

Morris Consulting sees tenfold increase in development speed with EGL.

Overview

■ **Challenge**

Competing against much larger systems integrators, Morris Consulting needed a way to rapidly build and deliver complex supply chain applications that were platform independent, scalable and easy to use.

■ **Solution**

The company used IBM Rational tools and EGL to build a vehicle tracking and tracing system and developed it into a sophisticated, modular supply chain workbench for assembling solutions and deploying them with IBM WebSphere Application Server software and an IBM DB2 database.

■ **Key Benefits**

Since it adopted solutions from IBM, Morris Consulting develops more solutions in-house, rather than contracting programmers, saving about US\$160,000 annually. The company is now able to customize and deploy solutions about 10 times faster, enabling them to win more contracts and increase profits.

Founded in 1993, Morris Consulting & Training, Inc. (MCTI) delivers supply chain process improvement strategies and integrated business system solutions. MCTI has delivered services and solutions to industry-leading businesses in North America, Europe and South Africa.

Typically competing against much larger systems integrators, MCTI is always looking for opportunities to improve its competitive position and deliver cost-effective solutions in less time. While working with a client on a vehicle tracking and tracing system, MCTI seized one such opportunity and began using IBM Rational® tools and EGL to complete the development effort. Since that initial project, MCTI has continued to build on its success, achieving a tenfold increase in development speed and better positioning itself to land new clients.

Implementing a new approach

In the past, MCTI typically developed a software specification and then handed it off to an outside software development firm to complete the programming. That was the case on one project for a large automotive manufacturer that needed a system for adding customized options to vehicles. The system tracked and traced the work that needed to be done and the materials that were required. "After working on the specification and contracting it out, we began looking at EGL," recalls Chuck Morris, president of MCTI. "We discovered that we no longer had to create a separate programming spec. With IBM Rational tools, we essentially create the specification in EGL and then start programming all on the same screen."

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Key Components

Software

- IBM DB2 9
- IBM Enterprise Generation Language (EGL)
- IBM WebSphere Application Server

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—Chuck Morris, president, MCTI

He adds, “It got even more intriguing when we used Rational tools and EGL to generate all of the Java™ code and create a full-blown Web page. It turned out, after four months, when I was supposed to deliver the project, I ended up delivering the project we built in-house with EGL and did not use the code we paid to have developed.”

Reaping the benefits of self-documenting code

Morris explains that because writing and understanding EGL is intuitive, MCTI uses the code itself as the software specification and documentation. “In the past, we would describe database tables using a spreadsheet and then give that to someone to generate the tables. With EGL we can define and create the tables in the same time it used to take us to type up the spreadsheet. Then, we can simply point to the tables and generate all the libraries for creating, updating and deleting records within them.”

He continues, “When you write code in EGL it reads almost like the English language. For example, we defined tables and fields, then named them with full English words, like ‘contact,’ ‘first name’ and ‘last name.’ As a result the code becomes self-documenting and it is very easy to understand and debug. When other people look at the code, they can see how the program works. We use the EGL itself as the final documentation for the development team and the support team.”

Morris adds that EGL makes it easy for developers to build Java applications, even if they have no previous experience with Java code. “We never look at the Java,” he notes. “When we debug, we step through EGL. We can see all the logic, and when we go through step by step it is easy to see if we have grabbed a wrong field or table, for example.”

Building scalable, portable, platform-independent solutions

Portability and platform independence were among the primary reasons that MCTI began evaluating EGL. “Our customers are typically large enterprises with an immediate need for a solution. As a result it is very important for us to be able to provide a solution that will fit into any client environment,” Morris explains. “With EGL we can generate an enterprise archive (EAR) file and import it into IBM WebSphere® Application Server software, which runs on virtually any hardware platform and works with multiple databases. When we talk with our customers, it doesn’t matter what they have in their environment, we know we’ll be compatible.”

The platform independence extends to end users as well. “Everything is Web based. We used JavaServer Pages (JSP) technology and generated the JSP pages with Rational tools and EGL. Our customers can access the application from any device that supports a browser; it even works great on handhelds with small screens.”

Scalability is another key requirement of MCTI's large customers. “We can generate and deliver Web-based applications that run on a very scalable platform. As soon as our clients hear that it runs on WebSphere and IBM DB2® software, I do not have to discuss the scalability of the application anymore,” Morris reports.

Reusing modules

After developing the first vehicle tracking and tracing application with EGL, MCTI continued to enhance it by adding modules for warehouse management. These additional modules managed receiving, purchase orders and inventory transactions using electronic data interchange (EDI). Morris recalls, “Our customer was considering spending US\$50,000 on an EDI package. We used EGL to build the functionality they needed. It worked extremely well, and we completed it in five days.”

The modularity of MCTI's system, combined with the platform independence enabled by middleware from IBM, makes it easy for MCTI to reuse the vast majority of its supply chain system from customer to customer. “When we kick off a project, we know we can reuse at least 70 percent of our existing system. If we need something like RFID [radio frequency identification] capability we can add that in. We can change the terms we use and the color template, but the underlying logic will be the same. As a result, we can deliver a solution that used to take us four months in about three weeks.”

Positioning projects for SOA

Several MCTI customers have expressed interest in moving toward service-oriented architecture (SOA) implementations. With EGL, MCTI has the ability to easily build applications that expose and consume Web services, facilitating the transition to SOA. “On one project that is just getting started, we are looking at how to interface our solution with existing systems. We are likely to use SOA and expose some of the functions as Web services. Because we are using EGL, we can take any program or function we have developed and expose it as a Web service. It is straightforward and we can do it in about 30 minutes,” says Morris.

He adds, “We are positioned to not only create Web services, but to use them as well. If we want to call a Web service, EGL makes it easy by creating a form that calls the existing Web service for us. Many ERP packages are touting Web services, and I know that we can use them to integrate very quickly.”

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Helping to grow business, reduce costs and speed development

EGL and WebSphere Application Server have enabled MCTI to reduce costs while accelerating development. The ability to build enterprise-scale applications in-house has reduced the need to hire outside contractors, saving MCTI about US\$160,000 annually. At the same time, increased productivity has helped MCTI maintain a record of delivering projects on time, if not ahead of time. "I estimate that we have seen a productivity increase of at least 10 to 1 with EGL. In the past, if we wanted to create a new Web-page application, it might take a week to create a spec, send it off to be coded and test it once it was done. Now we can do it ourselves in an hour or two," says Morris.

MCTI is also now better positioned in the marketplace. "Our customers need supply chain solutions at a good price. Our business challenge is to compete against much larger global consulting groups while being cost-effective. What we discovered is that IBM Rational solutions enable us to deliver complex solutions at a much lower cost. This provides us with more opportunities because we can give our customer fixed-bid prices and still make a profit," says Morris. "In the past, all bids were based on time and materials because scope changes were always a problem. Now a change takes a couple of hours to test and deploy instead of two weeks, and that's a substantial advantage."

He concludes, "IBM solutions give us flexibility and scalability. With EGL we can rapidly deploy systems that are flexible from the customer's perspective. And, with WebSphere and DB2, we can do it on a platform that has proven to be scalable. As soon as our customers hear that the application will be deployed on WebSphere they know that it can grow."

For more information

To learn more about EGL technology, contact your IBM Business Partner or IBM representative, or visit:

ibm.com/developerworks/rational/products/egl

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