**Business Solutions Powered by DataCore™**

**The Chief Finance Office in Koblenz**, **Germany**, oversees 26 revenue offices in the federal state of Rheinland-Pfalz.

## The Challenge

Destined to unify and simplify financial administration in Germany, German fiscal authorities have introduced a uniform IT platform for their 650 revenue offices around the country - standardizing on EOSS (Evolutionary Oriented Tax Software). The SANsymphony implementation at the main revenue office in Koblenz was part of the EOSS project. A rollout of this size will take until 2012 to complete and is expected to cost federal government hundreds of millions of Euros.

In the past, each upgrade of the EMC Symetrix DMX 1000 disk subsystem required significant budget and had to be accompanied by an official, open "call to tender." Over time, the SAN system had grown to 16 terabytes, which represented the final stage of expansion. The required next phase of storage expansion needed not only offer additional capacity for the migration of EOSS, but also provide SAN virtualization and hardware independency. Plus, the team faced a short implementation window - the entire project needed to be concluded within three months.

## The Solution

IT service provider SHE Informationstechnologie AG, a DataCore partner, was awarded the contract for its virtualization proposal. In the first stage of expansion, four Dell MD1000 systems with 15 SAS hard disks apiece and a net capacity of 10 terabytes (TBs) was implemented. DataCore's SANsymphony 6.0 runs on two Dell R900 storage domain controllers. The hardware is located in two data centers and redundantly connected via Fibre Channel. Surprisingly, the combined costs for both hardware and software for the project came below the budget threshold and so did not cause the necessity for an official call to tender to be released - dramatically decreasing the project time frames.

SANsymphony: A Central SAN and Universal Storage Management Controller

"SANsymphony is a stable and flexible SAN platform, which turns cost-efficient standard hardware into high-performance machines suitable for data centers," says Klaus Schulz, Chairman of SHE Informationstechnologie AG. "Combined with server virtualization, it provides for a very fast and highly available infrastructure with enterprise features, which many organizations could hardly afford when implemented with the traditional SAN hardware. We are happy that we could support the regional finance office of Koblenz with the successful storage virtualization during the time-critical implementation of EOSS."

As the central SAN virtualization and management controller, SANsymphony generates a virtual storage pool out of the available hard disk capacity, provides the virtual VMware ESX server farm with virtual storage capacity from a central location, and guarantees high availability by synchronously mirroring the data between the data centers. DataCore's automatic failover/failback technology is certified for use with the high-availability features of the virtual machines (VMs). Thus, manual intervention in the restoring of failed or migrated VMs is eliminated. In addition, the dynamic storage space allocation, Thin Provisioning, optimizes the capacity utilization of the SAN hardware. By adding further storage domain controllers according to the n+1 principle, the performance can be scaled freely.

Delivering Cost Savings for the Long-term

The flexibility in expanding the storage capacity is a long-term advantage. SANsymphony integrates disk systems independently of manufacturers, hardware and technology, and equips them with SAN services on a network-wide basis. The regional finance office of Koblenz plans to expand the SAN infrastructure to 30 TBs in further stages of expansion, showing a mixture of SAS and SATA disk storage systems, which then are addressed hierarchically.

"Thanks to the competent consultation and support provided by SHE Informationstechnologie AG, the configuration, hardware relocation and data migration during operation was smooth," summarizes Dieter Deffner, Windows Server team leader at the regional finance office Koblenz. "DataCore's SANsymphony is a robust and high performance solution, particularly in terms of dealing very well with the high-availability functions of VMware ESX functions. Pure SAN hardware solutions would have required higher investments for providing the same or less functionality. Moreover, with SANsymphony we also consistently profit from the advantages of the storage virtualization, such as hardware independence and the flexibility that delivers - enabling us to expand the SAN infrastructure exactly according to our needs and possibilities."