

Oxford International modernizes vehicle order management system for a leading European automaker.

Overview

■ **Challenge**

A leading European automobile manufacturer sought to enhance the customer experience and streamline the sales process at its dealerships by modernizing its vehicle management system software.

■ **Solution**

IBM Business Partner Oxford International developed a Web-based system solution for global vehicle distribution, inventory and order management, using IBM WebSphere Host Access Transformation Services and IBM Rational Application Developer software.

■ **Key Benefits**

The time to achieve deployment readiness was three months, at less than 20 percent of the cost of building an entirely new application. The new solution substantially improves the customer sales experience with a seamless ordering process.

To become one of the world's most recognizable marques, an automobile manufacturer must set the standard for quality and excellence in automotive engineering, manufacturing and process reengineering. For one leading European automaker, these standards of excellence are also applied to its business processes, which are reflected in its customer-facing systems.

To streamline, improve and enhance the quality of the sales process at the automaker's dealerships, IBM Business Partner Oxford International, a long-term IT associate for the automaker, was selected to modernize the company's legacy vehicle management system software, which is used by dealers and importers worldwide for vehicle distribution, inventory and order management. Oxford added a Web-based front end and integrated the company's car configuration application and supporting sales systems.

Oxford's modernization solution enables customers and sales staff to select, visually configure, order and change vehicles and options using a common user interface, regardless of back-end systems. At the same time, Oxford's solution helps improve IT governance and helps the automaker meet strict corporate image guidelines. Oxford's experience and its implementation of a unique standards-based solution enabled the development of a Web-based interface with no client-side software—helping to eliminate the historical technical challenges of autonomous dealers around the world running different operating systems.

Oxford International expertise and IBM solutions

Oxford has worked with the automaker for several years on a number of development and integration initiatives, and the team's experience with IBM Rational® solutions made it ideally suited for the modernization effort.

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Key Components

Software

- IBM Rational Application Developer
- IBM WebSphere Application Server
- IBM WebSphere Host Access Transformation Services

Hardware

- IBM System i

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*—Alan Jack, director of technology,
Oxford International*

One of the key technical challenges of the project was retaining the organizational knowledge that had been captured and codified in vehicle management system deployments around the world. “Our customer and its importers have used IBM System i™ servers for years. Around the various markets in North America, Japan, Europe and the Middle East there are many sales, legal and regulatory requirements that require different business rules,” notes Anthony Chadwick, chief executive officer at Oxford International. “The rules are exceptionally complex, and as we modernized the existing system we had to protect those knowledge assets,” he continues.

Because the business rules were complex, the solution needed to reuse, rather than replace, existing resources. To achieve this goal while accelerating development, Oxford used IBM Rational Application Developer software with IBM WebSphere® Host Access Transformation Services (HATS) software. Oxford developers used Eclipse-based Rational Application Developer software to develop Java™ Platform, Enterprise Edition (Java EE) applications and deployed them to platforms running IBM WebSphere Application Server software. WebSphere HATS software enabled the team to quickly transform the legacy system’s terminal interface into a rich browser-based interface. “Once we decided to leverage the existing application, using Rational Application Developer and HATS was the obvious solution,” recalls Alan Jack, director of technology at Oxford.

Adding resources when needed

After a quick proof-of-technology demonstration, Oxford began work on the modernization project, which also required data integration from multiple back ends—including a corporate mainframe, a Java interface to a midrange legacy system, IBM DB2® information management software and the green-screen system—to provide a seamless user interface.

Throughout development, Oxford occasionally supplemented its project team of two developers, two testers and one analyst with additional developers. Rational Application Developer made it easy for Oxford to add resources to the team as needed. “Because Rational Application Developer is based on Eclipse, the learning curve for new development resources is greatly reduced. When we needed to scale by bringing in new developers, it was easy to find the required skill sets because many are already familiar with the Eclipse environment. This allowed us to use beginning- to intermediate-level Java developers and get them up and running very quickly,” says Jack. “We also used Rational Application Developer to partition the application into parts, delegate them out and fit all the pieces back together perfectly,” he continues.

More experienced developers also realized a boost in productivity. “Rational Application Developer takes care of the complexity for us, so we can focus on the business requirements and not on technology. Rational Application Developer also supports Oxford’s existing processes and standards—and it enabled us to simplify our process, making adherence easier,” adds Jack.

Simplified deployment

Oxford also streamlined its deployment process, which in the past required several manual steps, such as creating multiple Java Archive (JAR) files for each deployment environment. Jack adds, “Rational Application Developer is such a pleasure to work with, because it eliminates the overhead and mistakes that come from having a complex application and deployment process. It takes care of all the things we used to do separately with Ant scripts and manual processes to assemble and deploy. We used to have somebody overseeing all the steps for each deployment. Rational Application Developer brought everything together and made it easy to deploy applications to the quality control environment, the user acceptance testing environment and the production environment running WebSphere Application Server on a System i server.”

WebSphere HATS software speeds legacy transformation

According to Jack, WebSphere HATS software helped the Oxford development team save a significant amount of time as team members converted the terminal-based user interface to a Web-based interface. “HATS makes legacy modernization a relatively easy and fast process. I estimate that HATS cut 75 percent of the man-hour requirements from other approaches we have used,” he notes.

The solution provides the functionality of the old system, and it includes new features that end users had been requesting. “We spent a lot of time thinking about navigation to make a very user-friendly interface for the novice user. Users wanted a single button that would produce all customer orders, one for all stock orders and one for all changeable orders. We did all that with HATS, with no legacy changes. We wanted to increase the success factor with these added features, and they were very well received,” Chadwick reports.

A win-win project

Oxford’s quality-through-standards approach enabled project completion in just three months. The globally language-compliant solution has been rolled out to approximately 3,000 users in North America, Italy and Germany; it will ultimately support more than 7,000 users when deployed worldwide. The system is already handling close to 100,000 HTTP transactions per hour during peak traffic.

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Oxford's solution enabled the customer to retain the knowledge assets embedded in the legacy system and made it possible to extend the application lifecycle of a core business system by years. With the thin-client solution, client-side maintenance costs have been virtually eliminated, as has a private, secure communications network that was no longer needed.

More important, the system has helped improve the customer experience, providing nearly seamlessly integrated access to multiple back-end systems through a single interface that complies with corporate image guidelines. "We believe the new system makes life easier for the dealers. What matters is the customer experience, and we have helped the client to bring the entire system out of the back office, much closer to the customer. Working with a customer, a salesperson can configure the vehicle, locate it and place the order to corporate at the same time," adds Chadwick.

Oxford has also completed modernization of the North American division's worldwide warranty system. Completing these projects with Rational Application Developer and WebSphere HATS software, and deploying the solution on WebSphere Application Server software running on a System i platform, has helped Oxford better position itself in the marketplace. "Other IBM Business Partners are already using some of the modernization techniques we used to support their own customers," says Chadwick. "Our partnership with IBM continues to benefit our company, partners and customers."

For more information

To learn more about IBM Rational Application Developer software, contact your IBM representative or visit:

ibm.com/software/rational

To learn more about IBM WebSphere Application Server and IBM WebSphere Host Access Transformation Services software, please visit:

ibm.com/software/websphere

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