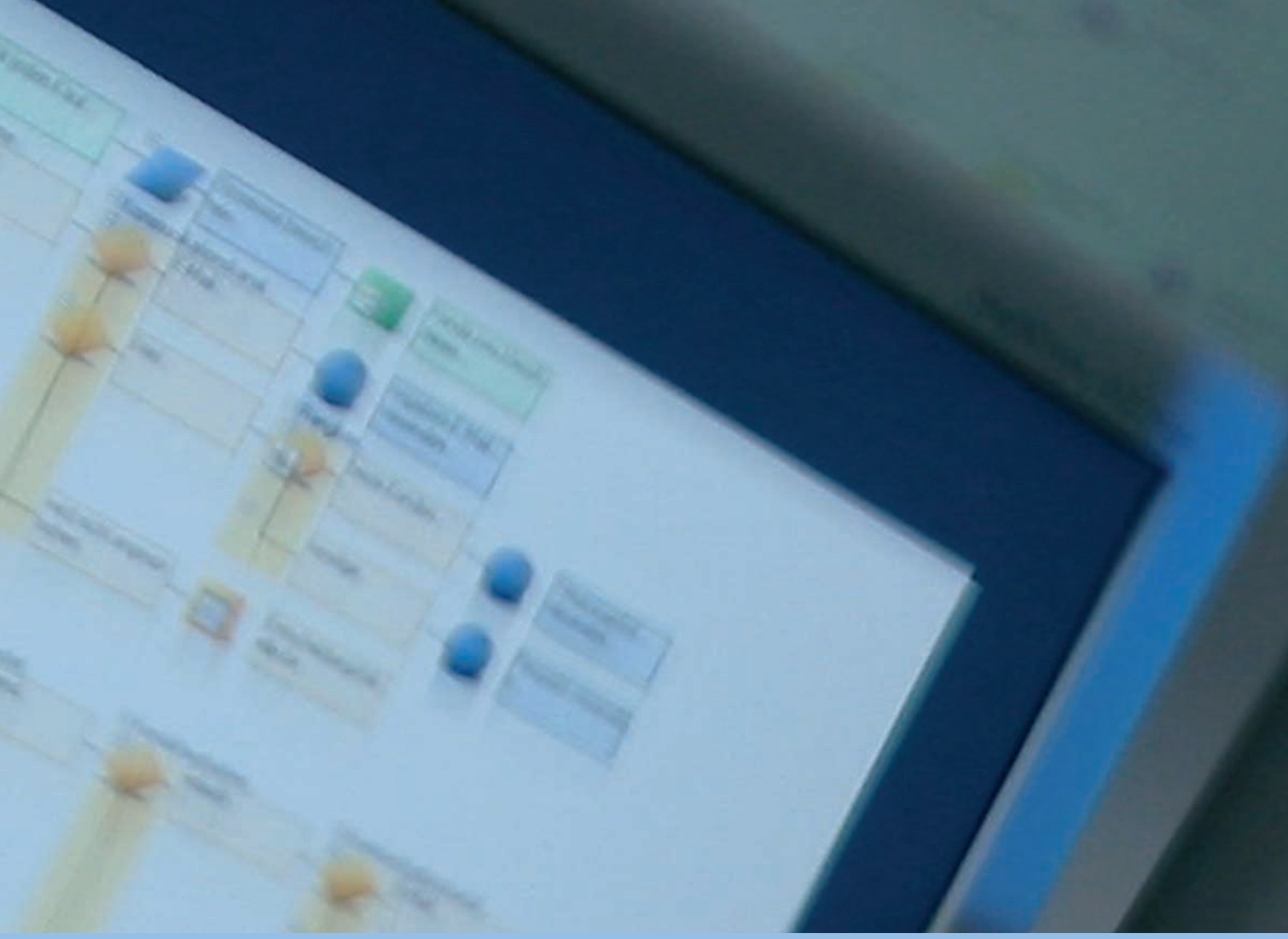


visualize, model and generate executable business logic

visual rules®

rule your business logic

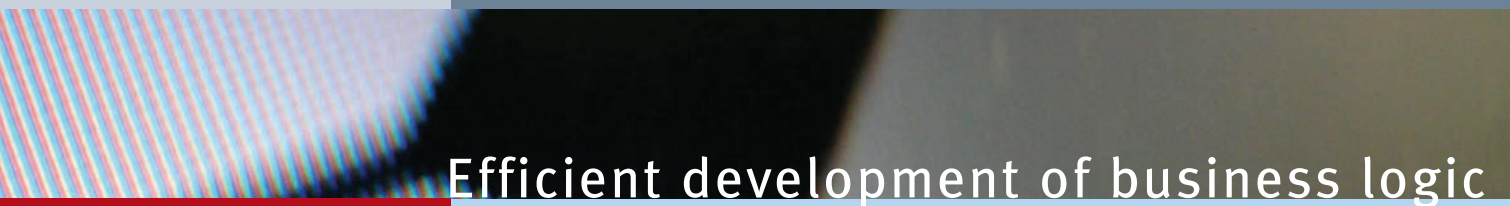
innovations
softwaretechnology

1.1 Business logic – flexible and transparent

Flexible and prompt reaction on changing market requirements is challenging all businesses. As a result business logic is the ever-changing component of IT applications. These changes generate immense expenses in terms of money, time, and manpower.

visual rules® solves this dilemma: Strictly separating business logic from coding logic is a first approach. Moreover, visual rules® captures business logic in rule trees. Due to this, complex business rules become transparent and precisely documented. And this is the clou: On demand, visual rules® immediately converts these rules into executable code. This way, changes can be performed quickly and do not require any adaptation of the environment.

Rule code integration into business applications and enterprise-wide deployment is downright easy. Comprehensive simulation and monitoring features ensure high quality of business logic during development process and operations of business applications. Hence, visual rules® offers a very efficient way of developing flexible IT systems.



1.2 Efficient development of business logic

visual rules® visualizes rule based knowledge: rules can be modeled graphically and easily integrated in applications.

- Business users as non-programmers are able to develop and maintain the business logic, since modeling with visual rules® is intuitional and easy to learn.
- Integration of the generated rule code into business applications directly happens inside the established IDE.
- Sequences and context of rules are unambiguously defined. This ensures high quality of the business logic, especially as regards the contents.
- visual rules® establishes a consistent knowledge base within the company, which can easily be provided to a large number of users.
- The encapsulated business logic can by used by diverse applications running on different platforms.
- visual rules® generates rule code which shows outstanding performance. This code is qualified for online information systems and parallel processing of mass data.

1.3

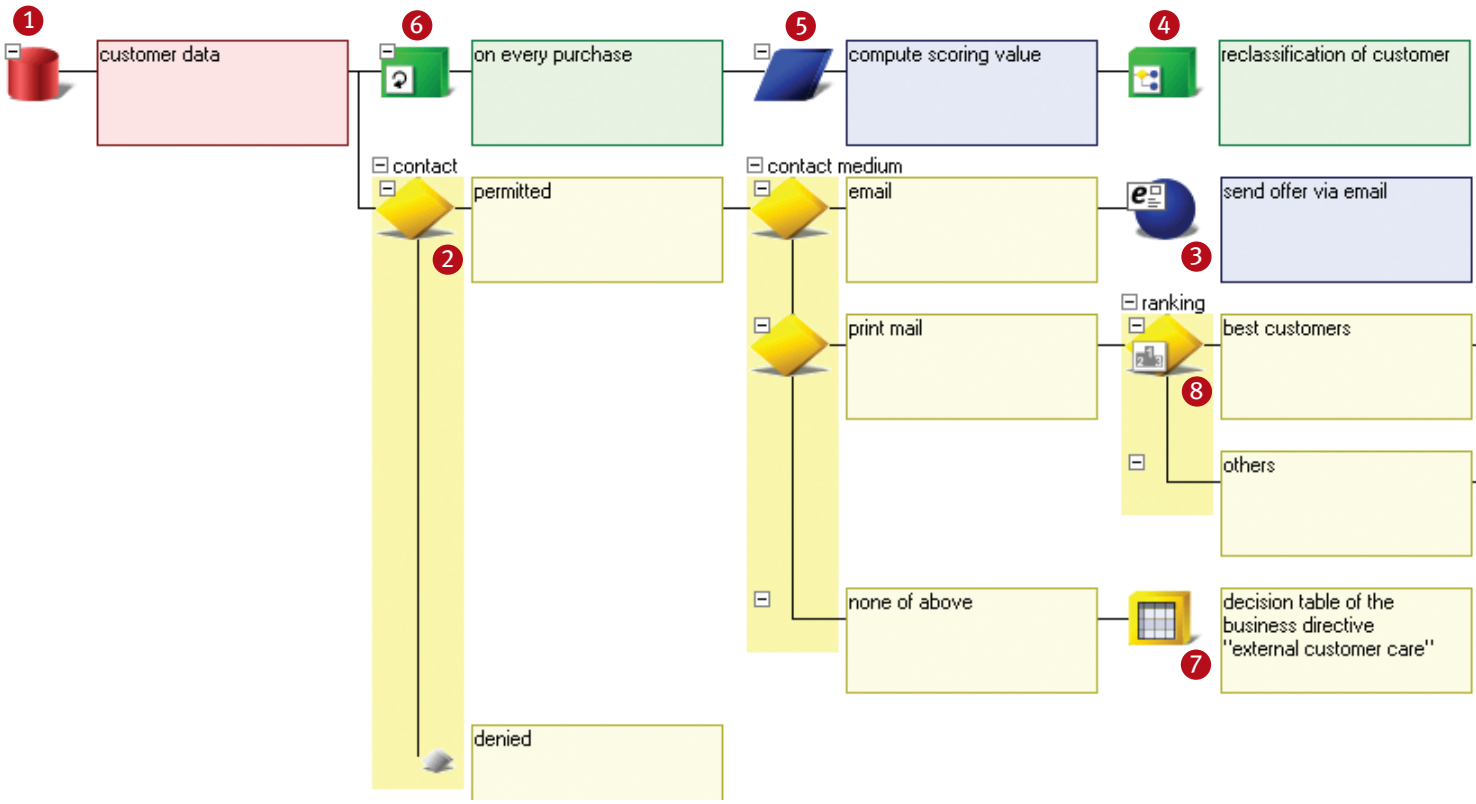
Features at a glance ...

- powerful graphic rule editor with different views for business users and developers
- extensive simulation, testing and debugging features, e.g. the autotest module with error mark-up and an XML-interface
- monitoring and statistics module for surveillance of the rule code in operations
- automatically generated documentation of the rule model in different output formats
- code generators for multiple programming languages and platforms
- visual rules® supports all established J2EE™ application servers
- available as plug-in for Eclipse and IBM WebSphere® Studio Workbench

visual rules® maps business logic in rule trees. Rule modeling is based on data, which is derived directly from the application or from other data sources. Simple graphic elements for decisions, calculations, for structuring logic, and executing actions are used for modeling. Rule processing proceeds from left to right and top down. The result of a decision determines where rule processing continues. Actions succeed a sequence of decisions on the right side of each rule tree. These actions represent semantic results or trigger processes.

1.4

Model business logic graphically



1 start node

Origin of every rule tree is the start node – as data source for the rules.

2 decision

The yellow decision nodes represent „if-then-else“ rules. Decisions hold at least two different exits with optionally following parts of business logic.

3 action

Actions are able to execute code and trigger arbitrary processes. visual rules® can be expanded by new customized actions.

4 rule tree call

For structuring business logic, a rule project can contain an arbitrary amount of rule trees. Each rule tree is a reusable module that can be integrated into another rule tree via a rule tree call.

5 assignment

Input parameters and variables can be modified by powerful functions. Assignments are used to save the results of calculations for reuse within decisions and actions.

6 loop

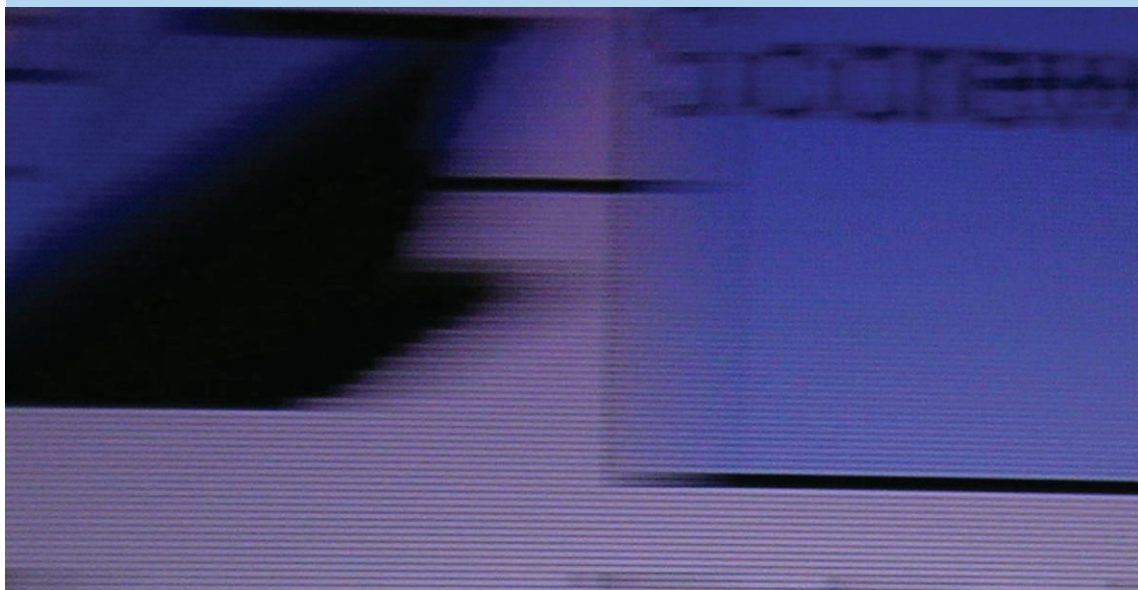
The modeling element loop is used to iterate parts of the business logic. All of the succeeding nodes will be processed as often as defined by the loop.

7 decision table

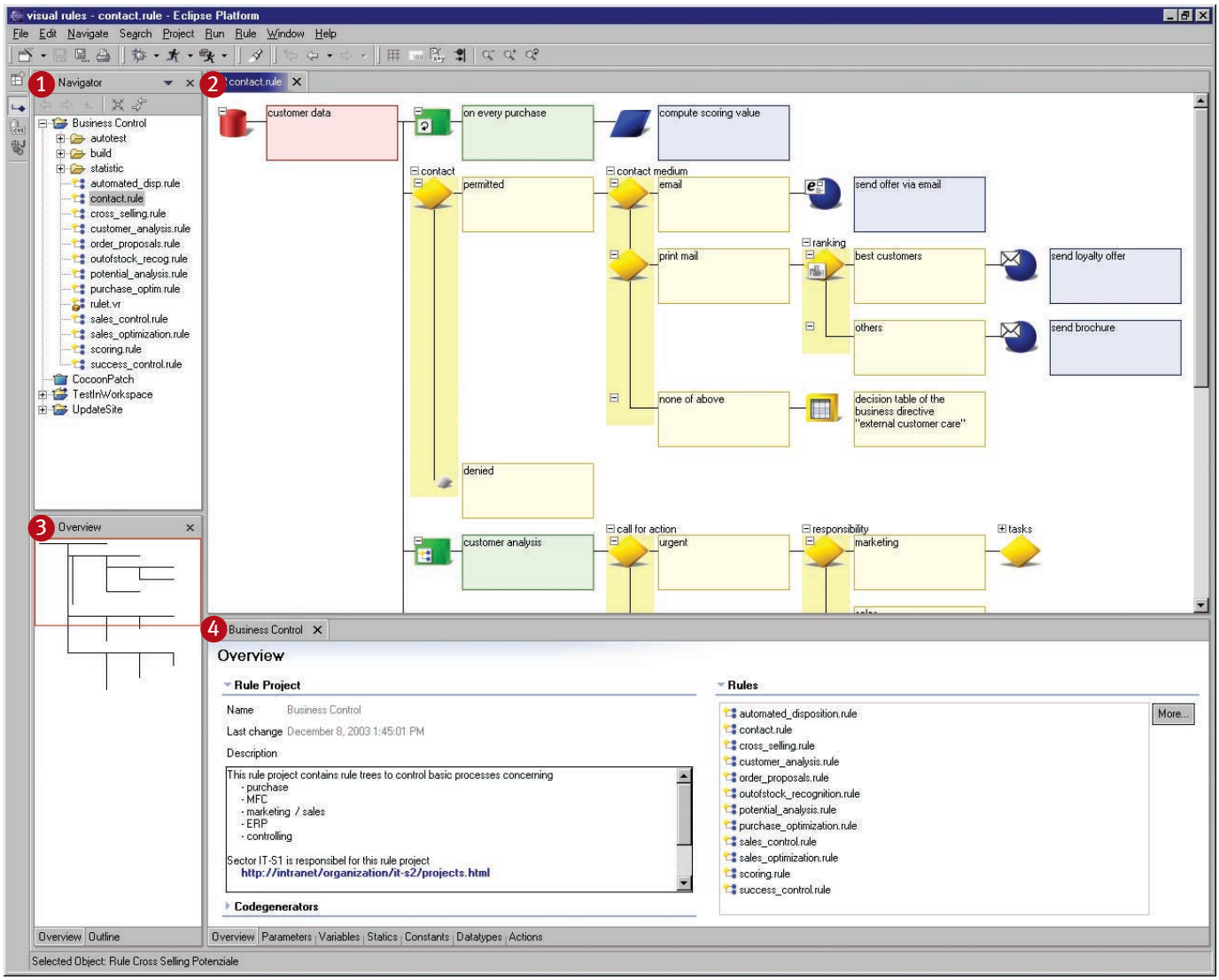
A decision table is a compact way to represent extensive decisions based on the same criteria.

8 ranking

The ranking node calculates the best hits of a data set regarding user-defined rating functions.



Development with visual rules®



IDE

visual rules® offers different views on the business logic. Toolbars, zoom, undo/redo and powerful search functions as well as mark-ups in editors support the development process. visual rules® provides comfortable drag & drop as well as full keyboard control. The business logic can be completely documented by using description fields, e.g. for linking external documentation via URL.

1.5

1 navigator

The navigator shows all rule projects currently in process and allows quick navigation among projects. The navigator also features access to resource and version control.

2 rule tree

This view represents business logic in rule trees and allows editing of business rules. Zoom and grid functions change the view of the tree on demand.
After executing the rule code, hit counts are displayed at every node. Non-proceeded parts of the rule tree are marked as gray.

3 overview

This view renders the minimized version of the currently visible part of the rule tree. It supports navigation in complex rule trees.

4 project settings

Parameters, variables, constants, and actions are defined for each rule project and separately stored in an XML file. Different views on the project settings offer simple creating, changing and deleting functions to adjust settings.

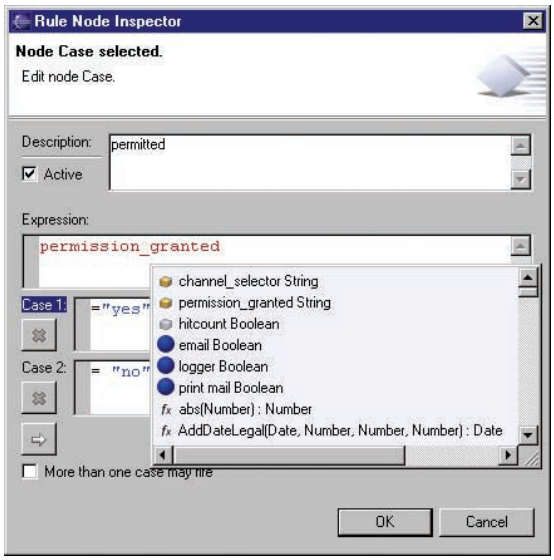
5 node editors

A specific editor is available for the creation of any node type. Editors offer a wide range of functions to define rule terms. New functions can be integrated with the disclosed XML API. The Code Assist allows rapid access to functions, operators, parameters, and variables

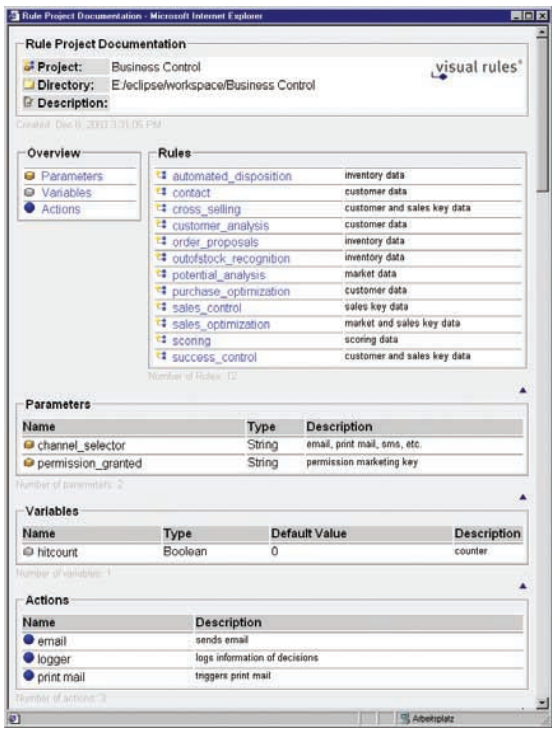
6 wizards

visual rules® provides various wizards for efficient development. As an example, the wizard Auto Documentation generates a complete project report and stores it in the requested output format.

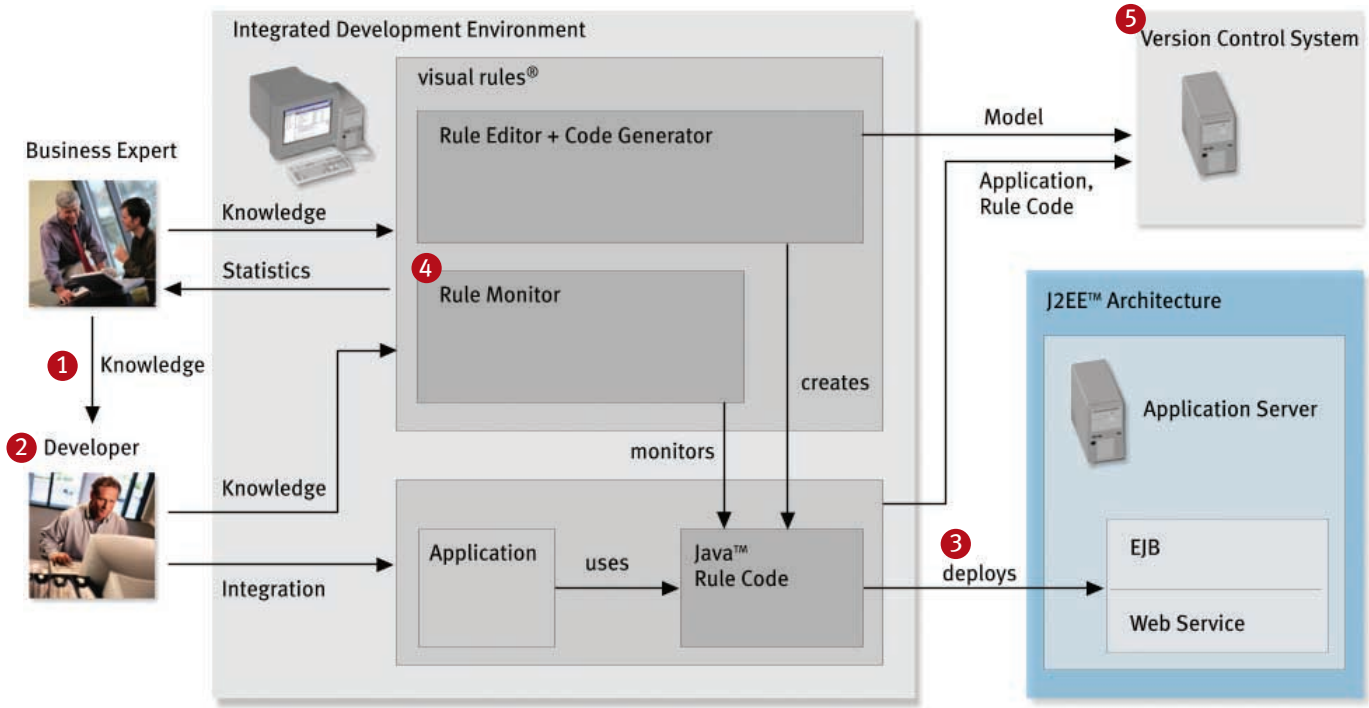
5



6



1.5.1 Application scenario



The steps of development with visual rules® in Java™–based architectures are shown below:

1 **capture and map knowledge**

Business experts and developers graphically model their knowledge (the business logic) in rule trees.

2 **generate and integrate rule code**

visual rules® automatically generates Java™ rule code, to be integrated into the application by the developer.

3 **deploy the application**

Optionally visual rules® supports the deployment of rule code either as EJB or Web Service and facilitates the replacement of rule code during operating time (hot deployment).

4 **monitor applications**

The rule monitor controls the business logic of the application in operations. Monitoring displays statistics (as hit counts) at each node of the rule tree.

5 **administer resources**

Resources of both visual rules® and the application can be administered in the same version control system, e.g. CVS.

1.5.2

visual rules® components

visual rules® for Java™	This basic package consists of the modeling tool and the Java™ code generator. The modeling tool is used for capturing and mapping business logic graphically in rule trees. The Java™ code generator permits creation, debugging and monitoring of Java™ rule code (created as JAR file).
J2EE™ support	This add-on component permits direct deployment of the rule code as EJB or Web Service into established and supported J2EE™ application servers.
Rule Server	This server is designed for all applications running without a J2EE™ application server. The rule server provides hot deployment of Java™ rule code.
visual rules® for Cobol	The basic package consists of the modeling tool and the Cobol code generator. The modeling tool is used for capturing and mapping business logic graphically in rule trees. The Cobol code generator creates Cobol source code.
Product Versions	visual rules® is available as plug-in for Eclipse and IBM WebSphere® Studio Workbench. The standalone version of visual rules® can be used with any other IDE and requires Microsoft Windows™.

The basic packages can be extended with additional code generators that run simultaneously.

visual rules® standalone versions suitable for further operating systems (e.g. Linux) or code generators for different programming languages are available on request.

As complementary software, we offer work frame®, our application framework for the development of distributed network-enabled enterprise applications. work frame® features infrastructure components and a process model for the development of modern Java™ architectures.

1.6

visual rules® at a glance

visual rules® is a tool, which

- provides transparent and easy-to-change business logic
- simplifies the cooperation of business experts and IT
- increases the efficiency of developing business logic
- encapsulates business logic in reusable rule components
- provides business logic for different target platforms
- automatically generates high-performance Java™ or Cobol rule code
- is available as plug-in for Eclipse and IBM WebSphere® Studio Workbench

Ready for IBM WebSphere Studio software

Innovations Softwaretechnologie GmbH takes a leading position in the fields of developing intelligent rule-based systems and distributed network-enabled enterprise applications. Based on many years of experience, the company offers extensive consulting as well as services covering each step of an IT project, including conception and software development. Innovations also offers powerful software for the efficient creation of intelligent systems.

The solidly growing company – headquartered in Immenstaad at the Lake of Constance – employs more than 60 highly-qualified computer scientists and engineers. The customers of Innovations are leading large-scale enterprises in Germany and Switzerland, mainly operating in retail, finance, and insurance, e.g. Rewe, Quelle, Metro, Bausparkasse Schwäbisch Hall, Cortal Consors, etc.

With visual rules®, Innovations offers an innovative development tool that enables enterprises to efficiently integrate their business logic into applications. Innovations provides the major complementary services: support, maintenance, training, coaching, technology consulting, and application development.

Information on trademarks:
visual rules® and work frame® are both registered trademarks of Innovations Softwaretechnologie GmbH. Innovations´ rule technology is patented (GBM 20014430).

The Ready for IBM WebSphere Studio Software Mark and the trademarks contained therein are trademarks of IBM Corp. and are used under license only to indicate compatibility or integration with IBM WebSphere Studio.

Further terms of products and companies used in this brochure are trademarks or registered trademarks. They are explicitly used for reference purposes and are – independent of marking – property of their respective owners.

Subject to alterations without notice.

innovations™
softwaretechnology

Contact: Innovations Softwaretechnologie GmbH

E-Mail: info@visual-rules.de
www.visual-rules.de

Headquarter
Ziegelei 7
88090 Immenstaad / Bodensee
Germany
Tel.: +49 (0) 75 45 / 202-300
www.innovations.de