



HVB Leasing GmbH

Citrix Application Delivery
for Financial Services

“ Server virtualization with XenServer provides enormous savings on server hardware and operating costs, and offers IT flexibility: test environments can be set up in minutes and we can adjust production systems without long maintenance periods.”

Martin Zachewicz
Group Head of IT
Infrastructure & Windows
System Support, HVB
Leasing GmbH

Key benefits

- Increases user density/server by four times, avoiding purchase of additional hardware
- Improves IT agility with rapid creation of virtual servers
- XenMotion™ technology enables maintenance without server downtime

HVB Leasing optimizes server performance through virtualization

Founded in 1963, the HVB Leasing Group is one of the leading independent leasing companies in Germany. The company offers a comprehensive range of financing models for commercial vehicles, machinery and other mobile equipment, and supports more than 12,000 business partners throughout the country. Since 2005, the HVB Leasing Group has belonged to the UniCredit Group, the largest leasing network in Europe.

The challenge: optimize server efficiency to keep datacenter costs down

The headquarters of the HVB Leasing Group is located in Hamburg, with 10 branches throughout Germany. Administration of this dispersed infrastructure proved to be an increasing challenge for the IT department. In order to simplify application provisioning and improve application performance for the branches, the company's managers decided to implement Citrix XenApp™, Enterprise Edition. Today, standard productivity applications as well as in-house-developed business and document management solutions are virtualized and delivered to users at all branches. The HVB Leasing Group's mobile and home office users connect to the XenApp environment via the Internet using Web Interface functionality. For security over the network, HVB Leasing has implemented the Citrix Access Gateway™ SSL VPN solution featuring SmartAccess, which encodes the entire communication between clients and servers and automatically verifies whether the end device is equipped with the latest security patches and a current virus scanner.

In order to connect all the external locations, home offices and mobile employees, additional server capacity was required in the datacenter. Against this backdrop, the IT department at HVB Leasing started a server virtualization project in the spring of 2008. “Our goal was to improve the efficiency of our existing servers to avoid the need to invest in a large number of new servers,” said Martin Zachewicz, group head of IT Infrastructure & Windows System Support at HVB Leasing.

The company's first XenApp servers ran with Microsoft® Windows Server® 2003 on HP ProLiant DL 380 G5 servers with powerful quad core processors. One server could support approximately 25 concurrent XenApp users. “However, system monitoring showed that the processor performance was far from being exhausted,” explained Zachewicz. “The CPU utilization was only at around 20 percent.” However the main memory limitation of the 32-bit version of Windows Server 2003 prevented further increasing user density per server.

Networking environment

- Citrix® XenServer™, Enterprise Edition running on 10 HP ProLiant DL 380 servers
- Citrix XenApp™, Enterprise Edition
- Citrix Access Gateway™, Advanced Edition
- Microsoft® Windows Server® 2003
- Approx. 280 PCs and notebooks
- Storage: 2x NetApp FAS2050.

Implementing a Citrix server virtualization solution

IT works!, a Silver Citrix Solution Advisor, recommended that HVB Leasing test the server virtualization solution Citrix® XenServer™. XenServer, Enterprise Edition was installed on a physical server with 16 GB RAM, and four virtual machines were created with Citrix XenApp. Even the group head of IT Infrastructure was surprised by the results of the test. “Up to 25 users could work on each of the four virtual servers, while the processor load rose to only 40 to 50 percent. This meant that with existing hardware we were able to immediately support nearly four times the number of users and still have room for more.”

As a result, the IT department quickly migrated the entire XenApp farm to virtual machines. At the same time, they began to virtualize additional workloads such as Web servers, proxy servers, print servers and application servers. The administrators used the HP Server Migration Pack to convert physical servers to virtual machines.

New host computer ready to use in 10 minutes

The HVB Leasing Group is operating six XenServer hosts in its main datacenter—three hosts for the XenApp server farm and three hosts on which around 20 different server systems were consolidated. Furthermore, four additional XenServer hosts, which are currently acting as test systems, are running in the backup data center. Setting up a new host generally takes no longer than 10 minutes; the special XenServer kit for the HP server is delivered as a USB stick on which the XenServer image is preinstalled. The administrator only needs to connect it to the server’s USB port and modify the boot sequence—XenServer and the HP Systems Insight Manager Agents are then automatically started. The entire configuration of the host and virtual machines takes place in a wizard-based process.

Everyday administration tasks can be efficiently taken care of via the XenCenter™ management console. New virtual machines can be generated simply by selecting a prepared template; in addition, the integrated XenMotion™ technology allows virtual machines to be moved during ongoing operations. “If maintenance work must be carried out on a physical server, we simply put it in maintenance mode,” explained Network Administrator Felix Buchtman. “The virtual machines are then automatically distributed to the other hosts within the pool of resources without, for example, interrupting the already running XenApp user sessions.”

With the overall project in mind, Zachewicz drew a positive conclusion, “Server virtualization with XenServer provides enormous savings on server hardware and operating costs, and offers IT flexibility: test environments can be set up in minutes and we can adjust production systems without long maintenance periods.” For this reason, additional server systems should be virtualized in the coming months.

Outlook: desktop virtualization, provisioning, and new XenServer version

At the same time, a number of system expansion opportunities are being contemplated: one idea is to virtualize the user desktops, which are not yet integrated into the XenApp infrastructure. Desktops with special applications, such as those for software developers, could also be administered and delivered from the datacenter with Citrix® XenDesktop™.

The HVB Leasing Group also wants to test Citrix Provisioning Server™. This technology could be deployed in the future to stream server or desktop images to virtual machines on demand. Any number of virtual desktops or virtual servers could thus be booted from a standard image—significantly reducing storage requirements in the datacenter.

Things have already begun with an upgrade to the latest version of Citrix XenServer. “We are particularly excited about the new opportunities in the area of high availability,” said Zachewicz. “We also want to implement the Citrix adapter for NetApp Data ONTAP to more closely connect XenServer with our storage system. Our goal is to be able to use NetApp functions such as snapshots via the XenServer environment as well.”

Applications delivered

- Microsoft® Office and Internet Explorer®
- Adobe Acrobat Reader
- In-house-developed applications

About the Citrix Solution

Citrix® XenServer™, a member of the Citrix Delivery Center™ product family, is an enterprise-class solution for virtualizing application workloads across any number of servers in the datacenter as a flexible aggregated pool of computing resources. Citrix XenApp™ is the industry's de facto standard for delivering Windows-based applications with the best performance, security and cost savings. Citrix Access Gateway™ is the only SSL VPN to securely deliver any application with policy-based SmartAccess control.

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