSite operates as a shared SOA

registry/repository of metadata about assets that were developed in Software AG Designer and that are stored on run-time servers such as Integration Server and My webMethods Server.

The Web pages in your composite applications can also access and display data stored in databases. You can connect to a database from Software AG Designer and then drag and drop database-related items, such as database tables, that you want to use in the Web pages onto the design canvas.

Composite applications run on My webMethods Server. Composite applications built in Software AG Designer can use the latest Asynchronous JavaScript and XML (Ajax) technology. With this technology, an Ajax engine acts as the intermediary between the user and My webMethods Server, significantly improving My webMethods Server's response to user input. Composite applications built in Software AG Designer comply with the Java Server Faces (JSF) and Java Specification Request (JSR)168 standard.

## Blaze Advisor

You can develop rules for use in composite applications using Blaze Advisor. For detailed information, see [“Blaze Advisor” on page 18](#).

## My webMethods Server

Software AG Designer publishes composite applications to My webMethods Server. My webMethods Server also hosts composite applications that provide browser-based user interfaces for most run-time webMethods products.

My webMethods Server is a run-time server with a browser-based interface that lets you customize the look and feel of Web pages and control user access to them. My webMethods Server user management also provides a single location from which to define and manage users for most webMethods products.

My webMethods Server provides a built-in Jetty Web server that supports both HTTP and HTTPS. You can use an external Web server, or cluster of Web servers, with My webMethods Server (for example, if an external Web server better complies with your corporate IT security policies). My webMethods Server can integrate with the leading Web servers, such as Microsoft Internet Information Server or Apache HTTP Server.

## webMethods Integration Server

Services developed in Software AG Designer are built on Integration Server. Rules developed in Blaze Advisor are deployed to Integration Server, which generates them as rule services. Integration Server's function in composite applications is to execute services that are invoked by the composite application's Web pages.

## Developing in a Collaborative Environment

The webMethods product suite offers a variety of tools and methods you can use to create a collaborative development environment in which developers can easily share and reuse assets. A main tool for collaboration is CentraSite, which operates as a shared database of metadata about assets that are stored in Software AG Designer, Integration Server, and CentraSite. Composite applications developers can publish services, webMethods document types, and composite applications from Software AG Designer to CentraSite, and can drag and drop these assets from CentraSite into Software AG Designer.

For more information on tools and methods you can use to create a collaborative development environment, contact Software AG Global Consulting Services.

## Extending Your Business Processes into the Mobile Space

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Mobile devices allow you to extend your business processes into the mobile space; users anywhere in the world can interact with business processes from their mobile devices. The product you use to support mobile devices is webMethods Mobile Designer.

### webMethods Mobile Designer

is an Eclipse-based graphical development tool. You create your mobile applications in Java, and then use to automatically convert the applications for any mobile device, from an iPad to an Android to a BlackBerry. The converted applications provide the user experience that each handset owner expects. reduces the need for in-house mobile knowledge, which in turn reduces development and maintenance costs.

