



Steeltec builds a resilient virtualized infrastructure for SAP ERP with IBM BladeCenter

Overview

■ The Challenge

Following a near-disaster at a manufacturing site, a comprehensive review by Steeltec management highlighted the business risks inherent in operating a single data center. Steeltec wanted to improve its business security and reduce risk by improving disaster recovery capabilities and safeguarding its critical SAP ERP environment.

■ The Solution

Prometheus Informatik, an IBM Premier Business Partner, created a secondary data center based on IBM BladeCenter technology, using VMware ESX to provide a flexible, scalable infrastructure for the company's SAP applications. Servers at the primary data center were also virtualized, and can now be rapidly failed over to the secondary center if disaster strikes.

■ The Benefits

Rapid failover capability delivers business continuity even in the event of a major disaster. Virtualized infrastructure increases flexibility while reducing maintenance costs. IBM BladeCenter delivers excellent performance and can scale to meet future business needs.

■ Key Solution Components

*Industry: Manufacturing
Applications: SAP® ERP 6.0 with financial accounting and controlling functionalities
Hardware: IBM® System Storage® DS4700, IBM BladeCenter® with AMD processor-based IBM LS41 blades
Software: Oracle® database, VMware® Infrastructure Enterprise including VMware ESX
Services: Prometheus Informatik AG*

Steeltec, based in Emmenbrücke, Switzerland, focuses on developing and manufacturing new types of very high-strength specialty steels. Around 60 percent of Steeltec's customers are automotive manufacturers and their suppliers, and the remaining 40 percent are in the mechanical engineering, plant engineering and hydraulics industries. Steeltec is a member of the Schmolz & Bickenbach Group.

In 2005, Steeltec encountered severe flood damage, with entire production lines being shut down. Although the data center was not affected by this incident, Steeltec decided to perform a comprehensive risk analysis.

Marcel Zwimpfer, Head of Logistics and IT, Steeltec, comments, "Looking at the impact of production shutdown times for several scenarios, it became clear that relying on only one data center was an unacceptable risk. A forthcoming upgrade to the SAP ERP 6.0 application made this the perfect time to consider our options.

“Using VMware virtualization on IBM BladeCenter, we are able to ensure that each application is assigned precisely the right compute resources, ensuring excellent performance and very good total system utilization.”

Marcel Zwimpfer, Head of Logistics and IT, Steeltec

“We wanted to protect ourselves against disaster and yet make the best use of our existing IT infrastructure. The aim was to enhance our operational security and performance, deliver a continuous service to the business – and, of course, reduce costs.”

A true partnership

Steeltec chose to transform its IT infrastructure to provide a fully resilient standby service, and introduce server virtualization that would offer new flexibility and performance for production systems.

To manage the project, Steeltec first identified the requirements and secured the budget, and then handed responsibility to Prometheus Informatik for turn-key management. Prometheus Informatik designed the system specifications, schedules and resources, before moving on to the implementation stages.

“Steeltec deliberately did not build up internal IT expertise, and chose

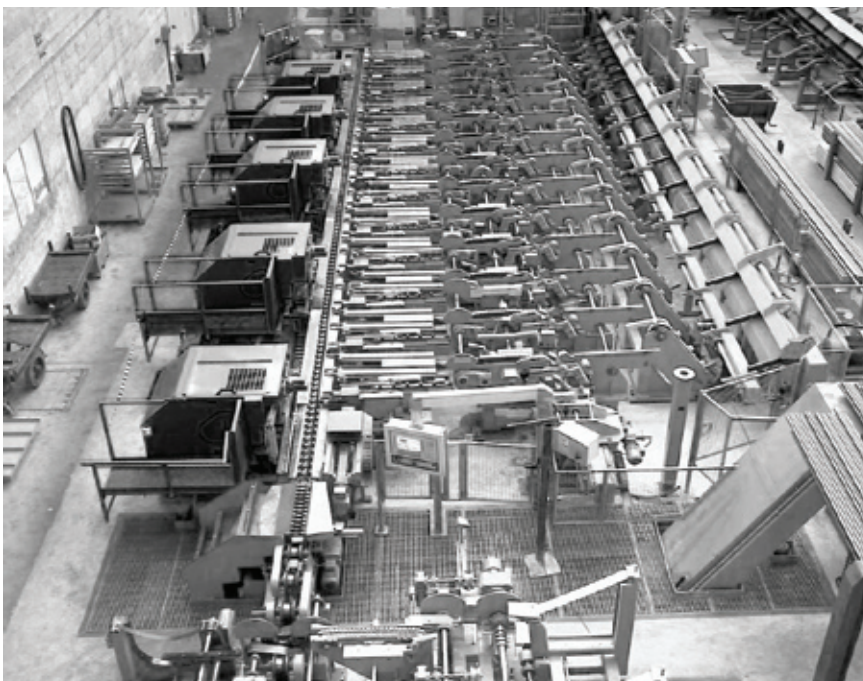
instead to collaborate exclusively with external partners. It was very important to rely on a trusted IBM Business Partner, and the Prometheus Informatik team has proven its competence,” says Marcel Zwimpfer. “Prometheus Informatik has also been a certified VMware distributor for more than three years, and its team’s expertise guaranteed a smooth project.”

Building a dual data center architecture

The first step was to create a second data center at a remote location, capable of supporting the entire workload. In the event of a major hardware failure or natural disaster affecting the main data center, the company would be able to protect itself against downtime and data loss by switching all applications and databases over to servers at the secondary site.

Next, Steeltec implemented a new IT infrastructure based on IBM BladeCenter and VMware virtualization technologies. VMware technology enables a BladeCenter chassis with six IBM LS41 blade servers at the main data center to support a total of 24 virtual servers – sufficient to run production, test and development environments for all of the company’s SAP, Infor and line-of-business applications. A duplicate of this infrastructure was installed at the second data center to provide a hot standby for failover purposes.

The IBM BladeCenter platform provides an integrated rack-mounted chassis capable of containing up to 14 blade servers, with built-in cooling, power and connectivity. The hardware is based on multiple levels of



redundancy, and the highly available IBM BladeCenter design supports Steeltec's reliability needs. IBM BladeCenter offers a high-performance, easy-to-manage environment, which is particularly well suited to organizations that expect rapid growth.

Centralizing storage infrastructure

Steeltec has also implemented an IBM System Storage DS4700 at each data center, and has eliminated daily tape backup in favor of automated data copies to the failover system. Additionally, by pooling all data storage to a single location, rather than maintaining isolated disk systems attached to standalone servers, Steeltec's total disk capacity requirement has actually decreased, cutting hardware and management costs.

The DS4700 provides a high-performance storage environment with up to 112TB of capacity. Designed for workgroups and with the scalability to serve complete enterprise environments, the DS4700 features advanced system management and data protection functionality at low operational costs.

Successful migration

Marcel Zwimpfer explains, "We were able to migrate all 260 users with minimal interruption. Using IBM VMware virtualization on BladeCenter, we are able to ensure that each application is assigned precisely the right compute resources, ensuring excellent performance and very good total system utilization."

The virtualization approach was made possible by the environment chosen

by Steeltec. The fact that SAP and IBM have certified ESX, and that Oracle support has been in place for years, allowed the company to be confident in the resilience of the solution. While Oracle does not certify its database for software platforms, it does provide support for virtualized instances. VMware ESX is fully certified by SAP and IBM for the environment chosen by Steeltec, so the company can be confident in the resilience of the solution.

Andy Odermatt, Chief Executive Officer at Prometheus Informatik, says, "The decision for VMware was based on the fact that it would make the best use of Steeltec's infrastructure and maximally utilize available computing capacity for our SAP applications.

"We can assign system resources and processor power to meet the exact requirements of each SAP application, ensuring good response times and gaining the best possible price-performance from Steeltec's hardware investments."

VMware Infrastructure allows SAP application and Oracle database workloads to be contained in their own separate virtual machines. This isolation removes the need to purchase and maintain a physical server for each application or database – greatly reducing operational, administration and maintenance costs.

Equally, when a new application environment is required, Steeltec no longer needs to order a new physical server. Instead, the Prometheus Informatik team can simply use VMware ESX to create a new virtual server and take advantage of spare

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capacity on the existing BladeCenter hardware. The whole process can be completed within one hour.

VMware VMotion technology also enables applications and users to be transferred from one server to another – or even between data centers – in a few seconds with no loss of user connection, providing almost continuous operations for Steeltec. This capability is a particular advantage in terms of disaster recovery, since all users can be transferred to the secondary data center very quickly in the event of a major failure at the main data center

Boosting performance, cutting costs

The new data center and its dynamic infrastructure entirely meet Steeltec's requirements regarding availability, performance, data security and – most importantly – business continuity. Older systems have now been retired and replaced by IBM BladeCenter technology, and the SAP ERP applications are showing vastly improved performance.

By virtualizing its server landscape and reducing the hardware footprint, Steeltec has been able to reduce maintenance costs and increase the flexibility and scalability of its systems.

“The transformation and virtualization process was completed without interrupting Steeltec's operations, and the project was completed on time and on budget,” concludes Marcel Zwimpfer. “Even half a day of unplanned downtime would have very serious financial implications for our company, so the new BladeCenter and VMware infrastructure enormously improves Steeltec's future business security.”

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Marcel Zwimpfer, Head of Logistics and IT,
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