Mazda drives key applications with IBM e-business solutions.

Application	Dealer extranet and intranet applications
Business Benefits	Projected 30% reduction in application development cycles; up to 25% reusability of business logic; annual savings of up to $10,000 in system distribution and support costs
Software	IBM WebSphere™ Application Server, Advanced Edition IBM VisualAge® for Java™ IBM DB2® Universal Database™ for OS/390® and Windows NT® IBM CICS® Transaction Server 1.3 IBM MQSeries® for Windows NT and OS/390
Hardware	IBM S/390® Parallel Enterprise Server™
Business Partner	The Object People

For companies that need to provide information access to a large user base, deploying Java-based Web applications is a cost-efficient, low-maintenance solution. But while many Web solutions are built on separate middle-tier Web servers, there are many companies that would prefer to leverage their existing investments in large enterprise servers. Such is the case of Mazda North American Operations, headquartered in Irvine, California. The North American branch of the international automobile manufacturer sought to develop a Web solution that could harness the power and scalability of its back-end IBM S/390 Parallel Enterprise Server, while continuing to earn returns on its investment in systems architecture and technical expertise. Mazda found the solution to this problem in IBM WebSphere Application Server.

"Running WebSphere Application Server directly from our mainframe gives us superior computing performance."

–Steve Hays, Java Development Project Manager, Mazda North American Operations

Mazda's vehicle locator application—based on IBM WebSphere Application Server—gets customers driving in the fast lane.

e-business

It's about business, not just technology.

The Incentive Indicator application enables Mazda employees to track their own job performance.

Using IBM WebSphere Application Server, Advanced Edition, Mazda developed three new front-end applications that access and update data stored on its back-end server. The first two, Parts Availability and Vehicle Locator, serve its dealer network over an extranet, while the third, Incentive Indicator, serves Mazda's corporate employees over an intranet. As part of a large-scale program to Web-enable some 50 mainframe-based applications, the rollout of Mazda's first 3 applications has delivered great benefits.

"We have a tremendous amount of data stored on our S/390 server," says Steve Hays, Java development project manager at Mazda. "Running WebSphere Application Server directly from our mainframe gives us superior computing performance, saving us as much as $10,000 annually in system distribution and support costs."

Many dealerships, one application

Mazda supplies vehicles and auto parts to 760 dealerships in North America. The applications that support these businesses run under IBM CICS Transaction Server for OS/390, Version 1.3, storing data in IBM DB2 for OS/390. Previously, dealers accessed these applications from more than 2,500 DOS-based PCs, leased to them by Mazda. Meanwhile, employees at Mazda's corporate offices accessed the system from terminals connected directly to the mainframe. After distributing these applications to its dealers, Mazda needed to provide technical support for each installment.

To eliminate the need to distribute and support individual applications, Mazda chose to provide uniform access to the system through WebSphere Application Server. This solution allows all users to connect to back-end applications from a standard Web browser. As a proof-of-concept project, Mazda first chose to convert its Parts Availability application to run under WebSphere Application Server on a Microsoft® Windows NT server. This application enables Mazda dealerships to locate and order the parts their mechanics need.

IBM MQSeries for Windows NT Version 5.1 and IBM MQSeries for OS/390 Version 2.1 are used to transmit data between the front-end Java applications and the back-end CICS applications. MQSeries also plays a role in getting the auto parts delivered to dealers. Using MQSeries for Windows NT to transmit shipping information between Mazda's parts distribution centers and similar systems owned by Federal Express and RPS, Mazda eliminated the cost of installing dedicated hardware.

"WebSphere Application Server has enabled us to serve more end users," says Hays. "And any changes that we make to our applications become immediately available."

"Combining the reliability of DB2 on the S/390 with the flexibility of WebSphere Application Server creates a very robust solution that allows us to do more with less. It is a solution that keeps us competitive and enables us to serve our customers better."

–Penny Juarez, Manager of Applications, Information Systems Division, Mazda North American Operations

IBM e-business solution extends application availability

Following the successful rollout of Parts Availability, Mazda chose to improve the efficiency of its Vehicle Locator application. For Mazda dealers, nothing is more frustrating than not having the right model in stock when a buyer comes in ready to drive away in a new car. Fortunately, Mazda keeps a comprehensive list of its dealers' inventory on a legacy DB2 database residing on its S/390 server. So, if a customer is looking for a new purple Miata, for example, and a dealer in the vicinity has one in stock, it can be located and delivered right away.

Mazda's existing system worked great for dealers selling cars during most normal business hours. But because Mazda takes its S/390 server offline for batch processing every evening and on Sundays, access to this information would become periodically unavailable.

As a short-term solution to this problem, Mazda developed its Vehicle Locator application to run on WebSphere Application Server on a separate Windows NT server. By replicating Mazda's back-end data in IBM DB2 Universal Database for Windows NT, the application can be accessed 24 hours a day, 7 days a week.

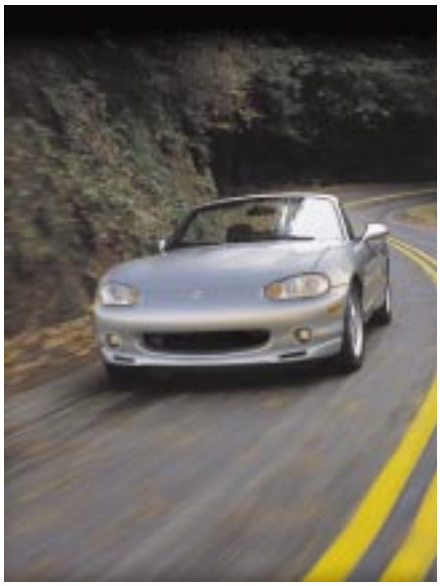
Ultimately, Mazda wants to leverage the power of the S/390 for Vehicle Locator as well. With the success of the first release of the application, the company is now planning to port it back to the S/390 for even greater stability. By creating a separate logical partition in OS/390, the application will be able to run on the S/390 without being affected by nightly batch processing.

"The cross-platform compatibility of WebSphere Application Server is bringing us tremendous savings," says Hays. "We can develop our application once and be confident that it will work on any of our systems. It enables us to reuse up to 25 percent of our business logic and reduces our development cycles by approximately 30 percent."

Developing applications for WebSphere Application Server is also helping bolster the incentive of Mazda's corporate employees. The company offers its corporate employees regular performance-based bonuses. To make it easier for them to monitor their performance and assess how it will impact their bonuses, Mazda created a third application, the Incentive Indicator. Available only over Mazda's corporate intranet, Incentive Indicator keeps employees up to date on the company's overall success and gives them clear goals on which to focus.

"The cross-platform compatibility of WebSphere Application Server is bringing us tremendous savings. We can develop our application once and be confident that it will work on any of our systems."

–Steve Hays



Mazda is putting its dealers in the driver's seat with IBM WebSphere Application Server.

IBM Business Partner provides strong development guidance

To assist in the development of these applications, Mazda enlisted the help of The Object People, an IBM Business Partner, to train its development team in object-oriented programming with IBM VisualAge for Java and WebSphere Application Server. The Object People spent several weeks with Mazda, first educating them in the basics of object-oriented programming, and then mentoring them during the development of the three applications. "The Object People offered us the training we needed to develop applications on our own, plus guaranteed deliverables," says Penny Juarez, manager of applications, information systems division. "This was a far better alternative than hiring independent contractors to develop these applications, which would have left us without the ability to maintain these applications internally."

Extranet to support business partners

Besides supporting its dealers and corporate employees, Mazda maintains strategic business relationships with a number of national car rental agencies, including Hertz and Budget. Currently, agencies that want to add vehicles to their fleet must place orders using dedicated workstations provided by Mazda. But supporting these workstations is costly. Once Mazda converts these applications to WebSphere Application Server, however, it will eliminate the workstations, generating additional cost savings. As for the other 46 applications that will be converted in the future, Mazda is confident they will deliver similarly strong business results.

"Combining the reliability of DB2 on the S/390 with the flexibility of WebSphere Application Server creates a very robust solution that allows us to do more with less," says Juarez. "It is a solution that keeps us competitive and enables us to serve our customers better."

For more information, please contact your

IBM marketing representative or IBM Business Partner.

Visit us at:
www.ibm.com/e-business

For more information about Mazda North American Operations and The Object People, visit:
www.mazdausa.com
www.objectpeople.com

IBM Corporation
Software Group
Route 100
Somers, New York 10589

Produced in the United States of America
01-00

G325-6650-00