HITACHI
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SUCCESS STORY

Hitachi Storage Solutions at Work

HUK-COBURG

INDUSTRY	Insurance
SOLUTIONS	Tiered Storage/Virtualization and Consolidation

Hardware—Hitachi TagmaStore® Universal Storage Platforms, model USP600 (upgrade path from model USP100) and legacy Hitachi storage: Hitachi Lightning 9980V™ and Hitachi Lightning 9960™ enterprise systems; and Hitachi Thunder 9585V™ and Hitachi Thunder 9570™ modular systems

Software—Hitachi TrueCopy® Synchronous, Hitachi Universal Replicator, Hitachi Business Continuity Manager, Hitachi Virtual Partition Manager software, and HiCommand® Tiered Storage Manager

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Jörg Rehs
Acting Department Manager, Informatics Operation
and Manager, Production Control
HUK-COBURG

Juggling Three Computer Centers, HUK-COBURG Chooses Newest Hitachi Virtualization Technique for Efficient Data Security

Hitachi Data Systems provided a solution that embraced both new and legacy Hitachi storage and addressed three computer centers to provide heightened performance and security that HUK-COBURG required.

Insurance companies live on their good reputation. This not only applies to dealing with customers on the telephone, but also for IT. “Failures during data processing can do lasting damage to the sensitive image of our sector,” says Jörg Rehs, manager of the Production Control section and acting manager of the Informatics Operation at HUK-COBURG. “Therefore, security is especially important to us.”

This also applies to laying out the storage landscape for 30 percent yearly growth and the redundancy of the computer centers. The latter had already existed at HUK-COBURG but the secondary computer center was located at the other end of the same building. The earlier risk calculations did not allow for either a change in climate and the associated increased flooding or terrorist incidents to a sufficient extent. In addition, the technical connection of computer centers that are far apart from each other was still limited. “Some time ago, all of the risk estimates were therefore reworked one more time. The result was the planning of a new computer center, five kilometers away from the current primary station and located on a hill,” Rehs recalls. Construction began in March 2005.

Legacy Environment

The HUK-COBURG storage infrastructure consisted of a fabric for open systems and a director network in the mainframe environment with various legacy Hitachi storage systems. The storage systems of one type, which were redundantly laid out, stored the data for one operating system environment each: Four Hitachi 7700E storage systems, each with 1TB capacity and IBM® ESCON® connections were used to store the less important data of the IBM z/OS® mainframes. The more important mainframe data was stored on two Hitachi Lightning 9980V™ storage systems, at 11TB each, with IBM FICON® connections to the host. Two Hitachi Lightning 9960™ storage systems each stored 11TB of IBM AIX® data, and Microsoft® Windows file data was stored on two Hitachi Thunder 9570V™ modular storage systems, each with a capacity of 11TB, where they were made partly accessible to two HDS-NetApp® Enterprise (GF940) NAS Gateways.

Better Disaster Recovery and Data Classes Are in Demand

This platform-oriented model no longer satisfied the current and future requirements of the insurer. New, critical applications such as Web Application Server, telephony control for the customer support center, and centralized word processing required the change to a flexible multitier (data class) data management process, explains Renar Grunenberg, manager of the data administration group and the entire storage project.

The goal, therefore, was an infrastructure that supports several data classes, is consolidated, flexible, and manufacturer-independent for all data, and decreases costs. It should also support certain high-availability functions from the IBM mainframe world, which simplify the transparent data migration and provide progressive quality of service (QoS) functions.

Hitachi Virtualization Is Convincing

After evaluating bids, in September 2005 HUK-COBURG selected a Hitachi Data Systems solution consisting of two Hitachi TagmaStore® Universal Storage Platforms, model USP100, each of which were to connect to a Thunder 9585V storage system as a direct back-end system.

The capacity of the Thunder 9585V systems would be accessible by means of the virtualization characteristics of the USP100 models; there would be only one centralized administration. Nearly all of the legacy systems were to be migrated step-by step to this configuration.

"Hitachi Data Systems was the only bidder whose virtualization capabilities corresponded to our expectations of transparent classification while at the same time matching our price expectations. In addition, we can also connect storage systems from other manufacturers to the USP100 models, if we want," says Rehs.

Installation, partitioning, and tests of the infrastructure began in the first days of October 2005. Between the end of December and the end of January, the old Lightning 9960 systems were replaced.

Immediately thereafter, the preliminary work for delivering the new, third computer center was carried out. Between the end of February and the end of April, the two USP100 models were upgraded to Hitachi TagmaStore USP600 models in order to replace the previously used Lightning 9980V systems. A total capacity of 18TB per USP600 model and 14TB in the back end were added for the two Thunder 9585V systems. In a cross-site approach, it was possible to build on two redundant fabrics, which simplified the entire landscape. The upgraded storage systems were released at the end of March 2006. Then the migration of the application data from VMware and Microsoft Exchange was connected to the new hardware. The expansion of the storage capacities was done online.

Three at One Stroke

To date, the simultaneous implementation of three computer centers and the migration of data between them is a one-of-a-kind achievement. The third computer center was handed over to the users on June 30, 2006.

The third computer center, at the location 5km away, was equipped identically in terms of storage infrastructure to the primary and secondary computer centers. Then, the data was copied without interruption to the new systems.

The primary and secondary sites are now located farther apart due to risk assessment reasons. For the complex migration process, Hitachi Business Continuity Manager, Hitachi Universal Replicator and Hitachi TrueCopy® Synchronous software were combined. Together, they made it possible to carry out synchronous point-to-point data mirroring between the primary and secondary computer center and simultaneous, asynchronous mirroring between the primary and the new, third computer center. During this mirroring, the Hitachi Universal Replicator software, with its so-called journal functions and associated time stamp, ensured that the data consistency was preserved without interrupting operations.

"My employees managed around 30TB in 2004. Today, these same employees administer approximately 85TB in three computer centers."

Renar Grunenberg
Manager, Data Administration Group
HUK-COBURG

Users Profit from Data Classes

Today it is clear that the complex implementation of the new storage paradigm has paid off. "Since October, the specialist departments can now use the data classes that we defined," says Rehs with satisfaction. "With this technology, we can prepare for any application a multitiered solution under the aspects of performance and availability."

What's more, the response time of the mainframe has been reduced by one third. "Instead of 15 milliseconds, a response now takes less than five milliseconds," says Grunenberg. Generally speaking, one could react more flexibly, for example, while placing non-cache-friendly data, like the data from image processing, in separate cache areas using the Hitachi Virtual Partition Manager software.

More than anything else, Grunenberg praises the good overview of the entire online storage environment, where the Hitachi virtualization technology is a key factor. "My employees managed around 30TB in 2004. Today, these same employees administer approximately 85TB in three computer centers," he reports.

Future Steps

The last step in this plan will be consolidating and shutting down the old secondary computer center; insurance core applications will run outside of the z/OS mainframe for the first time next year, and they will need high-quality storage units.

Furthermore, Rehs would like to make a greater distinction between the quality characteristics of the data classes. "To this end, we intend to use the Hitachi HiCommand® Tuning Manager software," says Rehs. The optimal solution for him would automatically migrate the data into the corresponding data classes according to defined parameters. The HiCommand Tiered Storage Manager software from Hitachi Data Systems could solve this task.

The project team at HUK-COBURG insurance never runs out of challenges.

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