

TCI builds a future on an IBM Web services solution.

Overview

- The Challenge**
Position company to meet expected rise in demand for services through efficient B2B integration
- The Solution**
Custom-made system infrastructure built on Web services technology powered by IBM
- Why IBM?**
Java™-enabled Web services technology built on open standards; a rich set of developer tools supporting rapid application development; end-to-end development and support services from IBM jStart
- Key Business Benefits**
Reduced production times by 50 percent, redeployed employees to more strategic tasks, increased functionality and gained a competitive advantage



Tough times in a tight market

Getting a job isn't about qualifying for a particular position anymore. Applicants have to know where and how to find opportunities, and they must demonstrate a broad range of marketable skills. Many are asked to undertake a personality assessment or prove their skills before an offer is tendered. In today's stiff economy, the pressure on job seekers is growing.

Training & Consulting International AG (TCI) is one of the top ten job training and placement organizations in

Germany. Under contract to the German Federal Department of Labor, TCI provides a range of services designed to facilitate job placement and fulfillment, such as counseling and skills training for unemployed workers and support services for employers looking to hire. TCI handles incoming queries, outgoing responses and is directly responsible for publishing the skill sets of its applicant pool in newspapers, trade magazines and over the Internet.

“As a service provider, we want to offer our customers up-to-date, reliable information and individualized support. Using Web services gives us the ultimate tool to that end.”

—Horst Stuhlweißburg,
Project Manager, TCI

Brave new world

With a recent shift in German public opinion trending toward the deregulation of job brokering, TCI faces a myriad of challenges. To help ensure a successful future, TCI would need a business strategy that could meet the German Federal Department of Labor’s current and future requirements.

The nation’s tightening employment market, coupled with the mounting pressure on the government to successfully and cost-effectively find jobs for out-of-work citizens made TCI’s first priority clear: find a way to streamline operations to help the Department of Labor reemploy workers more quickly, efficiently and within budget. Aware that business-to-business (B2B) integration could play a key role, TCI turned to MicroDoc GmbH (MicroDoc) for help.

IBM Business Partner leads the way

MicroDoc is a German software development firm that designs, builds and deploys reliable system architectures. With a specialty in Java™-based object oriented technology, one of MicroDoc’s strengths is integrating heterogeneous environments to support advanced e-business.

“It’s obvious that in today’s business environment the main challenge is to integrate a multitude of different systems onto a common platform so partners can use the Internet for B2B,” says Hans Kamutzki, MicroDoc’s Managing Director. He points out that companies successfully leveraging public networks can easily automate business processes and benefit from increased operational efficiencies and reduced costs. For TCI Project Manager Horst Stuhlweißburg, those benefits not only support its primary business objective—helping the Department of Labor succeed—but also support its long-term strategy of securing a competitive advantage.

“As a service provider, we want to offer up-to-date, reliable information and individualized support. Our system must be accessible to many diverse partners,” says Stuhlweißburg. “MicroDoc’s Web services solution powered by IBM would prepare TCI to meet the challenges of the next several years head on.”

The ultimate tool

Any B2B integration solution adopted by TCI would have to work seamlessly with the German Federal Department of Labor’s platform, as well as overcome system barriers ranging from legacy systems to PC systems to voice and multimedia integration. Says Kamutzki, “We needed a way to design TCI’s system architecture with modularity, flexibility and platform independence. Web services was key to achieving this goal.”

Using Web services was a decision MicroDoc made early on in the development process. Because it is based on open standards, Web services allows MicroDoc to develop a server-side solution that enables integration regardless of which type of technology is in use at TCI customer and business partner sites. “Web services crosses the boundaries of programming languages and data types and helps us supply solutions that are based on open industry standards,” explains Kamutzki. Unlike EDI, an alternative B2B application integration initiative launched in 1975, Web services leverages open standards and technology—SOAP (Simple Object Access Protocol), WSDL (Web Services Description Language) and XML (eXtensible markup language). Open standards technology can help companies save money by eliminating the need for expensive enterprise integration software or high-priced, custom code development.

Partnership pays off

As an IBM Business Partner, MicroDoc benefits from getting well-tested software that leads the industry in scalability and reliability. The company uses IBM products and services extensively throughout its Web services solution development process. “Because we supply end-to-end-solutions for our customers, it’s most important that we believe firmly in the quality of the material we use,” says Kamutzki. MicroDoc relies heavily on IBM WebSphere® Application Server and developer tools, and uses Lotus® Notes® and Domino® technology for building system infrastructures. “IBM provides a rich set of tools that allow us to develop fast and reliable solutions,” Kamutzki says.

Looking under the covers

To solve TCI’s B2B integration dilemma, MicroDoc built a common application-building framework in three layers. The bottom layer is MicroDoc’s persistence framework (MPF/J), which accesses TCI’s IBM DB2® database and takes care of the object-to-relational mapping and type conversions. Above this layer is a small transaction framework that implements abstract classes that, in turn, help implement business transactions. The third layer consists of input/output objects for business transactions. They are flat, serialized objects that can be used from Java Server Pages and Web services alike. They constitute a uniform interface to utilize business transactions in a variety of architectural scenarios.

Since TCI and its partners are sending private data, such as employment and salary history, over the network and in some instances over the Internet, security and data integrity are important issues. MicroDoc ensures a security-rich solution by using transport through Secure Sockets Layer, which includes the use of digital certificates through public- and private-key encryption systems.

Key Components

Software

- IBM VisualAge® for Java
- Java2 Enterprise Edition™
- IBM Java Developer Kit 1.2.2
- IBM WebSphere® 3.5.5
- IBM DB2® 6.1, Lotus® Domino® 5.0.8
- Apache SOAP 2.4

Servers

- IBM @server xSeries™ platform

Standards

- SOAP, SML, SMTP, LDAP

Services

- IBM jStart, DeveloperWorks™ Toolbox
-

“We didn’t meet any unexpected challenges during the Web services solution implementation, which is great. In fact, that’s basically why we use the IBM tools. If you use IBM, you rarely run into the unexpected—and if you do, there’s a fix.”

*—Hans Kamutzki, Managing Director,
MicroDoc*

MicroDoc is also using Java2 Enterprise Edition™ (J2EE™) and checksum algorithms against data manipulation to programmatically encrypt SOAP messages. Eventually, MicroDoc will migrate to Axis technology (the latest version of Apache SOAP, also contained in the IBM Web Services Toolkit), which will further improve reliable and secure communications through the XML Security Suite.

TCI is also interested in publishing their services in a Universal Description Discovery and Integration (UDDI) registry. This Web services protocol would help TCI position itself as an application service provider for human resources departments, enabling them to better serve the German Department of Labor. Stuhlweißburg admits that having a UDDI registry, "...is a real business opportunity down the road."

Ready to respond

Web services changes the way TCI does business in at least two ways. First, employers looking for qualified candidates can fill out help wanted ads online at their own convenience, rather than having to personally contact TCI personnel. Not only does this allow for 24x7 ad collection, it frees up TCI staff formerly occupied with administrative tasks to concentrate their efforts on helping those looking for work. Secondly, newspaper and magazine publishing goes much more quickly. Web services enable customers and

business partners to automatically update their employment information, eliminating more than two weeks of production time for each issue of a newspaper and magazine.

Web services gives TCI an opportunity to make process-oriented data available to all partners involved. It enables TCI to find and add more customers in the future, and to integrate a nearly unlimited number of partners into its current system. "MicroDoc provided us with applications that very quickly became functional in our operations and met our needs from day one," Stuhlweißburg says enthusiastically. "Through Microdoc, TCI, a mid-sized company, has access to IBM technologies that excel in terms of reliability and non-obsolescence and assure us that they will provide the services we absolutely need for this business."

Web services supports TCI in its efforts to help the Department of Labor put more people to work while preparing the company for future opportunities. As the government agency looks for strong partners in the job brokering market, TCI—equipped with Web services and able to integrate many diverse partners—is poised to pick up the slack.

For more information

To learn more about the Web services solution from IBM, please visit the following Web site:

ibm.com/webservices



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