



# EUROPEAN REAL ESTATE LISTING COMPANY SLASHES ENERGY USE AND OPERATING COSTS WITH RED HAT VIRTUALIZATION

## FAST FACTS

Industry	Real Estate
Geography	Germany
Business Challenge	Dramatically reduce energy use and operating costs while improving overall performance and manageability of servers and maintaining zero downtime
Migration Path	32-bit Windows server environment to 64-bit server environment based on Red Hat Enterprise Linux Advanced Platform with built-in virtualization technology
Solution	Software: Red Hat Enterprise Linux Advanced Platform with integrated virtualization, Red Hat Cluster Suite, Red Hat Network (RHN) Satellite, Red Hat Support
Hardware	HP Blade Systems
Benefits	Reduced energy usage by 25 percent and hardware cost per server by 60 percent, carved out operations costs by 10 percent with streamlined systems management, achieved full return on investment for the project within three months, and maintains consistent zero downtime.



## BACKGROUND

ImmobilienScout24.de is one of the most successful real estate listing companies in Europe. Servicing primarily German-speaking countries, the site has more than three million visitors each month and serves more than 800 million pages. Headquartered in Berlin, the company currently has approximately 400 employees and serves more than 95,000 realtors – its paying customers.

Since its website is the core of its business, uptime and performance are crucial factors for meeting customer expectations. To meet these demands, ImmobilienScout24 had previously migrated from a 32-bit Windows server environment to a more sophisticated 64-bit server environment based on Red Hat Enterprise Linux and added a second fully redundant active-active data center in Hamburg to support its existing datacenter in Berlin. Each location had approximately 100 physical servers running a variety of

applications including Oracle, MySQL, Apache, Tomcat, and LAMP-based subsystems as well as PHP and Perl for front-end applications.

## BUSINESS CHALLENGE

With many servers scheduled for end-of-life in 2008, ImmobilienScout24 planned a major virtualization initiative with the goal of speeding provisioning time and lowering overall operating costs per server instance.

However, early in the year, ImmobilienScout24's Tier-1 datacenter provider came to the company with dramatic news – the vendor could not provide any more power, at any cost, to ImmobilienScout24's servers. Energy prices were rising quickly and the provider had been given new limitations on its electricity supply to certain locations.

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**“Without Red Hat, we would not have been able to continue the growth that our executive team planned for the year. But now, we have a significantly more agile and cost-efficient datacenter and services infrastructure. In fact, with the cost savings we’ve achieved with Red Hat, this project will have paid for itself in three months.”**

**- Dr. Oliver Zeiler, chief technology officer at ImmobilienScout24**

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Considering the company’s growth rate, ImmobilienScout24 knew that it would begin to exceed the new power limitation within a few months and had to act quickly. Evaluating other datacenter providers was considered, but the cost and complexity of migrating datacenters was extraordinary and would likely result in some downtime – an unacceptable option.

In reviewing its planned virtualization project, ImmobilienScout24 found that it could reduce power consumption and allow the company to continue its rapid growth into the future. However, this meant completing an eight-month project in just four months.

## **SOLUTION**

Giving the virtualization project priority, the ImmobilienScout24 team quickly got to work planning the migration of 200 old physical servers onto 90 new physical servers with more than 400 logical server instances.

The first challenge was in selecting a virtualization solution. In its test lab in Berlin, ImmobilienScout24 worked closely with their Operations Service provider, Computacenter to begin a series of tests to monitor and measure the performance of a variety of services on both physical and virtual machines. The company measured that services running on VMware typically showed a 20 percent performance degradation compared to services running on the physical server.

When it tested Red Hat Enterprise Linux Advanced Platform virtualization capabilities, tests showed only a mere three percent difference between virtual and physical machines – an impressive virtualization performance result.

ImmobilienScout24 also considered pricing. Red Hat Enterprise Linux Advanced Platform includes virtualization integrated in the operating system at no additional cost – a benefit few other vendors are able to deliver. It eliminates the need to add an additional, and often expensive, third-party vendor layer to its solution, while delivering leading performance. Combining performance and cost benefits, Red Hat Enterprise Linux Advanced Platform was the solution of choice for ImmobilienScout24.

The second challenge ImmobilienScout24 faced was designing a system that would maximize redundancy and performance for each service. And, while also ensuring that the failure of one service would not affect the rest of the system. Achieving specific utilization levels was less important to ImmobilienScout24 than cutting energy and ensuring redundancy and uptime for the project.



So, ImmobilienScout24 worked closely with Computacenter to deploy Red Hat Cluster Suite, included in Red Hat Enterprise Linux Advanced Platform at no added cost, to create a comprehensive network design that included failover clusters between different physical machines. It also updated its Red Hat Enterprise Linux servers to support both 32- and 64-bit virtual machines. By carefully designing the clusters and physical and virtual machines, the team created a system that could easily accommodate future growth, while maintaining 100 percent uptime.

To manage its systems, ImmobilienScout24 also utilizes Red Hat Network (RHN) Satellite, a reliable, easy-to-use systems management solution that provides simple tools to efficiently manage the lifecycle of systems on its network. With RHN Satellite, ImmobilienScout24 was able to streamline its management and reduce costs.

In the conception phase of the project there were sometimes up to ten people contributing to the project, but in the datacenters, the brunt of the project was implemented by a team of four.

“Executing this rapidly with a fixed number of people simply would not have been possible with most other vendors,” said Oliver Schindelbauer, project leader. “Administrative tasks including imaging, server provisioning, and mapping are really fast with Red Hat.”

The team started the project in February and was finished by the end of May – on schedule and without any downtime.

## BENEFITS

The project was considered an all-around success and resulted in significant savings for ImmobilienScout24. Power consumption was reduced by 25 percent – 21 megawatt hours per month – without affecting performance or uptime. Hardware cost per server was reduced by 60 percent, and the project reduced ImmobilienScout24’s licensing costs by 50 percent with the use of open source software. The project also reduced operations costs by 10 percent through simplified system management.

“Without this solution we would not have been able to continue the growth that our executive team planned for the year,” said Dr. Oliver Zeiler, chief technology officer for ImmobilienScout24. “But now, we have a significantly more agile and cost-efficient datacenter and services infrastructure. In fact, with the cost savings we’ve achieved with Red Hat, this project will have paid for itself in three months.”



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