Business rules system as a plug-in for WSAD

Integrated IDE for Applications with Complex Business Logic

BY CAROLINE BUCK

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This article describes how the IDE can be utilized as a common platform for both developers and business experts, how the development process is accelerated, and how costs are reduced. The integrated IDE supports free choice of architecture for using business logic.

WebSphere Application Developer (WSAD) is – like Eclipse and other IDEs based on Eclipse – a platform that can be complemented with different tools and customized to meet individual needs. A business rules system has been presented by a German software engineering company that is the first of its kind as a plug-in for these platforms. With WSAD, it presents an integrated IDE for the development of applications with easy-to-change business logic.

As a plug-in, the business rules system uses the functionalities of WSAD and complements the platform with a unique method of graphical development of business logic and automatic rule code generation of the models.

Accelerating the Process Using the Graphical Approach

Different concepts of software engineering target integrating the knowledge of business experts into the application development process. UML is one of them. Relations between classes and objects are modeled graphically to control data flow and communication between objects.

The graphical modeling approach is used by the business rules system for the development of business logic. The whole modeling process – structuring rule flow as well as defining rules as different decisions – is covered with the graphical method. This makes results extremely traceable and easy to actualize and debug. The graphical design of the IDE allows for efficient integration of the business expert into the development process. The complete model represents the precise definition of the business logic. The developer then takes this model and automatically generates rule code for it. Based on simplified coordination between business and IT experts, high-quality development and actualization of business logic is accelerated.

Platform for Developers and Business Experts

The business user has a simple view of the IDE that solely comprises the graphical rule editor. This editor also displays statistics of simulations and tests that are important for the expert to debug the logic from his business view. Modeling the rules in their context, he or she has direct access to the data objects of the application and is supported by dialogues. It is not necessary to define an extra business language.

Figure 1 shows a graphical editor for modeling business logic, in this case for calculating prices of cinema tickets depending on the hall where the film is shown and the seat that has been chosen. This calculation example is extended by a second tree (node at the bottom of the model) that integrates discounts for students and coupons. This ability to extend rule trees is provided for reasons of clarity accompanying complexity.

The graph in Figure 2 shows a similar interface for the developer. It has different views of the business logic (for navigation, for project settings, statistics, etc.), using the previous example after simulation of single data processing, with statistics at the nodes and highlighting of the path taken in the rule tree.

All functions of the integrated IDE are available for the developer's work – for automatic code generation out of the rule models, for integration of rule code into applications, for deployment of the business logic on different target platforms, for debugging and monitoring of operational logic, as well as for versioning of rule projects. Versioning is accomplished with mechanisms that are provided by WSAD.

Integrated in WSAD, the rules system features full function for the development process of business logic. Both developers and business experts use the graphical component for different tasks. After the simulation of rule processing, statistics are shown at each node of the

rule tree. Statistics are also available for operational business logic as well as for tests. Furthermore, the paths that are taken by rule processing are highlighted. The graphical design simplifies actualization and debugging of rules.

With WSAD complemented by the plug-in for developing business logic, there is now a platform on the market used by developers and by business experts alike. The development of applications is accelerated, both by the simplified coordination and by automatic generation of code out of business logic models (Rapid Application Development).

High-Performing Code

By structuring business rules explicitly in hierarchical context, no rule engine is needed to interpret the rules for execution (RETE-algorithm). Instead, the best option for a path is always as defined taken in the rule tree. Rules are processed extraordinarily fast because only those that apply are passed. The graphical modeling of business logic is best qualified for applications with great numbers of rules and metrics.

Free Choice of IT Architecture for Using the Business Logic

The business rules system is the only one of its kind that generates either Java or COBOL code out of the business logic models. This code can be integrated directly into applications (e.g., as a JAR file), mainframes, and client/server architectures. It can be used in central systems – from legacy systems to mobile terminals. This is important for all companies with organically grown IT infrastructures and becomes even more important when migrating systems.

The business logic can also be deployed on different application servers. All servers that conform to the J2EE standards are supported. This includes IBM WebSphere as well as other established application servers. For deployment, the business logic is made available outside of the IDE as an EJB or Web service.

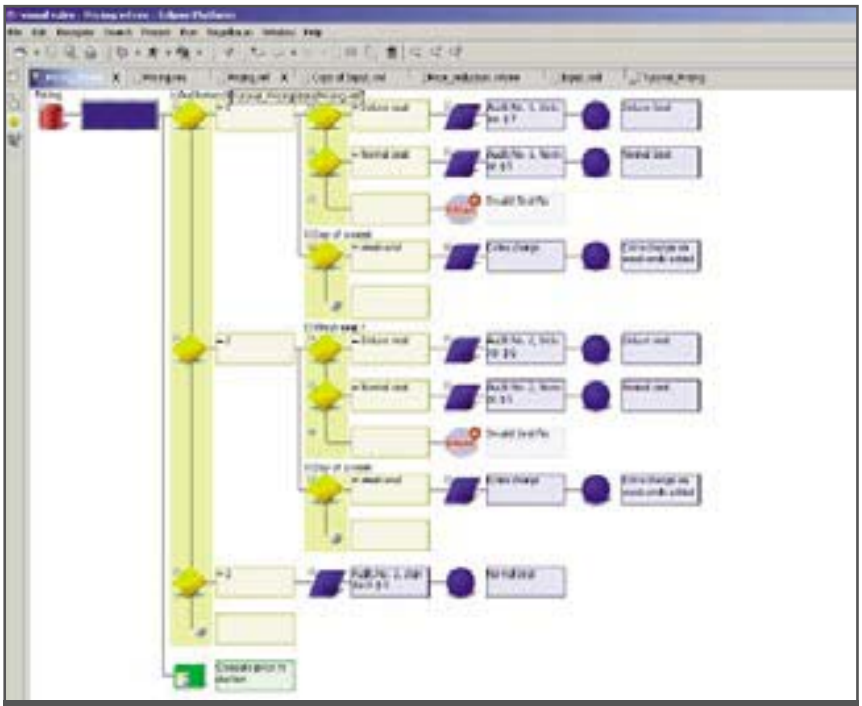

FIG 1: THE INTERFACE FOR THE BUSINESS EXPERT

Enterprise-wide use of business logic is supported technologically. It is also supported with a special licensing model. No extra run-time costs are generated in using it.

WSAD Functions Used by the Plug-In

With the integration of the business rules system into WSAD, the developer continues working with his familiar environment. All steps of the development process can be accomplished directly out of the IDE. Furthermore, the IDE can be used for a variety of functions. An example of this is the resource repository. It can be used not only for versioning the application code but also for the business logic with all project files. This function is completed by the business rules system with the graphical matching of different versions of rule trees.

Conclusion

The market is up-and-coming; business analysts are forecasting a growing market, in both the short and long term, for rule engines. With the full integration of visual rules into WSAD, the graphical development of business logic becomes available to all WebSphere users. Visual rules provide flexible and transparent business logic to create WebSphere-based decision automation systems concerning various business cases. These systems enable companies to react fast to changing market conditions – a crucial success factor of all businesses now and in the future.

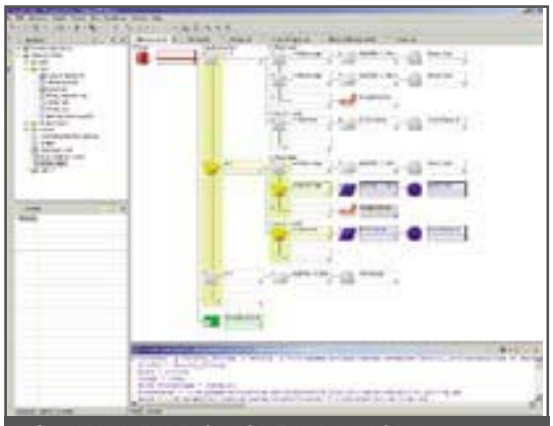

FIG 2: THE INTERFACE FOR THE DEVELOPER