

Austrian Railways rolls out lower TCO with IBM Information On Demand.

Overview

■ Challenge

Reduce costs of maintaining two database platforms by migrating SAP data to one information management system and consolidating 30 aging servers to a more efficient architecture

■ Why IBM?

Lower licensing costs, and the High Availability and Disaster Recovery feature of DB2® was certified by SAP, whereas Oracle's Real Application Clusters was not

■ Solution

Migrate Oracle database to IBM DB2 Universal Database™ for AIX® Enterprise Server Edition

■ Key Business Benefits

25% reduction in total cost of ownership, compared to Oracle; 30% reduction in application response time; 50% decrease in time required to process payroll; 70% improvement in database backup time and 97% reduction in failover time



The high availability disaster recovery capability of IBM DB2 software helps Austrian Railways keep the trains rolling, even in the event of a catastrophic failure of one data center.

Railway systems historically reflect the pride that a nation has in doing things right. Even with competition from alternate forms of travel, railway companies still attract passengers with skilled service and a reliable, relaxing travel option. However, railway companies do more than make the trains run on time for passengers. Austrian Railways, for instance, is seeking to expand its share of the growing freight and logistics market. The company is competing vigorously to win revenue away from trucking companies, while relying on its IT systems to remain competitive using its SAP enterprise resource planning system.

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–Gustav Elias, Database Administrator and System Programmer for DB2, Austrian Railways

Reducing maintenance and licensing costs through consolidation

Key Components

Software

- IBM DB2 Universal Database for AIX, Enterprise Server Edition, Version 8.2
- IBM AIX 5L, Version 5.3
- IBM HACMP™
- IBM DB2 HADR
- IBM Tivoli® Storage Manager

Server

- IBM System p5™ 570 with POWER5™
- IBM System Storage™ Enterprise Storage Server®
- IBM System Storage 3590 Disk Drive

Business Partner

- HS Solutions GesmbH

Services

- IBM Software Services for Information Management
- IBM Global Services – Integrated Technology Servers
- IBM and SAP Competency Center in Waldorf, Germany

With 40,000 employees, Austrian Railways (Oesterreichische Bundesbahnen [ÖBB]) is one of the largest employers in Austria. Approximately 600 employees use the SAP HR solution for human resources. Fifteen hundred users work with the SAP core systems, which include the shipping and logistic applications that make Austrian Railways, poised at the gateway to high-growth Eastern Europe, a contender in Europe for the freight business.

Efficiency, a word which is almost synonymous with railroads, was very much at stake when an Oracle SAP HR database and an IBM DB2 Universal Database information management for SAP core system were running out of service at ÖBB's Vienna data center. The company intensively evaluated both Oracle and DB2 options for consolidating approximately 30 IBM RS/6000® servers previously dedicated to the SAP HR and SAP core systems. The SAP HR running on Oracle was also exceeding backup and batch processing windows, adversely affecting productivity.

At a time when ÖBB was putting costs under the microscope, Oracle raised the price of Oracle 9.0.2 which decided the matter in favor of DB2. "We chose DB2 for our SAP implementation because it was a better value than Oracle," says Gustav Elias, database administrator and system programmer for DB2, ÖBB. "Now we can see that with administrative and other costs figured into the total cost of ownership, DB2 is 25 percent less expensive than Oracle."

Performance and productivity run full steam ahead

The overall SAP performance has also improved with DB2 Universal Database Enterprise Edition, pleasing SAP users and database administrators with the opportunity to accomplish more in less time. "On Oracle, our SAP HR application had a response time of one second. Now running with DB2 the average dialog response time is approximately 300 milliseconds, or 30 percent less time," says Elias. Productivity has improved along with application performance. "To run the SAP payroll for all 40,000 employees had previously taken 16 hours," says Elias. "This was broken up into two batch runs at night. With DB2, the payroll is completed in 4 hours, 30 minutes, more than twice as fast. To back up the 500 gigabyte HR database took us 12 to 14 hours with Oracle. Processing ran over into morning work hours, causing employees' applications to perform slower, reducing productivity. With DB2 the backup of our SAP system takes only three hours, 70 percent less time. And failover time with Oracle had been one hour. With DB2, it's now one to two minutes, or as much as 97 percent less. This frees up all the productivity that was trapped by slow performance and drives further gains in the data center by enabling us to reassign employee hours to more valuable work."

"Migrating our SAP Oracle systems to DB2 has proven to be a good decision. We're always looking to cut costs in ways that enable us to enhance performance and productivity, and DB2 reliably meets that need."

–Gustav Elias

DB2 high availability and disaster recovery (HADR)

With the assistance of IBM Global Services, ÖBB configured four IBM System p5 570 servers with High-Availability Cluster Multiprocessing (HACMP) and used the DB2 HADR functionality to ensure high availability for the business-critical database and SAP environments. Two of the servers are located at the client's production data center in Vienna. One of these servers acts as the primary SAP database server based on DB2 and features dynamic logical partitioning functionality to enable dynamic allocation of processing resources across the server's two logical partitions (LPARs). The second production server acts as the SAP central instance. At ÖBB's backup data center, located 20 miles away from the production site, the client has two additional p5 570 servers acting as HADR standby and SAP application servers. In addition, these servers are configured as failover environments for the SAP production environment. In the event of a system failure or disaster at the primary location, the client can automatically switch its production systems over to the backup servers.

"In addition to price, we chose DB2 over Oracle because the high availability and disaster recovery capability of DB2 is supported for SAP solutions whereas the Oracle RAC high-availability functionality is not," says Elias. "One of the major advantages of DB2 is that we get a disaster recovery solution for our SAP system with HADR at no extra cost with our ability to mirror the primary disks to the secondary disks at the disaster recovery center."

IBM services help deliver Information On Demand

To ensure that the work was done as quickly and cost-efficiently as possible, Austrian Railways turned to IBM services. IBM Software Services for Information Management performed a planning and migration workshop, defined the requirements of the solution and delivered a proof of concept to demonstrate that the architectural plan would work to provide employees with Information on Demand. HC Solutions GesmbH managed the licensing deal.

IBM Global Services – Integrated Technology Services consolidated more than 30 IBM RS/6000 servers onto four IBM System p5 servers featuring IBM POWER5 processors. The Integrated Technology Services team designed the hardware infrastructure, fine-tuned the IBM AIX 5L, Version 5.3, operating system and implemented the disaster recovery solution.

Austrian Railways stores its critical SAP data on an IBM System Storage 3590 Tape Drive using IBM Tivoli Storage Manager to backup from the company's IBM System Storage Enterprise Storage Server to less expensive tape. The IBM SAP International Competency Center (ISICC) at Waldorf tested and validated the IBM storage solution.

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"By engaging IBM services, Austrian Railways received the assistance it needed to implement a large-scale database migration and hardware consolidation project from a single IT provider," says Elias.

Reaching higher goals

Performing with the precision and power that a railway company such as Austrian Railways expects, DB2 has raised the bar on performance and productivity at the company's SAP data center. "Migrating our SAP Oracle systems to DB2 has proven to be a good decision," says Elias. "We're always looking to cut costs in ways that enable us to enhance performance and productivity, and DB2 reliably meets that need."

For more information

Please contact your IBM sales representative or IBM Business Partner.

Visit our Website at: ibm.com/db2

For more information on Austrian Railways, visit: www.oebb.at

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