SAG Vision

photo: Consist

The Vision for modernization of well tried applications has already become reality.

Java and Natural on joint path to the future

Revolution in Natural Development: The Vision Becomes Reality

By Michael Voelkel

For more than two decades, Natural software developers have only wanted one thing: a complete, modern Natural development environment (IDE). This has finally become reality, since a medium-sized company in Southern Germany has invested a significant amount in the implementation of this longstanding wish. The most important feature: The new Natural IDE is geared to today's standards, and allows Java and Natural software architects to collaborate during the software lifecycle, which profits both – as well as their employers and customers.

For more than 20 years, Natural software architect Rudi Bach and quality assurance and deployment lead Rita Aul (names changed) have had the same dream:

The future of modern Natural development in the style of Java has begun.

To be able to use a Natural environment which

- has a graphical user interface based on current standards, including appropriate development support (today eclipse and MS Visual Studio),
- can serve all current platforms and operating systems directly,
- includes a team-capable version control effective beyond Natural's boundaries,
- enables the central configuration and distribution of all components belonging to a client/server application on all participating platforms and systems,
- frees developers from the outmoded restrictions of Natural's early days, and
- can be operated at acceptable cost.

Every day, Rita and Rudi eye their "Java colleagues" with envy, using their power open-source Eclipse IDE to put together classes and packages with short cuts, or, better, to build in large parts of their IDE. And if that wasn't enough, the checkin/checkout mechanisms are also controlled in a team-oriented manner with version control. It hurts when the "Java experts" can only smirk about the "hosties". Because Rita and Rudi know what Adabas and Natural can do. Their "OO" colleagues would be astonished, if they had any interest at all in looking into Natural Studio. But how do you get the OO people to do that?

The vendor of Natural and Adabas, Software AG in Darmstadt, has updated the Natural development environment in the past few years. This was generally at the behest of the SAG user group, but was only partial in many cases and was somewhat risky for customers. Any customer who worked with "Natural New Dimension," "Natural Light Storm," "Natural for Windows," or "Natural Studio" can tell plenty of stories. The implementation of the "Natural Development Server" for direct editing of source code on different platforms, based on Windows, is moreover a relatively costly proprietary solution.

Version control and deployment were only available on a few platforms and left a lot to be desired.

Rita and Rudi – wake up! Your dream has become reality! One developer had the same dream as you and was continually frustrated, until one day he realized: If you want something done right, you simply have to do it yourself. He implemented the ideas of many Natural software developers, and today he is the CEO of the fast-growing company "innoWake", which together with Consist is making this dream a reality for customers.

The magic word is „**maxenso**".

Maxenso stands for „**max**imum **en**terprise **so**lutions" and offers you a coherent, comprehensive concept and powerful tools to modernize your software development and your familiar applications (see box on pp. 30/31).

photo: innoWake

Thorsten Bernecker, CEO of innoWake, has made a long-standing dream of all Natural developers become reality.

That modernization includes the transition from a legacy application to a model-driven or even a service-oriented application.

You're simply going to have to see what can be done based on the "maxenso suite," in order to believe that you're not still dreaming. Please feel free to schedule a presentation with us.

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Invoice Auditing Project

By Bernd Schädlich

The Bartels-Langness enterprise group (Bela) is one of the 15 largest grocery trading companies in Germany, and has relied on Consist Software Solutions in IT projects for many years. In their current project for the modernization of their invoice auditing application, managed jointly by Consist and innoWake, this trading company is using the following tools from the maxenso product family: soaconnector, applicationbuilder, and natclipse.

For our customer Bartels-Langness, one presentation meeting was enough to see that the "maxenso" concept is sustainable for their future Natural development. The project "Invoice auditing" is already making an impressive demonstration of that assessment.

Initial situation

Bela has the challenge of meeting the modernization needs of their own inventory management portal. The inventory management portal supports ordering, delivery, and invoicing processes with custom applications, largely written in Natural.

Project team at Bela, from left: Gisela Marezoll-Scheer, Andrea Punger (both Bela), Bernd Schädlich, Christian Lichtenberg, Frank Matzner (all Consist), Martin Scheer (Bela)

Soon to be completed, the project addresses this modernization need and provides a technical basis for efficient, model-driven devel-

opment and maintenance of future applications.

Feasibility

The internal IT department is responsible for maintaining these applications and for adapting them to the day-to-day needs of the business departments and business partners. There is a correspondingly large reserve of experience and knowledge available in the Natural area. However, modernization of the applications has been hindered by insufficient availability of resources. In particular, developers with knowledge of modern, Java-based development of client applications were not available.

Bela examined different solution approaches from different providers. Only the one suggested by Consist proved suitable, since only it took the special requirements of this special starting situation into consideration. So it is particularly important to provide a reliable demonstration of feasibility along with the modernization concept.

Requirements

Bartels-Langness has strict requirements for a software development concept:

- In particular, a short development time is a necessity for the creation of new functionality and the adaptation and maintenance of existing functionality.
- Moreover, simplified software distribution and an easy-to-use, easy-to-learn development environment are desired.
- It is necessary to show that the desired result can be achieved in a limited timeframe and with reliable scheduling, and that it will cover all functional and company-specific requirements.

Independently of technology and platform, the Natural programming language can still be used for new development and maintenance, and with significantly extended scope of performance.

Solution

The basis for these capabilities is model-driven software development, which implements a strict separation of technical information in the model from the technologies used by the generators.

Largely automated modernization can now integrate existing Natural services into user interfaces easily, and the application receives a new, more modern layout. Using innoWake tools, Consist is also building a generic framework for the efficient, model-driven development of future applications.

The modernization concept specifies that initially only one application in the inventory management portal, the invoice auditing, will be given a new, more modern layout, while integrating the existing Natural services. Using innoWake tools, Consist is also developing a generic framework and providing a modern development environment.

The business logic remains in the adapted Natural system. All plausibility checks are performed there, with only trivial checks (e.g. required fields) and the display of error and result messages being the responsibility of the client. Authorization and personalization included in the client framework contains information about permissions and display options set for each role in the Natural system.

Advantages

Bela gains the flexibility to continue to use the Natural programming language for the new development and maintenance of their applications, independently of technology and platform but preserving their existing knowledge and experience, however with a significantly extended scope of performance:

- Modernized user interfaces are not simply visually more attractive, but offer the user increased benefit and operating convenience.

SAGVision

- Applications will be able to integrate more specialized requirements, because fewer technical restrictions will apply
- The modern user interface offers more technical possibilities, e.g. editing with drag
- and drop, and dynamic table sorting.
- In addition, automated, model-driven modernization offers significantly increased efficiency in the development of modern user interfaces.

If your company also has impending modernization or development projects, we will gladly provide you with our know-how and experts within the framework of our SAGVision offer. We can also offer you a complete quotation including licenses for these projects.

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The maxenso Tool Set

natclipse & Co.

With natclipse, you can develop Natural applications in the Eclipse environment. That opens up the world of modern, convenient Natural development. Features like the use of open-source version control or automatic code generation increase the quality and productivity of your applications. Version control is normally the central point of a natclipse development environment. This includes a different procedure from Natural team development as has been practiced to date, and it provides significant quality advantages. Natural development can now use the principles and procedures trusted for years in Java development. In contrast to "Natural for Eclipse" from Software AG – a product which, by the way, includes natclipse components by innoWake – natclipse generally uses no Natural Development Server and is no longer subject to conventional Natural restrictions (e.g. 8-character module names, lack of library subfolders), so that natclipse is both more cost-effective from a licensing standpoint while still being a significantly more capable and QA-compliant product in comparison with "Natural for Eclipse." So natclipse is clearly the better choice. It has proven its worth in the field many times over and is, moreover, entirely ready for the future, since it uses only standard Software AG User Exits for communication with the Natural Server.

adaclipse

adaclipse provides developers the option of searching Adabas-C databases in an ad-hoc manner with an SQL explorer – easily and conveniently from Eclipse. Reports are available at the push of a button, and can be saved and run again at any time.

maxenso

natanalyzer

natanalyzer is a source code analysis tool which gives you an overview of the complexity of applications, unused code, references, utilization of UI and DB, and modularity. This allows you to improve the quality of your code automatically and systematically. Moreover, your developers are supported in migration scenarios and in service encapsulation.

lifecyclemanager

With the lifecyclemanager for Natural applications and non-Natural applications, you can structure and optimize your entire development cycle from the first draft to production, across a variety of different platforms and systems. This role-based solution administers the entire software lifecycle in a clear, transparent manner, ensuring long-term availability. You get an overview of versions and development processes. Program code is revision-safe, and versions can always be reconstructed.

soaconnector

The soaconnector connects applications and components with different programming languages, technologies, and platforms, from Windows systems to mainframes like z/OS. Both synchronous (RPC) and asynchronous (messaging) calls are supported. Modern technological components based on Web services, XML messaging, and .NET can easily be integrated into your existing software systems. The soaconnector manages both session handling and load balancing. In particular the support for session handling saves a great deal of development work in comparison with competing tools such as EntireX by Software AG.

applicationbuilder

The applicationbuilder is a flexible development tool for model-driven software development. With a focus on business requirements, executable applications are developed precisely and rapidly, with an extremely high proportion of generated code. Thanks to the technology-independent concept, your IT is always ready for future developments on the market. Technologies can simply be replaced as needed. Investments in business logic, generally subject to fewer changes, are preserved. For instance, the user interface is generated 100% from the model, either as a Rich client (Java) or Web client (AJAX). If technologies like Flash or AIR by Adobe, Silverlight by Microsoft, or Java FX by Sun win out in the future, then nothing more than a corresponding generator will have to be implemented for applicationbuilder for the user interface to be generated to the state of the art from the existing model.