DELTA software technology

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Content

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100% Automation of Mass Changes Enables New Test Strategies

100% Automation of Mass Changes Enables New Test Strategies (Rüdiger Schilling)

How can you lower the error ration for mass changes? Under which conditions and how far? How can you deduce the risks for the productive systems? What are reasonable organisation strategies?

In large change projects testing is one of the biggest cost increasers. Mass changes at productive applications are necessary for migrations, the fulfilment of legal requirements, architecture consolidation, modernization and for specific extensions like UNICODE and many other projects. These mass changes have different requirements on tools and proceedings than "normal" development projects. Outsourcing as well as the development of your own tools could spare a part of the cost for the changes. However, both approaches do not help to take the biggest hurdles - the test.

But, automating the changes completely - 100% - enables you to slash the error rates (down to nearly 0). The fully automated implementation of the changes opens up new possibilities for the project organization, that drastically reduces the test efforts and risks of such projects.

Note: This article was originally published in German. We will be posting the English translation shortly, so check back soon. Thanks!

Download article on "100% Automation of Mass Changes Enables New Test Strategies" (PDF - only available in German!)

Source: OBJEKTspektrum Special Edition Testing 2009

3. IIR-Fachkonferenz: Software Testing

Find more here: 3. IIR-Fachkonferenz: Software Testing Management

OOP 2007: 22. – 26. January, Munich (german)

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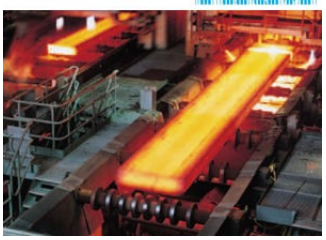
Hüttenwerke Krupp Mannesmann Automates Service Development with Delta

SCORE Adaptive Bridges Generates Bespoke Data Services



The Hüttenwerke Krupp Mannesmann (HKM) has decided to implement SCORE Adaptive Bridges from Delta Software Technology, announced today the software vendor that specialises in generators. The development tool will be used in the "Steelworks Online" project to automate the service development. The "Steelworks Online" project covers the complete administration and control of the core steel production process.

Over the years HKM has developed a comprehensive application system that is an exact fit for their needs for the administration and control of the production process. These applications are now being modernized and extended to make the important core functions available as services for flexible use in a wide range of tasks in the future. As part of this project workflows that were partially controlled manually will now be automated.

The first step is developing services for data access. All of the production data required by the "Online Steelworks" project is stored in an IBM Informix database running on 64-bit Prime Power servers from Fujitsu Siemens under Sun Solaris. HKM will generate approximately 450 data access servers with SCORE Adaptive Bridges to manage all aspects of data access to the production data.

The required data access services are defined with SCORE Adaptive Bridges based on the existing data structure definitions, using simple platform-independent definitions.

The generated services exactly fulfil the requirements of the client applications. Thanks to the generative development approach the design of the applications and the construction of the application architecture are independent of the technical details of the implementation of the services. The generation simplifies and accelerates the development process. Changes can be made more quickly and maintenance costs reduced.

HKM has been using Delta's development tools for more than 25 years and has already completed 11 projects with a predecessor product to SCORE Adaptive Bridges. Example projects include:

- A long-term archive of production statistics
- An interface between the steel works and raw materials planning
- An administration system for transport systems within the plant
- A shipping logistics system in co-operation with the port of Rotterdam.

*"The complete platform-specific access code is completely – and that really means 100% -- automatically generated by SCORE Adaptive Bridges and made available as bespoke services for the selected platform", **explained Rüdiger Schilling, founder and CTO of Delta Software Technology, the way of working with SCORE Adaptive Bridges***

***"Gerhard Batiajew, CIO at HKM justified their choice of the Delta product:** "One of the key reasons we have selected SCORE Adaptive Bridges is that we can make our mission-critical applications available as services that we can quickly and easily reuse – without any extra effort – in other contexts, for example in a Service-Oriented Architecture, Enterprise Portals etc."*

Delta worked closely with RDW to analyse the existing development processes and to configure SCOUT² to support RDW's unique requirements.

These projects have already demonstrated the substantial value of generative tools for application development. For this reason HKM has once again decided in favour of Delta.

About SCORE Adaptive Bridges

SCORE Adaptive Bridges is an intelligent development tool that uses software generators to automate the development of services. SCORE Adaptive Bridges generates platform specific implementations of the service components from platform independent specifications, based on the OMG concepts of Model Driven Architecture (MDA) and Architecture Driven Modernization (ADM) – as a clearly layered architecture, in native source code for the selected platform, and all fully automatically.

SCORE Adaptive Bridges can build on every level of the application architecture, forming bridges between different architectures without having to throw out the existing structures

SCORE Adaptive Bridges helps to make mission-critical COBOL applications quickly and securely available as Adaptive Services for new application contexts within a service-oriented architecture. The generative approach guarantees that the services are able to easily and consistently adapt to the continuously changing requirements.

About HKM Hüttenwerke Krupp Mannesmann

Hüttenwerke Krupp Mannesmann's plant is located in Duisburg, the steelmaking heart of Germany's Ruhr industrial region. With its 3,250 employees, the company produces more than five million tonnes of steel there each year, equating to approximately every 8th tonne of crude steel produced in Germany.

Since its formation in 1990 by Krupp Stahl AG and Mannesmannröhren-Werke AG, HKM has increasingly specialized in the production of slabs for flat products and in steel rounds for tube-making. The range produced thus corresponds predominantly to the needs of the present-day shareholders – Thyssen Krupp Steel AG (50%), Salzgitter Mannesmann GmbH (30%) and Vallourec & Mannesmann Tubes SA (20%).

HKM produces more than 1,000 different grades of high-quality steel that meet the most stringent quality specifications, for example, those demand by the automotive industry.

More Information: www.HKM.de

About Delta Software Technology

Delta Software Technology is a specialist in generative development tools for the integration and modernization of COBOL applications.

Delta's generative solutions bridge the gap between legacy and modern technologies, creating value from an ever-changing world by building applications that quickly and securely adapt to changing business requirements, technical infrastructure and available resources.

As "The Generator Company", Delta combines its standard products, core technologies, latest research results and focused professional services to deliver bespoke generative solutions that automate and optimize integration and modernization projects.

Delta has a 30-year track record of successfully delivering advanced software generator technology to Europe's leading organisations, including AMB Generali, AXA, Deutsche Telekom, IDG, La Poste, RDW, Schorch, Suva and UBS.

More information: www.delta-software.com

Source: openPR, 24. May 2006

Services – Where To Get Them? Generating Is Better Than Programming

Generating Is Better Than Programming

Plug & play for IT functions – company wide or even extending beyond company limits – are intended to

support business processes more effectively. Reusing existing applications, functions and data within a service-oriented architecture is the key to success. The question is: where and how to get flexible services without putting at risk the stability and integrity of the existing applications? The age of handcrafted solutions is over: efficient Service Enablement for large applications calls for automation using model-based generators.

Source: OBJEKTspektrum SOA Newsletter 03/05

Download article on "Services – Where To Get Them?" (PDF)

RDW Modernizes IT with Delta

Dutch Centre for Vehicle Technology, Approval and Information Gains Platform Freedom with SCOUT² from Delta

Delta Software Technology, a leader in advanced software generators, today announced that RDW, the Centre for vehicle technology, approval and information in The Netherlands has gone live with the SCOUT² Development Platform for multi-platform application development.
RDW has decided to modernize their application architecture. There are currently more than 13,000 application modules deployed on a Unisys mainframe running OS 2200. As the first step in the new strategy, RDW has now successfully implemented the SCOUT² Development Platform from Delta Software Technology, off-loading development from the mainframe onto PCs.

RDW maintains details of the 7 million vehicles registered in the Netherlands, as well as all drivers' licenses. Around 1 million vehicles and 1.7 million licenses are added or changed each year. Hence, most of the 16 million Dutch residents come into regular contact with RDW.
RDW has responsibility for technical standards, vehicle approval, annual vehicle inspections, safety and environmental monitoring, and so must quickly respond to changes in the rapidly evolving Dutch and EU legal frameworks.
The extensive SCOUT² scripting language allowed RDW to quickly and reliably implement their processes. SCOUT² processes are platform independent, transparently supporting the move from the mainframe to a new platform. The 45 developers at RDW ICT are now free to focus on business requirements and do not have to worry about the technical issues of the deployment platform.

Delta worked closely with RDW to analyse the existing development processes and to configure SCOUT² to support RDW's unique requirements.

As a long-term user of Delta's COBOL application generator ADSplus, RDW is ideally positioned to move to a new architecture. RDW ICT and Delta are already working on the next step, using Delta's generative transformation tools to remove any platform-specific logic that has crept into the applications over the years. RDW will then be in the happy position of having total freedom to choose their new platform and architecture.

About SCOUT² Development Platform

SCOUT² ends the "fight against the infrastructure." The flexible and extensible development platform offers a consistent, seamlessly integrated platform-independent view of the organisation's diverse portfolio of platform-specific development, test and deployment systems and technologies.

SCOUT² is the ideal tool for development teams that need a consistent approach to developing, integrating and supporting a range of different platforms, technologies, custom and standard application solutions.

SCOUT² runs on Microsoft Windows and integrates all tools across the complete management of the application life-cycle. It supports all current development, deployment and host platforms, connectivity products and CCM systems. The architecture supports in-house, outsourcing and offshore development. SCOUT² is easy to install and arbitrarily scalable. It is especially suitable for large projects in multi-platform environments.
More Information: www.delta-software.com/SCOUT2

About RDW

Since 1949, RDW has ensured that road transport in the Netherlands is as safe, clean, economical and orderly as possible. In this regard, RDW implements diverse legislative tasks commissioned by various ministries. In its provision of services, RDW follows the entire lifecycle of vehicles: from the development of vehicle categories to end-of-life disassembly.

The products and services of RDW arise primarily from four related core tasks: Admission, supervision and control, registration and information provision, document issue.

Dirk Meyer, *responsible for professional services at Delta, recalled "RDW works within a demanding legal framework and it was a challenge to support all of their development processes." He continued, "The SCOUT² Development Platform was always up to the job. We defined all the processes. It was never necessary to bend RDW's existing processes to fit the tool."*

""With the successful migration of our development environment we have taken the decisive first step to modernizing our application portfolio", observed ***Gerard Doll.*** *"The co-operation with Delta has been convincing. We are pleased to now be working with Delta on the next steps."*

As an independent governing body (IGB), RDW is a non-profit authority governed by public law. In general terms, RDW is accountable to the Minister of Transport, Public Works and Water Management for its functioning. However, RDW bears sole responsibility for the implementation of its tasks. For this reason, RDW also finds it important that it is accountable to the wider public in general and to its direct clients in particular for its chosen working method.

Through consultation and cooperation with all the parties involved (the public, industry and government), the RDW aims to continuously optimise its service provision and, if possible, align these services to the wishes of both public and private parties.

More Information: www.rdw.nl

About Delta Software Technology

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Known as "The Generator Company", Delta combines its standard products, core technologies, latest research results and focused professional services to deliver bespoke generative solutions that automate and optimize integration and modernization projects.

Delta has a 30-year track record of successfully delivering advanced software generator technology to Euro-

pe's leading organisations, including AMB Generali, AXA, Deutsche Telekom, IDG, La Poste, RDW, Schorch, Suva and UBS.

More information: www.delta-software.com

Source: Delta Software Technology, 11. July 2005

Model-Driven Generator Development

The Foundation of Delta's Successful Software Generator Products

Delta Software Technology is a leader in advanced software generators. Apart from pure automation, generators are especially useful to implement different levels of abstraction. For this reason the implementation of software product lines and domain-oriented interfaces is definitely a subject at the centre of current discussions. In practice, there is no alternative to a model-based approach to achieving more economic software development.
Delta has a 30-year track record of successfully delivering advanced software generator technology to Europe's leading organisations. Building on this experience, Cord Giese and Rüdiger Schilling have written an article called "Model-Driven Generator Development" that provides a comprehensive overview of the subject.

The article is published in the 03/2005 issue of the German-language professional journal OBJEKTspektrum. As a real-world example for the support of model-driven generator development, it presents the HyperSenses technology developed by Delta.

But first things first – what exactly is the motivation for the model-driven development of generators?

Why Model-Driven Development of Generators?

Within the area of software development, generators are used to automate programming tasks and to implement higher levels of abstraction. While "automation" is the core task of any generator, it is at the implementation of higher, domain-oriented abstraction levels that the wheat is separated from the chaff!

Such generators no longer are simple filters or converters, but are adapted for an application domain or – in the ideal case – are adaptable. The increased level of adaptability is accompanied by an extension of the potential usage area – therefore, a maximum of adaptability is the goal.

Another goal is the reduction in the effort for a generator's implementation. The ideal case would to avoid entirely manual programming. Therefore, tool support is necessary, support that also provides a platform for the required domain orientation.

A clean definition of the variabilities implemented by a generator is a pre-requisite. This is usually defined by variability models, which can be constructed using a range of techniques. The FODA (Feature-Oriented Domain Analysis) method or the OMG UML may be used for this task, for example.

If a variability model has been defined, it could serve as a platform for the definition of configuration elements as well as for the definition (not programming!) of fragments of source code that are to be generated. At this point it is quite important that several views for the configuration data of a generation are provided – the source code to be generated is only one, among many others. In particular, the required domain-oriented views may also be implemented.

HyperSenses™ Technology

At the centre of these concepts is the clean separation of the variability model, the configuration data and the different views on them. This approach leads to a strictly model-based process, which is outlined in detail in the article by means of an example of Delta's HyperSenses technology.

HyperSenses implements the concepts of Intentional Programming where a domain specific language is used to specify the problem to be solved. Instead of storing this program as syntax in a text file it is stored as a model in a repository. A number of different views are then available to define, maintain and understand the specification. Such views include textual, semi-graphic and graphical.

Altogether it is notable that the development of generators has become a subject area in its own right in the meantime. The appropriate techniques are continually advancing. Model-based concepts mark the summit of this trend for the present. To get more detailed information please read the article.

Download article on "Model-Driven Generator Development" (PDF)

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Source : OBJEKTspektrum, 03/2005

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