

# RAIFFEISENBANK SPEEDS DATA WAREHOUSE, CUTS COSTS WITH RED HAT ENTERPRISE LINUX



## SOFTWARE AND SERVICES

Red Hat® Enterprise Linux®

## HARDWARE

Hitachi Unified Compute Platform for Oracle Database

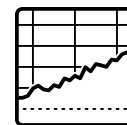
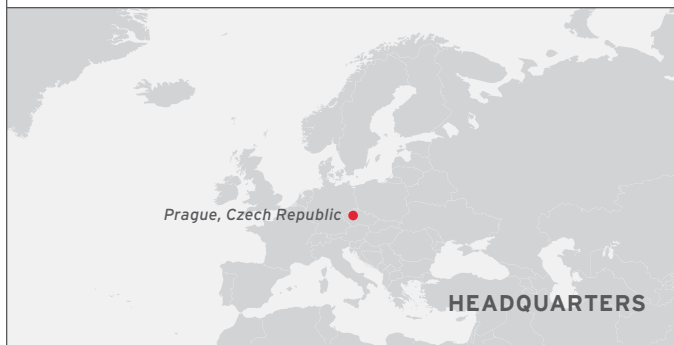
Hitachi Compute Blade 2500 (CB 2500)

Hitachi Virtual Storage Platform G600 (VSP G600)

## PARTNER

MHM computer a.s.

Raiffeisenbank, a banking institution that provides a wide range of services to private and corporate clients in the Czech Republic, needed to replace the aging hardware and IBM AIX operating system that supported its data warehouse. By migrating to Red Hat Enterprise Linux running on cost-effective Hitachi servers with Intel processors, the bank has tripled system performance speed and maintained stability – while cutting total cost of ownership (TCO) by 50%.



## FINANCIAL SERVICES

**3,000** EMPLOYEES  
**120** BRANCHES

*“There are many benefits to using Red Hat and Oracle solutions together, and also from moving from IBM to Intel. We feel a combination of Red Hat and Oracle on an Intel platform is a preferred solution for any company.”*

JIŘÍ KOUTNÍK  
HEAD OF SYSTEM ADMINISTRATION,  
RAIFFEISENBANK

## BENEFITS

- Achieved three times faster system performance
- Anticipates 50% decrease in total cost of ownership over five years
- Gained greater flexibility by eliminating vendor lock-in



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## **AGING UNIX SYSTEM TOO SLOW FOR MODERN BUSINESS**

Raiffeisenbank a.s. provides a wide range of banking services to private and corporate clients in the Czech Republic at more than 120 branches and business client centers. The bank offers corporate and personal finance products and services related to savings, insurance, and leasing, including specialized mortgage centers and business advisors. With total assets of more than CZK 300 billion, Raiffeisenbank is the fifth largest bank in the market.

Previously, Raiffeisenbank ran its main data warehouse on IBM pSeries servers and Oracle Database software using the IBM AIX UNIX operating system. However, as this UNIX system aged, it struggled to keep up with business demand. For example, reports—including those required by regulatory requirements or the bank's parent company in Austria—were not delivered on time.

“The platform and hardware were quite old and not powerful enough,” said Jiří Koutník, head of system administration at Raiffeisenbank. “We had real performance issues, and we needed to speed up our data warehouse to deliver reports and business data on time. But to address these problems, we needed to change our IT infrastructure.”

## **NEW HARDWARE AND SOFTWARE FOR STABLE, RELIABLE DATA WAREHOUSE**

The bank decided to replace both its hardware and software solutions used in its data warehouse.

“We knew we wanted a solution based on Linux. Through discussions with different vendors, external market analysis, and our internal experience, we selected Red Hat. It was the best fit for multiple reasons, including a recommendation from Oracle and the availability of a local support team in Brno,” said Koutník.

Raiffeisenbank reviewed three potential hardware solutions: Red Hat Enterprise Linux on Intel-based Hitachi hardware, Oracle Linux on Oracle Exadata, and a solution from IBM based on its AIX platform and Power Systems servers. After completing proofs of concept, the bank chose to deploy Red Hat Enterprise Linux on Hitachi Unified Compute Platform for Oracle Database.

“The Oracle and Hitachi systems passed our tests, but the IBM system was unable to meet our key performance indicators. We chose to deploy Red Hat Enterprise Linux on Hitachi hardware because the solution not only met all of our performance criteria, but also was available at lower cost.”

After choosing new hardware and software solutions, Raiffeisenbank migrated its 20TB database from its existing IBM hardware to the new Hitachi hardware, consisting of one blade chassis with several blade servers. A virtualization layer is used to divide up and manage the hardware resources such as CPU, memory, and I/O. The new solution includes faster Intel CPUs, substantially more memory, and faster storage with flash drives running Red Hat Enterprise Linux. The system is located in the bank's two datacenters, one used for production and the other for testing and disaster recovery.

MHM computer a.s., a Red Hat partner, assisted the bank's in-house team with the migration and also provided customized training on the new solution.

“There are many benefits to using Red Hat and Oracle solutions together, and also from moving from IBM to Intel,” said Mr Koutník. “We feel a combination of Red Hat and Oracle on an Intel platform is a preferred solution for any company.”

## **FLEXIBLE, FAST I.T. ENVIRONMENT OFFERS PERFORMANCE AND COST BENEFITS**

### **FASTER PERFORMANCE**

With Red Hat Enterprise Linux running its new hardware, Raiffeisenbank's IT performance is an average of three times faster—with some batch jobs completed as much as five times quicker than before. While some of this improvement in performance can be attributed to faster hardware and increased virtual memory, Red Hat Enterprise Linux has been integral to running complex workloads and providing high availability.

"Users typically run many daily queries and adhoc tasks on the data warehouse," said Koutník. "Data is available much faster and queries run quicker, so our business people get what they need earlier, which provides a competitive advantage."

In addition, the new solution has helped the bank switch from a traditional file system to automatic storage management (ASM), simplifying and speeding administration of its Oracle-related files.

As a result of these improvements, the bank can not only run its business more smoothly, but also ensure compliance with legal requirements for the banking sector.

"For example, in the past we were often on the edge or sometimes too late for delivery of some regulatory reports to the Czech National Bank," said Koutník. "The data warehouse is critical to our corporate IT environment meeting those deadlines. We could not afford any substantial dropouts. Now, the reports are now delivered on time, and there are no regulatory delays."

### **LOWER TOTAL COST OF OWNERSHIP**

By running Red Hat Enterprise Linux Server on cost-effective hardware from Hitachi, Raiffeisenbank anticipates a 50% lower total cost of ownership (TCO) over a five-year period for its new environment—including the new servers, storage, and Red Hat software—compared to its previous IT environment.

"One year after the migration, we are seeing the cost reductions we predicted," said Koutník. "Over five years, we will reach our target of reducing TCO by half while also increasing performance."

### **GREATER STABILITY AND FLEXIBILITY**

The new solution, based on Red Hat Enterprise Linux Server and supported by MHM computer a.s., has already met the bank's reliability and stability requirements.

"A key benefit of switching to Red Hat is that, because Red Hat Enterprise Linux is the leading enterprise Linux operating system, bugs and errors are patched very quickly. Oracle delivers priority patches for Red Hat users," said Koutník.

In addition, by migrating to Red Hat Enterprise Linux and hardware from Hitachi, Raiffeisenbank has gained greater IT freedom for future upgrades by eliminating vendor lock-in with a flexible, open source solution.

### **FUTURE MIGRATIONS PLANNED FOR CONTINUED IMPROVEMENT**

Migrating from a UNIX-based operating system to Red Hat Enterprise Linux has helped the company establish a reliable, stable data warehouse system and continue to improve its IT environment.

"Seeing examples of other companies switch to Linux helped our company make the decision, and we are delighted to have Red Hat software in our production environment," said Koutník. "Learning to manage it gives our teams experience with innovative emerging technology."

The bank plans to continue its migration by replacing another set of aging IBM hardware that is running databases for a different application.

“The IBM machines are getting old, and maintenance costs are getting higher. Because of our previous experience with the data warehouse, we know that Oracle databases can run on Red Hat Enterprise Linux without any problem,” said Koutník.

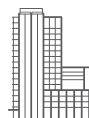
### **ABOUT RAIFFEISENBANK a.s.**

Raiffeisenbank a.s. is an important banking institution that provides a wide range of banking services to private and corporate clients in the Czech Republic.

Raiffeisenbank is a member of the Austrian Raiffeisen Group that also offers products and services in the Czech Republic in the area of building savings (Raiffeisen stavební spořitelna), insurance (UNIQA pojišťovna) and leasing (Raiffeisen-Leasing, Raiffeisen-Leasing Real Estate). Raiffeisenbank has merged with eBanka, a.s., in 2008.

With total assets over CZK 300 billion, the bank is the 5th largest in the market. Raiffeisenbank serves clients at more than 120 branches and business client centers throughout the Czech Republic. The bank also provides services of specialized mortgage centers, personal, corporate and business advisors.

### **ABOUT RED HAT**



Red Hat is the world's leading provider of open source software solutions, using a community-powered approach to provide reliable and high-performing cloud, Linux, middleware, storage, and virtualization technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities, Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.



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