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SCORE® Adaptive Bridges™

Faster ROI Through Automatic Integration of the Back-End Systems

SCORE Adaptive Bridges from Delta Software Technology – Clearing the hurdles to enterprise portal projects

Irrespective of the proven benefits, many organisations are holding back from enterprise portal projects due to the many apparent hurdles. SCORE Adaptive Bridges from Delta Software Technology increases the cost effectiveness of portal projects through the quick and easy integration of the back-end systems. This white paper presents the key challenges that arise with enterprise portal projects and shows how SCORE Adaptive Bridges solves these problems.

Management Summary

Faster ROI for enterprise portal projects through automatic integration of the back-end systems with SCORE Adaptive Bridges.

The advantages of portals can be summarised succinctly in a few words: user friendlier, cheaper and securer. Many organisations, however, are holding back from enterprise portal projects. SCORE Adaptive Bridges from Delta Software Technology clears the hurdles to portal projects through quick and easy integration of the back-end systems.

The following factors have emerged as being crucial to the success of enterprise portal projects:

- Implementation within Budget

- Reduced Risk in Selecting a Portal Product

- Easy to Integrate Back-End Applications

- Easy to Adapt to Business Processes

- Cost Effectiveness

SCORE Adaptive Bridges helps to clear the hurdles that currently stand in the way of successfully achieving enterprise portal projects, and to maximize the return on existing investment. At the same time, SCORE Adaptive Bridges guarantees flexibility for future developments and protects investments into the long term.

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THE CHALLENGES OF ENTERPRISE PORTAL PROJECTS

The advantages of portals can be summarised succinctly in a few words: user friendlier, cheaper and securer. Currently, the main investors in this new technology are medium to large organisations and public authorities. Their concrete goals include:

- Increasing employee productivity

- Increasing efficiency through automation

- Quicker processing of customer requests

- Improving the decision making process

- Creating competitive advantage

- Reducing costs

However, on the way to achieving these goals it is necessary to clear a few hurdles. For this reason many organisations are holding back from portal projects. According to a study from the research organisation TechConsult, up until now only around 20% of organisations have one or more portals in production.

The following problem areas were identified by the surveyed organisations as being the main obstacles to the early adoption of portal projects:

- Reduced budgets and staffing shortages

- Portal product selection risk in a developing market

- Difficult to integrate back-end applications

- Difficult to adapt to business processes

- Insufficient ability to establish cost effectiveness

In the remainder of this white paper we show how SCORE Adaptive Bridges is able to overcome exactly these obstacles.

THE SOLUTION – BUILDING BRIDGES WITH GENERATIVE TOOLS

The problems listed above are characteristic of the introduction of every new technology. Delta has made it its mission to support organisations in the introduction of new technologies through the use of generative tools. The core concept is automatically building bridges between the old and new worlds. Delta's solution in the area of enterprise portals is SCORE Adaptive Bridges.

SCORE Adaptive Bridges is the latest version of Delta's proven legacy integration technology that enables you to increase the value of your enterprise projects by reducing the cost of integrating your existing application assets.

SCORE® ADAPTIVE BRIDGES™

SCORE Adaptive Bridges enables the direct usage of legacy functionality in enterprise portals. The product quickly and simply integrates strategic legacy applications and databases into JSR 168 compliant enterprise portals, and guarantees a quick ROI. Even better, we are talking here about ROEI – the *Return on Existing Investment* – which is concerned with the return on the investment that has already been made.

SCORE Adaptive Bridges clears the hurdles and reduces the risks in portal projects to a minimum through the quick and easy integration of the back-end systems.

Delta Software Technology created SCORE Adaptive Bridges to address organisations that recognise that selected functionality from their existing mainframe COBOL and PL/1 applications is critical to their current and future business success.

These organisations have made a strategic decision to maximize their return on investment by integrating and reusing functionality from their existing applications into enterprise portals and similar high-value and high-visibility projects. They cannot wait for their legacy applications to be ported to a new platform; they need to deliver legacy functionality to these projects right now!

"SCORE Adaptive Bridges makes it much easier for us to implement new requirements and to react to changing circumstances. Our applications are now mostly platform independent and we are extending their useful lifetime. That represents real money."
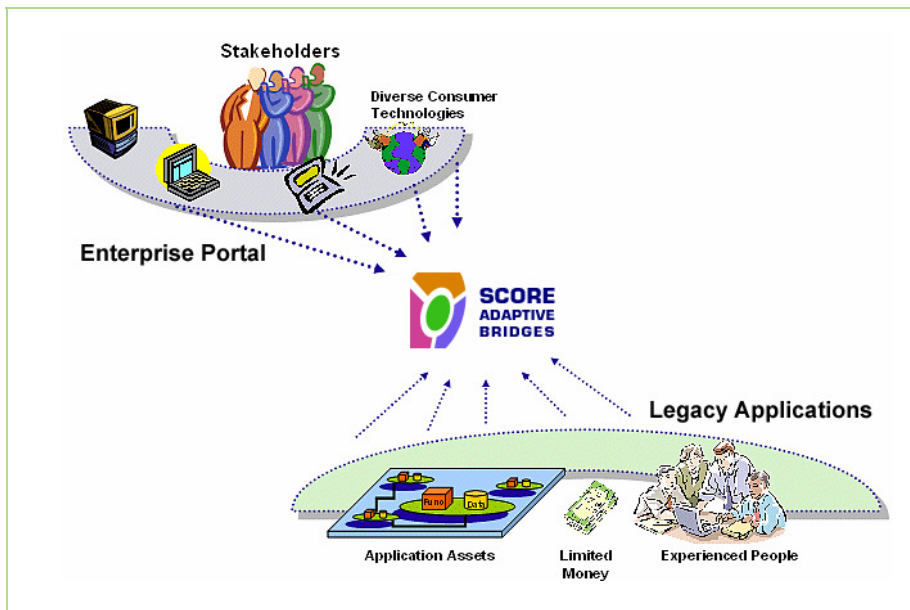
***Rainer Neuhaus
Development
Manager,
Kanton Aargau***

1. Implementation Within Budget

In this world of continual change, your enterprise must be more agile than ever with business units quickly and efficiently working together to create and exploit new business opportunities. Agility demands integrating and interoperating with external stakeholders – customers, prospects, partners, suppliers, regulators, investors, the press, even the general public.

The introduction of an enterprise portal is not an end in and of itself. Rather, the central task of the enterprise portal is the optimal support of the business processes that contribute to the bottom line. The basis of these processes can be found in the mission-critical business applications that have been developed over a period of (typically) decades. The challenge is to integrate these applications.

SCORE Adaptive Bridges enables the direct usage of legacy functionality in enterprise portals. The product quickly and simply integrates strategic legacy applications and databases into JSR 168 compliant enterprise portals and other similar high-visibility and high-value projects.

This is a daunting challenge in these times of tight budgets and given the ever-reducing number of staff that are experienced in the business and technical aspects of the existing mission-critical applications. Solving this challenge is a decisive element in the overall success of portal projects.

Two further factors contribute to make meeting this challenge especially difficult:

- The sheer volume of the mission critical applications.

- The portal and the back-end application teams have very different backgrounds and experiences. It is true to say that they really do speak "different languages" and live in "different (development) cultures."

SCORE Adaptive Bridges solves these problems with the generative approach of Adaptive Services:

- SCORE Adaptive Bridges automates the vast majority of the development work.

- SCORE Adaptive Bridges automatically creates a bridge between the old and new worlds. This applies not just to the different development technologies in the portal and back-end areas, but also to the co-operation between the different developer groups.

"SCORE Adaptive Bridges lets us 'build bridges' between the old and new worlds – without detailed technical skills in the middleware or portal environments."

Gerd Dietrich, Application Development Manager at Schorch

Using SCORE Adaptive Bridges, both sides perform their different tasks in a logical integration model. The barriers to communication are removed by abstracting away all of the technical details. It is therefore possible, on the one hand to leverage the experience of the legacy teams, while on the other hand the portlet developers can concentrate on their area of expertise – the new technology.
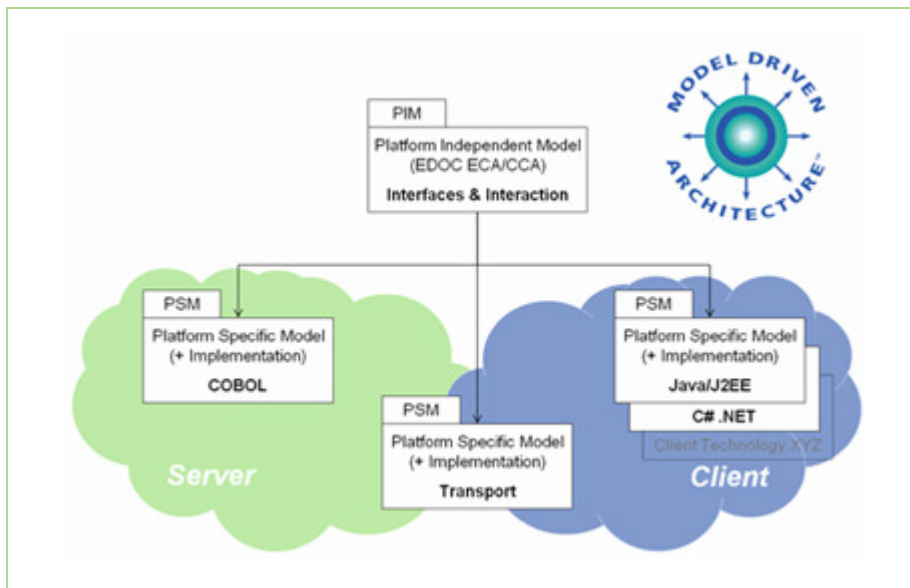
Time consuming or expensive training is not required. The complete integration code, with all the technical details, is automatically generated. In this way, even the largest projects are achievable with realistic budgets.

2. REDUCED RISK IN SELECTING A PORTAL PRODUCT

Naturally, every organisation wants to gain the benefits of the new portal technology as soon as possible. A complication, however, is that the market for portal products is still developing. It is not yet clear who will survive the inevitable consolidation in the market and emerge as the winner. Investing in a portal product is therefore potentially fraught with risk.

In this context, the generative, tool-based approach of SCORE Adaptive Bridges offers outstanding benefits:

SCORE Adaptive Bridges implements the OMG Model Driven Architecture (MDA) as applied to integration, a methodology we call *Model Driven Legacy Integration™*.

- **Methodological Basis** – With *Model Driven Legacy Integration*[TM] (MDLI[TM]), Delta Software Technology has implemented the OMG Model Driven Architecture (MDA) concept for the integration of legacy applications. The core concept of MDA is the separation of

the functionality and behaviour of an application from its system-specific implementation, as well as using generators for the automatic transformation of platform independent models into platform specific implementations. In this way, it is possible to generate an unlimited number of implementations from a single model. Model Driven Legacy Integration provides the methodological basis for SCORE Adaptive Bridges, and thereby guarantees the long term ability to integrate the applications and to secure the existing investments – fully independent from future technologies.

- **Automated Development** – Using generative tools allows the technical implementation details for the integration of the back-end systems and the portal development to be separated from the choice of the actual portal software. With SCORE Adaptive Bridges you develop platform independent (integration) models (PIMs). Generators then automatically create the complete platform specific integration code from these models.

- **Freedom to Decide** – The decision making processes for the individual system components are decoupled from each other. This is an enormous advantage as the portal and back-end systems and the associated technologies typically develop and evolve at different speeds. The decision making process for the relevant system components are influenced by different factors. For example, reducing costs through downsizing, introduction of open source products, Linux in the back-end area, or the introduction of new portal technologies to support mobile devices. SCORE Adaptive Bridges enables a flexible approach. The decision for the current best solution is not set in stone for ever – a new target platform is only a mouse click away!

"Making infrastructure decisions is much simpler due to the platform independence of the services: we create the model only once and can then produce adapters for every portal environment and every middleware at the press of a button."
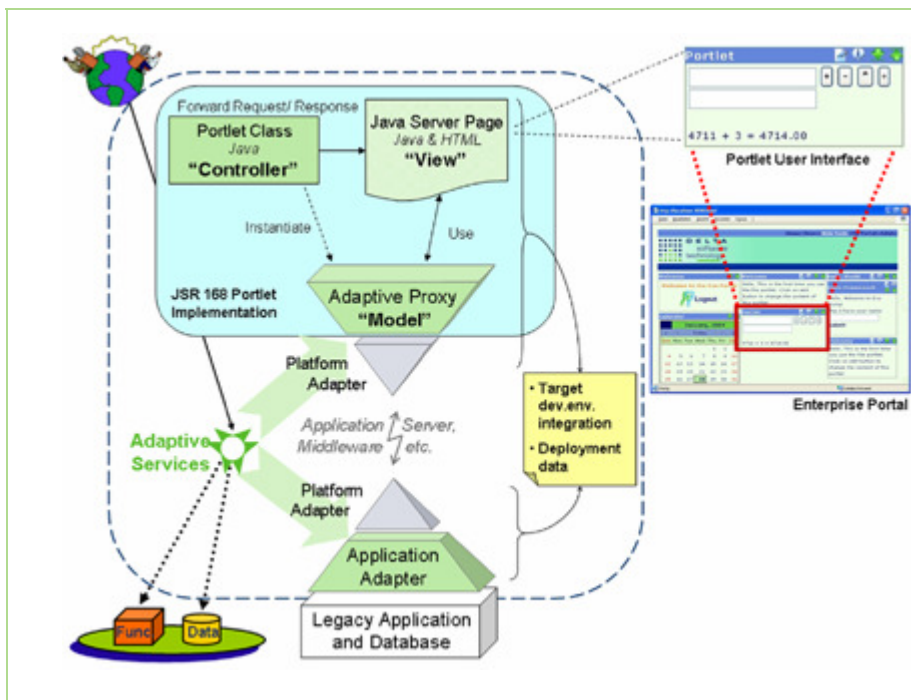
Dr. Eckhard Otto, CIO at Schorch

SCORE Adaptive Bridges reduces the risk involved in deciding for a specific portal technology. It is not necessary to try to predict today who will survive the inevitable market consolidation. Adopting a new portal provider simply means swapping the target platform for the generator. Redevelopment and a complete retest are not required.

3. Easy to Integrate Back-End Applications

Integrating the back-end applications into a portal project is a massive technical challenge. A common reason for failure is the clash between different worlds – different development cultures and technical requirements are involved. Many try to apply the development paradigms of the new world in the old, or even to bring structures from the old world directly into the new. Generally speaking, both approaches lead to bad compromises and to inefficient solutions.
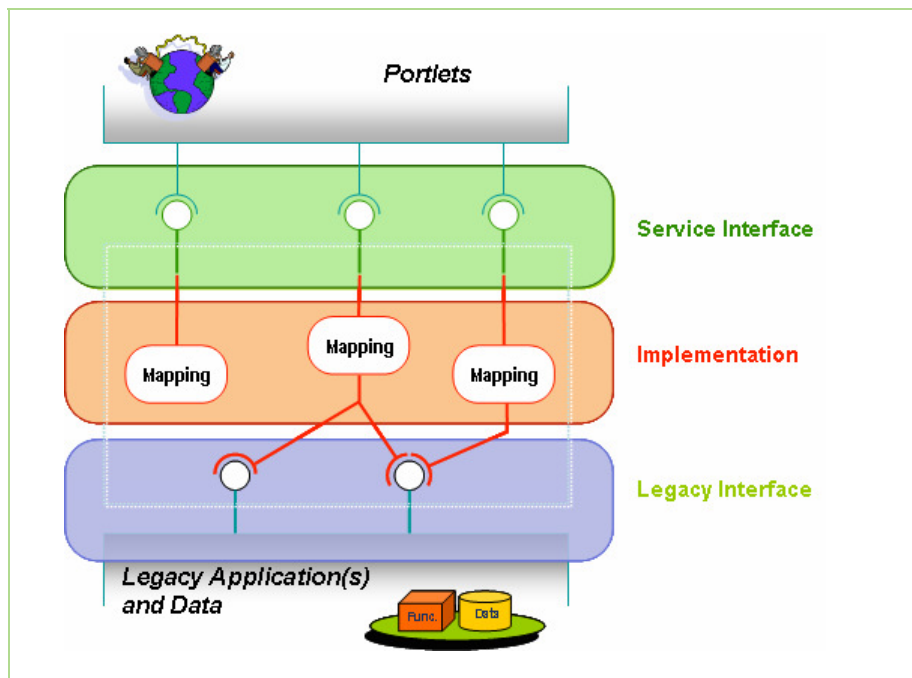
SCORE Adaptive Bridges is an open-standards based solution to quickly and easily integrate your unique and valuable legacy applications and databases into your enterprise portal project.

SCORE Adaptive Bridges solves this problem in a simple and elegant way. Instead of working at the level of the technical details, one works at a higher level of abstraction. This gives a clear separation of concerns between the specification and the implementation.

Working at the abstract level the task is to specify the requirements of the portal in terms of operations and *(usually very small)* interfaces ("Service Interface"), as well as the services of the back-end applications with their methods and *(normally very large)* interfaces ("Legacy Interface"). It is then possible to simply map both sides together ("Implementation").

By freeing the specification work from all the technical ballast it becomes possible to automate the vast majority of the integration work. The target platform specific generators take care of all the technical details of the implementation.

The integration process is therefore very simple with SCORE Adaptive Bridges. Adaptive Services are defined in a straightforward platform independent model. This model contains the specification views of the legacy server and the portal and the mapping between the two.

Building on the solid foundation of your existing legacy applications and databases, SCORE Adaptive Bridges quickly and easily generates JSR 168 compliant Java portlets able to react to evolving and changing requirements. This approach offers a number of benefits, including:

- **Native Source Code** – The complete integration code is automatically generated as high performance native source code for the appropriate server and/or portal platforms – quickly, simply, reliably and ready to test.

- **Portlets** – "Ready to run" JSR 168 Java portlets are generated.

- **Non-Invasive –** SCORE Adaptive Bridges is totally non-invasive. No changes are required to the existing applications.

- **High Productivity** – Numerous automation features simplify working with the integration model, accelerating development.

- **Simple to Learn** – The learning curve is very short and shallow. Nobody has to be concerned with the technical details of the platforms that are being used.

- **Common Understanding** – Portlet developers and legacy developers are working at a higher level of abstraction and so are able to speak a "common language."

"After only a few steps I could already imagine the structure of the complete integration project."

Gerd Dietrich, Application Development Manager at Schorch

- **Incremental Approach** – The teams can work on an incremental basis, where tasks can be performed independently of each other and so worked on in parallel.

- **Simple to Test** – The functionality of the application can be immediately and simply tested using the automatically generated, fully functional, interactive test portlets.
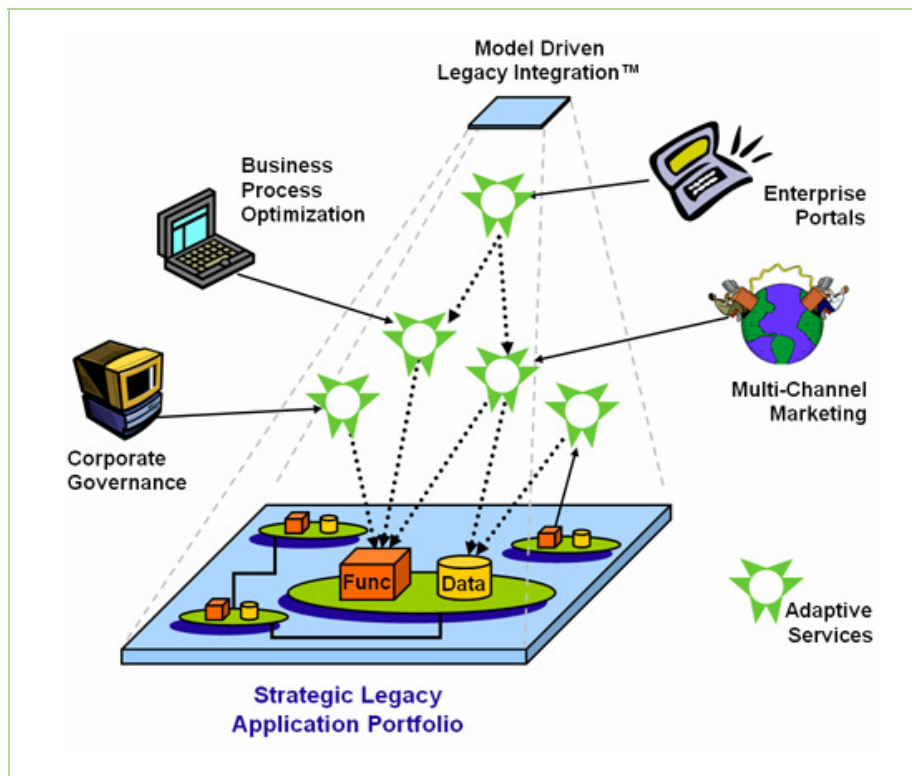
With SCORE Adaptive Bridges there is no need for top-heavy modelling. The developer does not have to deal with raw interfaces, there are no middleware complications and no changes are required to the existing applications. Installation and learning are easy and Agile/RAD approaches can be used. Open standards avoid the risk of vendor lock-in.

4. EASY TO ADAPT TO BUSINESS PROCESSES

Flexibility is the key factor when making functions available through portals, whereby the goal is for the business processes to be customer oriented. The functions must be presented in the way that the consumer or the user requires and will accept. Providing functions through the enterprise portals is therefore only the first step. The next step is the integration of the business processes. It will always be the case that new services need to be provided for new groups of users.

SCORE Adaptive Bridges allows you to multiply the value of your existing applications and data stores by creating Adaptive Services.

The development tools and the applications must be flexible enough to meet this requirement. SCORE Adaptive Bridges makes the functionality of existing applications available as Adaptive *(able to modify themselves)* Services within the framework of a service oriented architecture (SOA). This enables a simple and flexible mapping of the required business processes. Multiple interfaces and powerful choreography functions ensure that it is always possible to provide the correct interface and the optimum service to meet every business requirement. This makes it easy to bring portals and the business processes together.

With the adoption of SCORE Adaptive Bridges, an organisation's IT group is well positioned for the future. Today the legacy services are made directly available as portlets. Tomorrow they can be integrated in portals using process and workflow systems. And who can reliably predict what will be required the day after?

Based on the models developed with SCORE Adaptive Bridges, the requirements for a new portal platform are quickly and reliably met by simply regenerating for a new target platform. Again, a return on existing investment.

"Delta's technology handled all the integration details, allowing us to maintain our critical systems while building new adaptive interfaces."

Thomas Müller, Manager Application Architecture and Methods, Suva

5. COST EFFECTIVENESS

The first project that introduces new technology must demonstrate the benefits that were used to justify the budget for the investment. This is always particularly difficult, however, as everything is new but even so must be integrated with what is already available.
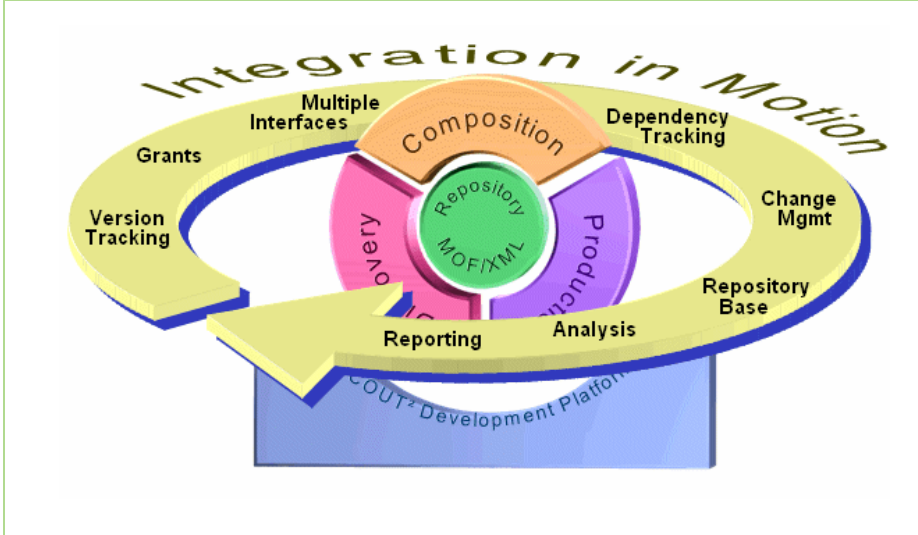
The first steps in the portal development are simple. Typically, the focus is on providing information – as a result many enterprise portals are referred to as *"empty portals",* that only provide general information about the organisation.

The situation is much more difficult when real application functionality from back-end systems needs to be appropriately integrated into the enterprise portal. Here it is necessary to bring very different worlds together. However, enterprise portals can only achieve their full potential to achieve the goals defined at the beginning of this white paper (including increased efficiency and cost reductions) when the functionality of the strategic legacy applications are available in the portal environment.

"Our BS2000 applications are being revived by being usable in our enterprise portal"

Dr. Eckhard Otto, CIO at Schorch.

SCORE Adaptive Bridges implements the concept of *"Integration in Motion™."* This states that integration is not a one-off event, but is an on-going process in a continually changing world. For this reason, an incremental approach is actively supported with a non-invasive integration of the back-end systems. SCORE Adaptive Bridges thereby enables a secure long-term return on existing investment (ROEI).

YOUR BENEFIT

SCORE Adaptive Bridges helps you to clear the hurdles that currently stand in the way of successfully achieving your enterprise portal project, and to maximize the return on your existing investment. At the same time, SCORE Adaptive Bridges guarantees flexibility for future developments and protects your investment into the long term.

EDITIONS

SCORE Adaptive Bridges is available in three editions to suit the needs of different types and sizes of projects:

- **Express Edition** – Focuses on ease of use and low introduction costs.

- **Advanced Edition** – Adds project team support and advanced data integration.

- **Enterprise Edition** – Offers extreme flexibility for the largest and most demanding projects.

CASE STUDIES

Schorch, an electrical engineering manufacturer located in Möncheng-ladbach Germany, has made the strategic decision to deliver their legacy production management applications through their enterprise portal. Our case study presents Schorch's experience using SCORE Adaptive Bridges.

Suva is the Swiss national insurance organization covering 100,000 companies and 1.9 million people. Their challenge was to migrate critical applications from OS/2 fat clients to a distributed thin-client architecture. Read how SUVA used tools from Delta Software Technology to create new services by reusing 5,000,000 lines of COBOL from their existing applications.

MORE INFORMATION

On our Web site at www.d-s-t-g.com/SAB you will find two presenta-
tions – **"What is SCORE Adaptive Bridges"** and **"SCORE Adaptive
Bridges in Action."** These presentations explain what SCORE
Adaptive Bridges is, how it works, what it looks like and how it will
be of direct benefit to you.

TRIAL VERSION

The quickest and easiest way to learn about SCORE Adaptive Bridges
is to try it for yourself! In just one hour you will have your first
'ready to run' JSR 168 Java portlet running, integrated with a legacy
COBOL application.

A free 30-day trial version of SCORE Adaptive Bridges – Express
Edition is available now as a download and on CD at
www.d-s-t-g.com/SAB-FreeTrial.

DELTA SOFTWARE TECHNOLOGY

Delta Software Technology creates the world's leading family of generative software tools that maximize your return on existing investment (ROEI) in your unique and valuable application assets.

Delta's family of products help you to profit from, care for, renew and grow your existing application assets:

- **SCORE® Adaptive Bridges™** – The quickest and easiest way to deliver mission-critical legacy functionality to enterprise portal projects.

- **SCOUT²™** – Stop "fighting the infrastructure." Maintain your application assets in a simple and cost-effective way.

- **SCORE® Transformation Suite™** – Liberate your application assets from old implementation technologies and deployment platforms.

- **ADSplus™** – Grow your existing application assets. Add new functionality to your application assets using existing technologies and platforms.

Delta has 25 years experience in creating enterprise class application development and integration technology for more than 750 customer installations. Delta is a privately held German company with partners throughout Europe.

Please visit our Web site if you would like further information about our products and services, or to locate your local sales partner.

www.d-s-t-g.com