CODELESS

Do more with Codeless©

- Develop high quality software
  without writing a single line of code
- Save up to 90% of your resources
- Your return on investment has never been this high

Product Overview

Codeless is unique among Model Driven Architecture® (MDA®) tools. Unlike the others, it chooses not to generate code at all. With over a decade of know-how in maintaining systems for over 30 million lines of Cobol code, Codeless has extensive experience in code generation techniques. It has learned that the best code generation technique is not to generate code at all. No more problems keeping code up-to-date with models. No more problems with new compilation or new installation of software. No more problems debugging unfamiliar code. But if there is no code, what is there?

'Codeless is ideally suited for technical realization of models'

The Platform Independent Model (PIM) can be directly executed by the Application Server developed by Codeless. No programming is needed. There is no maintenance for templates. You automatically get a completely operational industrial strength .Net application with an ever-growing list of features.

One reason why the MDA concept guarantees reduction in the Total Cost of Ownership (TCO) of a software system is because the business logic is separate from the technical realization of a system. At Codeless we believe this should even go one step further. The separation allows different

companies to specialize in different aspects of the process. Some companies will specialize in developing models for different domains, while others will specialize in the technical realization of these models. Codeless is ideally suited for technical realization of models, and will remain committed to providing standard .Net middleware applicable to a wide range of business applications.

Model Driven Architecture (MDA)

MDA is an OMG standard and supports evolving standards in application domains as enterprise resource planning software; standards that are tailored to the needs of these organizations, yet need to survive changes in technology and the proliferation of different kinds of middleware. The Model Driven Architecture® addresses the complete life cycle of designing, deploying, integrating and managing applications as well as data using open standards. MDA-based standards enable organizations to integrate whatever they already have in place with whatever they build today and whatever they build tomorrow.

Building on a Solid Foundation

MDA represents a significant-though evolutionary-step forward. It is built on the solid foundation of well-established OMG standards, including: Unified Modeling Language™ (UML®), XML Metadata Interchange (XMI™), the standard for storing and exchanging models using XML.

The MDA separates the fundamental logic behind a specification from the specifics of the particular middleware that implements it. This allows rapid development and delivery of new interoperability specifications that use new deployment technologies but are based on proven, tested business models. Organizations can use MDA to meet the integration challenges posed by new platforms, while preserving their investments in existing business logic based on existing platforms.

MDA addresses the challenges of today's highly networked, constantly changing systems environment, providing an architecture that assures:

• Portability, increasing application re-use and reducing the cost and complexity of application development and management, now and into the future.

• Cross-platform Interoperability, using rigorous methods to guarantee that standards based on multiple implementation technologies all implement identical business functions.

• Platform Independence, greatly reducing the time, cost and complexity associated with re-targeting applications for different platforms-including those yet to be introduced.

• Domain Specificity, through Domain-specific models that enable rapid implementation of new, industry-specific applications over diverse platforms.

• Productivity, by allowing developers, designers and system administrators to use languages and concepts they are comfortable with, while allowing seamless communication and integration across the teams.

Bottom-line Benefits

'MDA enables system integration strategies that are better, faster and cheaper.'

The benefits of MDA are significant-to business leaders and developers alike:

• Reduced cost throughout the application life-cycle
• Reduced development time for new applications
• Improved application quality
• Increased return on technology investments
• Rapid inclusion of emerging technology benefits into their existing systems

MDA provides a solid framework that frees system infrastructures to evolve in response to a never-ending parade of platforms, while preserving and leveraging existing technology investments. It enables system integration strategies that are better, faster and cheaper.

Architecture

The Codeless platform has two parts: the Codeless Development Environment (CDE), which enables developers to create and maintain applications, and the Codeless Application Environment (CAE), which is the environment for executing the application.

fig. 1 Overview of the Codeless Platform

'Applications built using Codeless all have a generic look and feel'

The heart of the CDE is the Application Modeler. Within this program, it is possible to enter an object oriented model. The models that must be used to define an application are the UML Class Diagram and the UML State Chart Diagram. After the basic models are input in the Modeler, the user interface can be added using the Designer. When this has been completed, the Package Builder is used to build the application. The Package Builder generates update files that must be read by the Codeless Application Environment.

The Codeless Application Environment is a model-driven 3-tier architecture made up of a server and clients. The server can execute all models created by the CDE. The CAE is the same for every Codeless application, with the only difference between one CAE and another being the installed update files. These files, which are created by the CDE, can be inserted in the CAE using the Package Updater. Thus, applications built using Codeless all have a generic look and feel.

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Modeler

The Modeler allows developers to define an application by entering UML data. Some Modeler features:

• Model inheritance;
• Visual modelling;
• Data entry via grids;
• XMI import / export;
• Model validation;
• Package check-in and check-out functions;
• Automatic generation of technical documentation in MS Word.

Development
environment
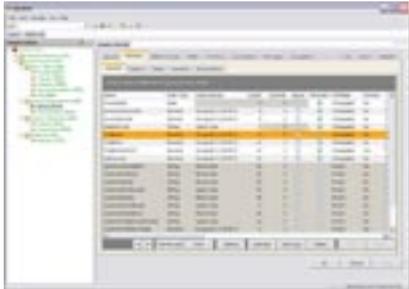
fig. 2 Class properties
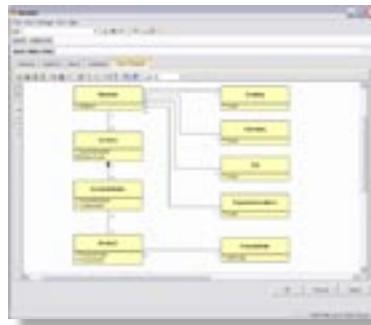
fig. 3 Class diagram
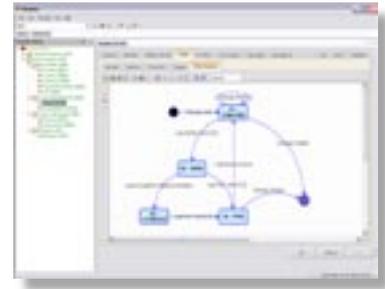
fig. 4 State diagram

Designer

Graphical User Interfaces (GUI) can be added to the functions defined in a package. Some Designer features include:

• What You See is What you Get (WYSIWYG);
• Easy to use;
• Direct manipulation of controls;
• Easy Tab order settings;
• Undo and Redo functions;
• Alignment functions for single and multiple elements.
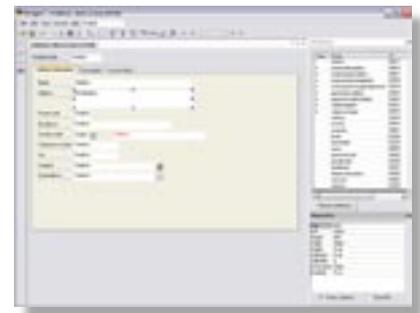
fig. 5 Designer

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Server

The server is the component that executes all application models created by the Modeler and the Designer. Some Server features include:

- Runtime application control:
  System managers can control applications centrally even if they run on more than one server. Applications can be put on hold, and users can be made to log off.
- User manageable access rights;
- Multi language;
- Image support;
- Extensive filtering on objects;
- Default settings of object values;
- Automatic function menu presentation based on user access rights;
- Multi-company structures with separate and shared data structures;
- User manageable workflow rules;
- Multi level help system;
- XML based Web link;
- Background tasks via Queue Processors;
- Report generation in many formats.

Client

Clients are thin clients that contain only the functionality required to pass user events to the server. Some Client features include:

- Ease of use;
- Intuitive functions;
- Dockable Windows;
- Capability to export and import Microsoft Excel files;
- Supports file attachments for all objects;
- User customizable menu's.


fig. 6 Login screen
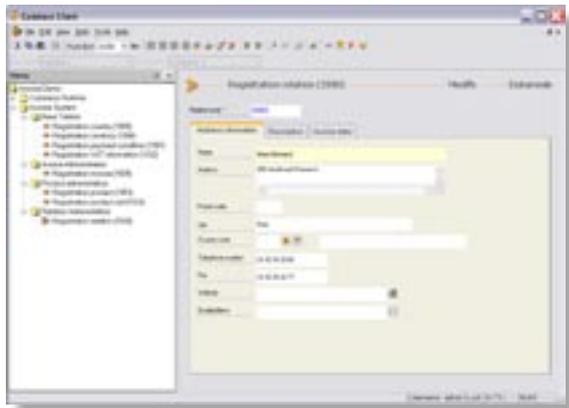
fig. 7 Client
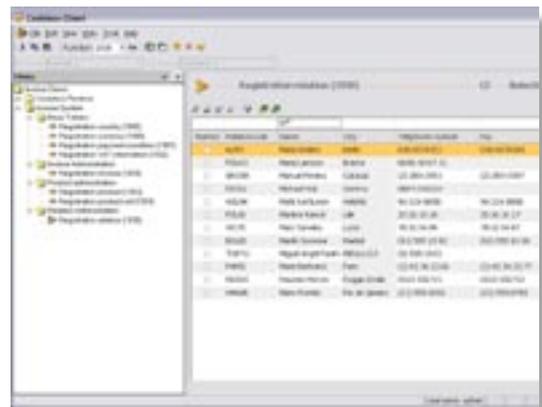
fig. 8 Client selection screen

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Who is Codeless for?

'The free version of Codeless offers all the features that small applications need..'

Codeless has been designed for use by application developers looking for Windows-based RAD software. Because it's so easy to learn and use, it is powerful enough to create entire Enterprise Resource Planning (ERP) solutions. It also allows creation of small applications for home use.

Codeless can run on a single computer or on a network with multiple servers. The free version of Codeless offers all the features that a small application needs, while the Standard and Enterprise version offer advanced enterprise functionality.

The value proposition that Codeless offers enables IT companies or IT departments to reduce the cost of development to a minimum and significantly increase productivity.

As a CEO

Do you want to create an application using a development tool that will save up to 90% of the costs? Do you want to use a new development environment that enables creation of high quality software at low cost?

Codeless offers

• Cost reduction and production efficiency;
• Free development environment;
• Quick and easy software development;
• Modern look and feel for applications;
• Shorter time to market;
• Higher profits.

As a CIO

Do you want to help your employees work efficiently? Do you want them to do more in less time?

Codeless offers

• The ability to do the same amount of work in less time;
• Keep software documentation up-to-date;
• Modern look and feel for applications;
• Shorter time to market;
• Quick and easy software maintenance;
• Model to application without programming, just push a button;
• High scalability.

As a Developer

Are you tired of repeatedly having to develop the same dull functionalities? Do you want to keep the software documentation up-to-date easily and automatically?

Codeless offers

• An UML and MDA-driven development tool;
• Model to application without programming, just push a button;
• Inclusion of all standard features;
• Up-to-date application documentation;
• High scalability;
• Standard export to Biztalk, Office, Acrobat Reader, Crystal Reports, and other applications.

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About Codeless Technology B.V.

Located in Dordrecht, the Netherlands, Codeless Technology B.V. is a young, dynamic company started by Impuls IT B.V.. Impuls IT has more than 15 years of experience in developing standardized and custom-built ERP systems for the international wholesale trade market.

Together with Impuls IT, Codeless Technology B.V. has produced Codeless, which offers an unique solution for developing software quickly easily.

Do you have any more questions or would you like more information?
Please send an e-mail to: **info@codeless.com**

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