



# MAZDA AUSTRIA STANDARDIZES ITS ONLINE USED CAR EXCHANGE ON JBOSS ENTERPRISE APPLICATION PLATFORM

## FAST FACTS

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| <b>Customer</b>                | Mazda Austria   |
| <b>Industry</b>                | Automotive manufacturing  |
| <b>Geography</b>               | Klagenfurt, Austria   |
| <b>Red Hat Premier Partner</b> | Objectbay   |
| <b>Business Challenge</b>      | To provide a cost-effective, flexible operating model for Mazda Austria's online used car management system and to enable daily adjustments and new requests to be implemented in the system without a time delay |
| <b>Solution</b>                | JBoss® Enterprise Application Platform  |
| <b>Hardware</b>                | Two clustered x86 servers running the JBoss Enterprise Application Platform   |
| <b>Migration path</b>          | Replacement of an application hosted by a service provider for the used car market with a solution developed in-house using Java and JBoss Enterprise Application Platform  |
| <b>Benefits</b>                | Reduced operating costs; Enhanced productivity; Increased system adaptability and manageability   |



## BACKGROUND

Since its market launch, Mazda Austria GmbH, which was founded in 1969, has sold approximately 600,000 cars in Austria. Today, 130 sales operations and 15 service partners provide support for Mazda's Austrian customers. From Klagenfurt, the import company manages 16 markets with 470 Mazda service points in southern and eastern Europe.

Each year, more than 1,300 vehicle technicians from Austria and the central and south eastern Europe (CSEE) countries are trained as service and repair professionals at the Mazda Austria training center in Klagenfurt. Since the beginning of 2011, replacement parts from Japan have also been delivered to the 470 dealers and workshops in the 16 CSEE markets directly via the Mazda site in Klagenfurt.

While in the past, used cars were often sold by independent dealers, the market has since largely shifted to the Internet. Surveys of Europe's car buyers have illustrated that they do not like to be restricted to buying cars available on a dealership's lot. According to the Fokus study

on car dealership of the future, the majority of potential buyers are prepared to do research on the Internet and then drive 100 kilometers or more to find their desired vehicle.

## BUSINESS CHALLENGE

Mazda Austria in Klagenfurt trialed a number of different operating models for its online used car portfolio. The first version was developed in-house and was later replaced by an external solution based on Microsoft .NET technologies, which was also hosted externally. Potential customers could find information on the latest models, demo vehicles, and get special offers on the company's legacy used car website. By selecting vehicle-specific data such as the desired price, mileage, body, model, and equipment, potential buyers could see which of the Mazda dealers in Austria's nine states had their desired cars.

However, as attractive as the external solution seemed at first, the hosted used car management system turned out to have its weaknesses. In the course of day-to-day business, the external operating model proved to be

inflexible. Adjustments and new requests could not be implemented in real-time. Furthermore, there were no standard interfaces to other important applications such as the central dealer database at Mazda Motors Europe or the fleet management system, which would have allowed the sale of fleet vehicles from fleet stocks.

In addition to these organizational weaknesses, Mazda Austria's strategic goals had changed over time. Rather than merely allowing the online used car business to essentially run "on the side," the company wanted to provide a greater strategic significance and make it an integral part of the centrally managed distribution system. The goal was to ensure higher sales figures, and in order to achieve this, the company wanted to bundle supply and demand centrally, making them transparent for the entire country. Mazda believes that companies that offer a wide range of products online have a higher click rate, and products that receive more clicks generally get more feedback, which in turn increases their attractiveness and generates additional turnover.

Mazda Austria also wanted to reduce the monthly costs accrued over the course of the used car management system's reintegration. "The external operating model led to an unwanted dependence on the service provider," said Dipl.-Ing. Hans-Peter Petek, IT group leader at Mazda Austria in Klagenfurt. "The greatest advantage of developing and maintaining the system in-house is that we can implement changes quickly, inexpensively, and without a lot of red tape."

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- Dipl.-Ing. Hans-Peter Petek,  
IT Group Leader at Mazda Austria in Klagenfurt

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## SOLUTION

In 2009, the company made the decision to replace the external solution with one developed in-house. The most important prerequisite was a suitable platform to host the application. In order to meet these requirements, Mazda's European headquarters considered JBoss Enterprise Application Platform and IBM WebSphere Application Server.

"We selected JBoss Enterprise Application Platform based on an analysis of the total-cost-of-ownership (TCO) calculated in the medium-term," said Petek. "But cost was just one factor. The overall concept of the open source model was much more important. We are convinced that, as an open source solution, JBoss Enterprise Application Platform can offer new functions and standards more quickly than a proprietary software solution like WebSphere." JBoss Enterprise Application Platform is based on open standards and integrates JBoss Application Server, JBoss Hibernate Framework, Enterprise Java Beans, JBoss Seam Framework, and other common open-source Java technologies from JBoss.org in a comprehensive enterprise-ready solution for Java applications."



Red Hat worked in close cooperation with Mazda Austria's sales department to ensure that all of the department's requests were implemented. From a functional perspective, the project team, which consisted of only four developers and two interns, used the functions of the previous used car management system as a foundation.

For the actual development of the application, Mazda recruited external help. On the recommendation of Red Hat Austria, Mazda selected Objectbay as its project partner. As a Red Hat Premier Partner with middleware specialization, Objectbay's core competencies include agile software development with enterprise Java technologies, particularly JBoss Enterprise Middleware, as well as consulting and training for the product's entire lifecycle from development to operation.

Mazda selected JBoss Enterprise Application Platform, Apache 2 Web Server, and load balancing system mod\_jk. There are currently two JBoss Application Server nodes in operation, and depending on the company's workload, a third node may be added to the cluster.

## BENEFITS

Currently, authorized dealers can post vehicles to the used car exchange directly from the dealer management system via the new interfaces. The sales department also has the option to offer fleet vehicles from the department's fleet management system to the consumer via the used car exchange. Thanks to the interface with Eurotax, a service provider for international auto retail, the vehicle model data in the system is always up-to-date. The vehicles are presented in an image gallery, and videos can also be made available, if desired.

Mazda Austria's new used car exchange has been available online since spring 2010. During this first phase, it has been accessible only to the Austrian market. The company is already considering a roll-out for other southeastern European countries that also fall under Mazda Austria's authority. According to Petek, this should not be a problem in terms of software. "Due to the inherent scalability of JBoss Enterprise Application Platform, we are confident that we can roll the system out across other countries in their respective language, as the solution is multilingual and can be expanded as needed," said Petek.

"In an era where licensing around multi-core CPUs, virtualization, and service orientation are driving up the costs of proprietary infrastructures and middleware, open source solutions are becoming increasingly important, as they allow users to exploit the significant potential for savings," said Dr. Andreas Wintersteiger, CEO of Objectbay.

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