

## THE IT-ARCHITECTURE PROFESSIONALS

## ff-eCommerce Software Completely Redesigns Complex ERP System with ArcStyler

### Customer/Industry

ff-eCommerce Software, Frankfurt  
ERP software vendor, ASP

### Application

ERP system, Web-based, fully  
OS-independent, complete  
redesign of existing application

### Business benefits

Time-to-market of redesign  
extremely short; valuable business  
domain expertise could be fully  
re-used; completely Web-enabled  
for operation without additional  
software on client systems;  
full independence of proprietary  
technologies and specific vendors

### Software

ArcStyler, Rational Rose, POET Fast  
Objects, Tomcat, Borland JBuilder

The introduction of ff-eCommerce in 1988 as a small business application for Apple computer dealers marked the beginning of a success story. As the story unfolded, the system developed into a platform-independent, comprehensive ERP application for medium-sized retailers and wholesalers as well as service providers. Following the migration to a new version, a great number of ff-eCommerce installations today control sales and distribution as well as purchasing and warehouse management in addition to serving as the bridging element between Web shops and logistics. For example, the system is used by Cancom IT Systeme AG, Europe's largest Apple distributor. And one of Europe's leading publishing houses runs its Web shop via ff-eCommerce's SOAP/XML interface.

In order to secure their solid standing on the market and to keep pace with the rapid developments, ff-eCommerce Software AG decided to completely redesign its application.

Says Development Manager Ekkehard Gentz: "Our objective was to have full business continuity. After all, one of our most valuable assets is the business and process knowledge. But many of the new features the market required could not be implemented within the framework of our existing development infrastructure and with the technologies we had used so far. At least not at reasonable costs and within a reasonable timeframe."

*"ArcStyler's Model Driven approach saved my entire project schedule and budget by allowing us to automatically migrate to a completely new infrastructure just by swapping the ArcStyler cartridge. We were up and running again with our ERP/ASP solution on a completely new infrastructure within days. Thanks to the power of ArcStyler, we are independent and in control - the best decision we've ever made."*

Ekkehard Gentz  
Development Manager of  
ff-eCommerce Software

### ArcStyler replaces Omnis 4GL RAD tool

The previous versions of the system had been developed under Omnis. While this allowed for fast application development and sophisticated GUIs, it implied all the drawbacks that go along with a proprietary solution, a lack of open interfaces and a native, non-scalable database. Instead of trying to keep adding functionality to a technology that might be outdated soon, Gentz and his people decided to migrate their business and process know-how to a new technological foundation and IT-architectural framework.

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## Model-driven approach separates business design and implementation

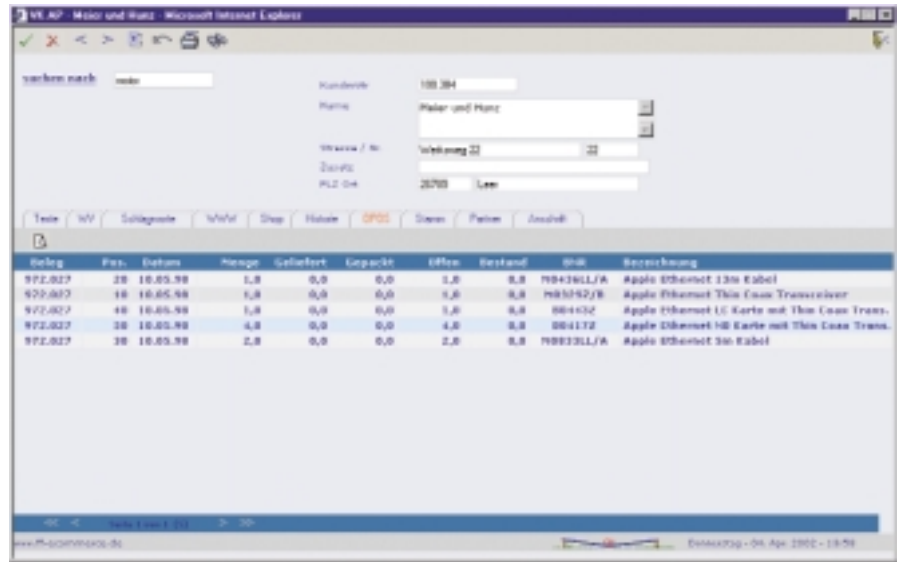
ff-eCommerce Software decided to use a fully model-driven approach in the redesign of their system. The company chose ArcStyler for a variety of reasons. "First of all, ArcStyler supported us along all stages of a completely model-driven approach. Our prime objective was to keep the business logic of our system in a technology-agnostic model that can be projected to diverse implementation technologies – whenever they may come," explains Gentz. This model documents the business logic in a standardized, easy to understand way, making the business-critical knowledge transparent and available without coupling it to any specific implementation technology.

## Automatic code generation as a decisive ROI factor

As the ArcStyler is a complete architectural IDE, it supports the entire development cycle from the automatic refinement of the business model into UML models at various levels of detail and the automated generation of components all the way to testing and deployment. "A model-driven approach with intelligent code generation at different levels was the only solution that made sense," explains Gentz. ArcStyler provides cartridges that generate optimized code for IBM WebSphere, BEA WebLogic and other application servers. The ArcStyler Cartridges use a completely open format so that the generation engine can be adapted as needed by the customer. ff-eCommerce customized its Cartridge to account for their highly specific requirements. And the company took full advantage of the ArcStyler's Web Accessor framework. Designing the GUI turned out to be easy, and the generation of the corresponding components was performed automatically by the ArcStyler.

Concludes Gentz: "Our system became independent of specific manufacturers or technologies. Our architects and developers really enjoyed the feeling of being able to revise, for example, the decision for the application server without automatically incurring technical or financial disaster. And the best thing is: we still have all the options, we are completely flexible."

Another great benefit in the project is the fact that the model-driven, generative approach automatically ensures IT-architectural coherence across the entire development process. Whatever is modeled, is generated automatically, i.e. the code is a direct representation of the model. Verifiers control the consistency of the models at the various levels of detail. Says



Gentz: "There was no need to develop the thing just to find out something in the blueprint did not work properly. ArcStyler offers full end-to-end impact analysis."

## Adding Web Services easily

The full potential of the model-driven approach became apparent when ff-eCommerce needed to add Web Services to the application. This did not require changes to the model, but only a different technology projection, i.e. something that could be done by the generator. Now, ff-eCommerce features a SOAP/XML interface for powerful Web shops.

## Automated Generation of Test and Build Environments

The short time-to-market could also be attributed to ArcStyler's capabilities within the framework of automated testing. "Automated unit testing is one of the essential foundations of our development process. We use JUnit, the test classes can be generated with ArcStyler, and the call of the test ANT can be included, so that night-builds are possible," explains Gentz.

## ArcStyler and Rational Rose as a perfect development team

ArcStyler integrates best-of-breed tools into an efficient IT "machine shop", an Architectural IDE. "ArcStyler added so much power to Rational Rose. First of all, it provided the architectural framework for the whole environment. You don't really integrate ArcStyler in Rose, but vice versa", explains Gentz. ArcStyler complements the UML data that are created with Rose with the generative capabilities that really automate the process. Without turning the UML repositories into proprietary black boxes,

ArcStyler provides bi-directional impact analysis, mapping and generation.

ArcStyler's approach adds architectural capabilities to round-trip-engineering (RTE) while removing the significant disadvantages of RTE. "ArcStyler manages several levels of UML model-to-model transformation up into the domains of business and process modeling. This is something Rational Rose by itself is not capable of. And it was one of the features that really boosted productivity in the project," outlines Gentz.

## Maximum flexibility for a future-safe system

The new application is independent of specific technologies in several ways. The business logic has been separated from the implementation technology. The generative approach of the ArcStyler allows for the mapping of the platform-independent business model to different platform-specific models and the generation of optimized code for different platforms, thanks to the Cartridge technology.

"This gives our ERP system the competitive edge in the area of technology that it already had in the area of ERP expertise. We can use the ArcStyler to deliver the advantages of MDA into any IT environment required by our customers, including existing systems, CORBA or C++ infrastructures, not just new developments with Java and J2EE – exactly the kind of flexibility we had expected from an architectural IDE," concludes Gentz.

