



German Government Agency Scales out Citrix XenApp on a fully virtualized platform using Sanbolic's Melio Clustered File System for SAN Storage Access



BGHW is a German government agency that is responsible for providing employee insurance, accident prevention and employee care for retail, wholesale, and warehousing firms. They are part of a nation-wide employee care system specific to Germany, covering more than 4 million people.

As part of their productivity initiative, which includes fully digital end-to-end document handling, BGHW has relied extensively on Citrix XenApp to deliver applications to their user community. And when BGHW's XenApp environment was forced to double in size as a result of a recent merger, the agency was advised by net.workers AG to adopt a virtualized back end system utilizing Citrix XenServer and Sanbolic's Melio clustered file system. This approach provided BGHW with the ability to dynamically provision XenApp workloads while simultaneously reducing deployment cost and complexity. In addition to realizing these benefits, the agency was able to maintain compatibility with their existing DR architecture.

Situation

Created in early 2008 from the merger of two agencies, Berufsgenossenschaft Handel und Warendistribution (BGHW) is responsible for providing insurance and employee care for 400,000 firms, with a total of more than 4 million employees.

Due to the merger, the IT department was required to scale-out their existing infrastructure, which already consisted of multiple sites, a centralized modern datacenter, and a standby recovery site. The business runs on Microsoft Server products (Active Directory, Exchange, File Services, etc.) and a wide range of Linux solutions, including midrange Solaris and IBM host systems. 99% of all users' work is performed using applications hosted by Citrix XenApp. The merger required BGHW to double the number of hosted user sessions almost overnight as new software applications were introduced.

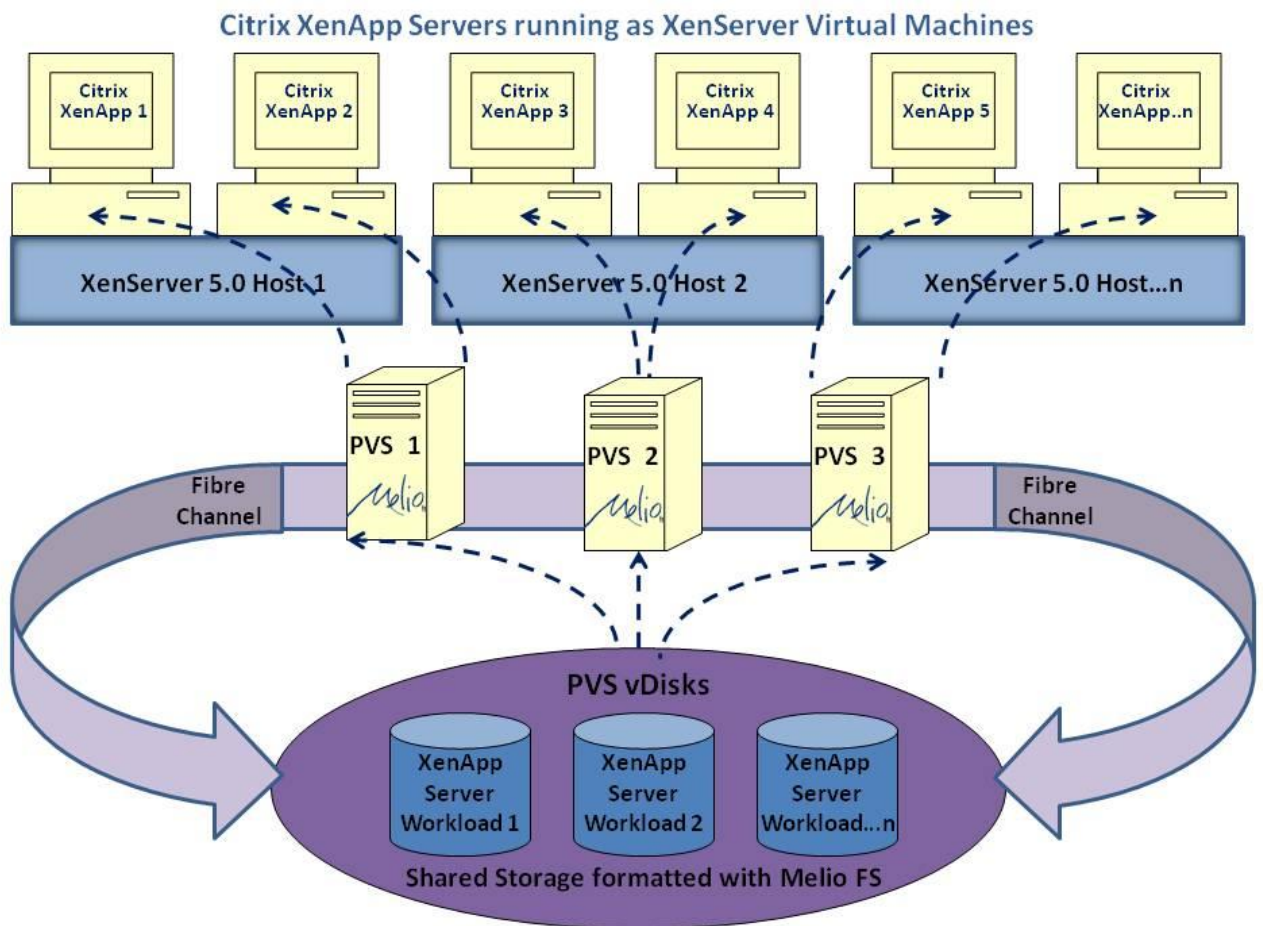
For this project, BGHW worked with net.workers AG, a highly experienced German consultancy and reseller with expertise in the area of networking, security, and application solutions. They serve as a competence center for application delivery within Controlware GmbH, a systems-integrator with enterprise customer coverage throughout Germany and Europe, with a strong reputation and more than 25 years of market presence.

Key Challenges

Upgrading the existing application set and server configuration from x86 to x64 soon became an insurmountable problem. Application dependencies and print driver issues presented significant obstacles, making it almost impossible to preserve existing DR plans and isolation architecture.

To solve these issues, net.workers AG and BGHW decided to scale out using Citrix Provisioning Server to dynamically provision server workloads on demand. At the same time, user density per physical server was increased by virtualizing the XenApp environment on Citrix's XenServer server virtualization platform, running multiple XenApp workloads on a single bare metal server.

Sanbolic's Melio clustered file system provides the Provisioning Servers with concurrent, block-level access to the existing Fibre Channel SAN environment. With consistent and resilient high-performance access to Provisioning Server virtual disks, load-balancing of vDisk I/O requests as well as workload failover can be achieved. BGHW now runs 32 Citrix XenServers and 64 Citrix XenApp servers using a variety of workload configurations.





Benefits

The nested virtualization solution for the XenApp backend enhances both the flexibility and availability of BGHW's application delivery infrastructure. Workloads can be easily moved among servers while shared storage access facilitates load balancing and failover of active workloads. The new deployment allows BGHW to increase their goGreen IT-strategy by dynamically provisioning the requested workloads while storage and complexity costs are dramatically reduced. Virtualizing the entire XenApp environment aligns perfectly with DR plans while keeping risk analysis and recovery options simple and straight forward.

Once we discussed the project vision, we quickly decided on a fully virtualized datacenter. The overall advantages were obvious: being innovative and flexible the same time by utilizing dynamic workload streaming. Due to the nature of Citrix Provisioning Services in conjunction with high-density XenApp workloads, each enterprise deployment requires reliable and fail-safe centralized storage integration at superior I/O rates. Sanbolic allowed us achieving best-performance results, and they offered outstanding support and had a remarkable conceptual understanding on the business case – while keeping us independent of specific storage vendors or architectures. MelioFS has become a standard component in our Citrix PVS design blueprint.

Thorsten Rood, Principal Architect net.workers AG



Solution Components

- 32 Citrix XenServer 5.0 hosts, another 16 hosts planned
- 64 Windows 2003 x86 Citrix XenApp 5.0 Platinum virtual machines, another 32 VMs planned
- 2 physical Windows 2003 x86 running Melio x86 with Citrix PVS 4.5, another node planned, upgrade to Citrix PVS 5.0 planned for late 2009
- 1 FibreChannel SAN IBM DS-8000 and IBM DS-4000 storage systems with approx 220 FC disks (>80TB), Brocade FC switches
- Citrix NetScaler HA pair
- Sanbolic Melio FS

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