*A simplified approach to e-business*

**IBM**

# VisualAge Generator Templates Version 4.0

## Highlights

**High-level model specification**

**Automatic code generation**

**e-business generation functions**

**Integrated team development library support**

**Open information model framework**

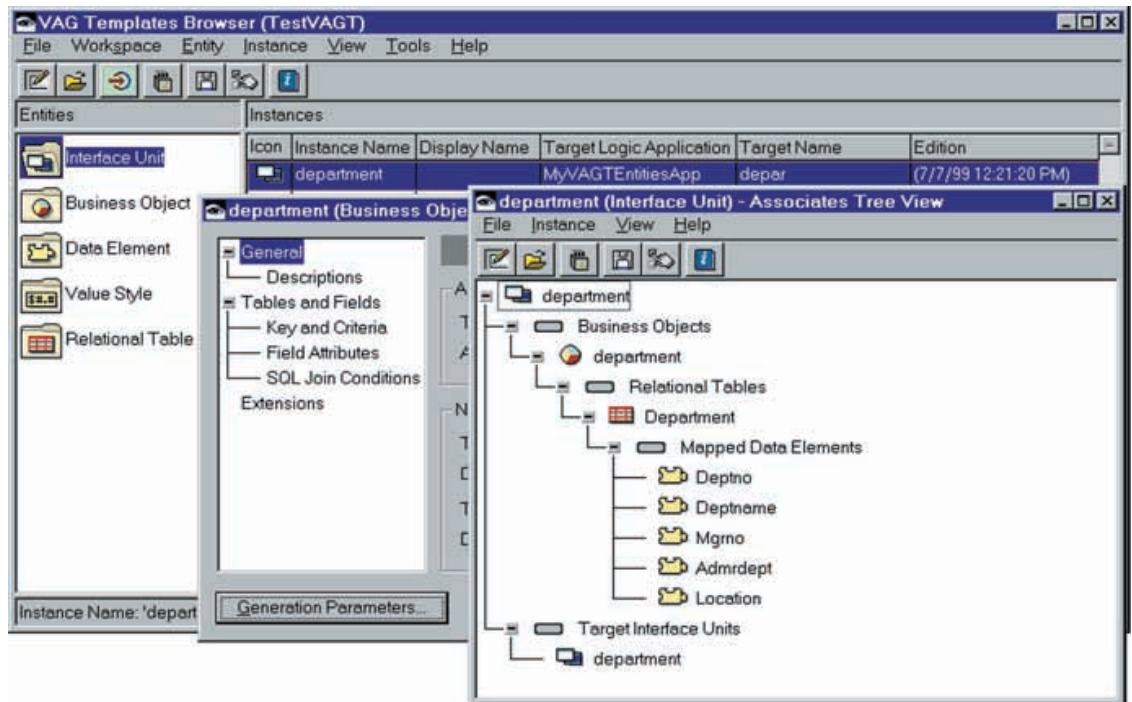**Open generation framework**

**Reverse engineering**

**Maintainability features**

**National language support**

VisualAge® Generator developers can increase their productivity and shorten their delivery times by using the true Rapid Application Development (RAD) methodology provided by VisualAge Generator Templates. By simply specifying the data to be accessed developers can automatically generate functionally complete and executable applications. Developers can generate applications from predefined templates by using the VisualAge Generator Templates standard functions component that is integrated with VisualAge Generator Developer.

VisualAge Generator Templates Customizer, a separately sold product, allows developers to enhance the provided application generators to generate applications which conform to corporate presentation and behavior standards. VisualAge Generator Templates can be used in VisualAge Generator Developer, Version 4.0 on Java™ or VisualAge Generator Developer, Version 4.0 on Smalltalk to deliver robust, high-quality, and fully-functional systems in a fraction of the time required by manual coding.



*The information model user interface of VisualAge Generator Templates, Version 4.0.*

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e-business

## Features at-a-glance

- *High-level model specification* - With the standard functions component, developers can rapidly specify and model applications at a high level of abstraction, removed from technical implementation details, in the easily understood VisualAge Generator Templates information model.

- *Automatic code generation* - Application code can be automatically generated from DB2® and Oracle database definitions to produce Graphical User Interface (GUI) or Text User Interface (TUI) client/server applications, or Web applications. You can choose OS/2® and Windows NT® as development platforms (OS/2 with VisualAge Generator Developer on Smalltalk only).

- *e-business generation functions* - With the standard functions component, developers can generate Java-based client applications and web applications that take advantage of the new IBM WebSphere RAD features that have been introduced in VisualAge Generator Developer, Version 4.0.

- *Integrated team development library support* - The VisualAge Generator library is used to store both the information model and the VisualAge Generator application components. This central library includes advanced team development facilities such as version control and release management.

- *Open information model framework* - The VisualAge Generator Templates information model can be populated from other modeling tools using Java or Smalltalk. The information model can be extended to incorporate company standards.

- *Open generation framework* - With the VisualAge Generator Templates Customizer, the generation framework can be used to modify the provided generators to industrialize corporate standards.

- *Reverse engineering* - With the VisualAge Generator Templates Customizer, developers can automatically initialize generators from existing applications. These generators are then used to create new applications.

- *Maintainability features* - Developers can modify generated components such as layouts and later regenerate without losing modifications. This enables you to maintain 80% or more of application code at the model level - a high level of specification.

- *National language support* - The standard functions component provide you with national language support, including support for Double-Byte Character Sets (DBCS). Bi-directional support is provided with VisualAge Smalltalk BiDi feature.

## Automatic code generation

VisualAge Generator Templates Customizer is composed of an information model framework, a development workbench, and a set of code generators that can be customized. The architected RAD methodology starts with populating an information model that specifies which tables, views or columns of a database the application will manipulate, and how the application data will be presented to the user. After the information model is populated, the code generators are invoked, and the generated code is placed directly into the VisualAge Generator source library to be tested and extended with specific "business rules" and application logic using VisualAge Generator.

Go from 'models-to-code' using VisualAge Generator Templates and get:

- simple but powerful model-based development methodology to industrialize development

- automatic code generation for both client and server

- extensibility of the information model

- open architecture that guarantees ease of customization and enrichment of generated code

• well-organized and easily maintainable applications.

## Customization to suit your business needs

VisualAge Generator Templates Customizer includes an information model that can be customized to the specific needs of your business. With the information model, you can formalize the description of application components and focus specifications on functional characteristics. You get the benefits of an open, evolutionary approach to systems development that guarantees the production of high-quality applications generated automatically.

VisualAge Generator Templates turns VisualAge Generator into an exceptional prototyping tool that enables you to maximize reuse of specifications and application components. Approximately 80% to 100% of the final application code can be generated from existing database definitions. Specific business rules can then be added to the generated code using the VisualAge Generator Developer product. Why code it from scratch, when you can generate it automatically? Let your users begin evaluating applications early in the development cycle, thus giving you time to reassess their valuable input and requirements.

## An industrial solution that ensures productive development and top-quality applications

The standard functions components provide a full set of generators for producing operational multi-tier business applications.

VisualAge Generator Templates is designed to industrialize your corporate standards and improve application development productivity. It enables you to define an optimum architecture for all applications, while simplifying and structuring the development process.

And, the 'models-to-code' approach significantly reduces the amount of coding required to produce fully-functional applications, proportionally reducing the error injection rate and boosting the quality of the final product.

## The generated applications

The integration of VisualAge Generator and the Templates standard functions component enables you to produce complete operational client/server or web-based applications.

Provided generators automatically generate all the VisualAge Generator source code components necessary to:

• access and manipulate data in databases (create, read, update, delete)

• present the data to the end-user

• manage navigation among multiple windows

• manage multi-user data access concurrency

• manage paging and scrolling of data presented in a list

• manage error conditions

• provide window, business object, and field level online help

• generate user interfaces with national language support, including DBCS and bi-directional support.

The result is generated source code that is well-structured, consistent, and includes hooks to easily add specific business logic using VisualAge Generator. Additions to the generated components are preserved, thus providing the ability to maintain the functional specifications at the information model level.

## Software/Packaging

VisualAge Generator Templates standard functions component is packaged as part of VisualAge Generator Developer, Version 4.0 and is provided at no additional charge.

VisualAge Generator Templates Customizer, Version 4.0 (i.e. with customization capability) is separately orderable and separately priced. It permits customization of provided generators using either Java or Smalltalk. VisualAge Generator Templates Customizer is installed as a feature of VisualAge Generator Developer, Version 4.0.

## Accompanying services

IBM and IBM Business Partners provide expertise regarding any services you may need as well as assistance with installation, customization, and training in your company.

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