



Success Story

Computacenter Relies on FlexPod from Cisco, NetApp, and VMware for Its Managed Workplace Services Portfolio



KEY HIGHLIGHTS

Industry
IT Services

The Challenge

Set up a cloud infrastructure for managed workplace services and a shared data center.

The Solution

Deploy a reference architecture based on FlexPod™ from Cisco, NetApp, and VMware.

Benefits

- Achieved extensive virtualization and automation
- Reduced backup times to minutes with NetApp® integrated data protection
- Simplified managed services setup through flexible scalability
- Achieved fast troubleshooting capability with joint support model
- Accelerated time to market thanks to preconfigured and validated solution

Customer Profile

Computacenter (www.computacenter.de) is Europe's leading multi-vendor IT infrastructure services provider. The company reaches its customers through a full-coverage network of locations in Germany, the UK, France, and Benelux, and via international partners in Europe, Asia, and North America. In 2010, Computacenter turned over around GBP 2.68 billion with 10,500 employees. In Germany, the company employs about 4,200 people and generated sales of EUR 1.18 billion in 2010.

The Challenge

IT consumerization—flexible service for flexible clients

Users want access to their data everywhere and from a wide range of devices: in the morning on their office PC, on the road with their smartphone or tablet PC, and in the evening from their Mac® at home. The "IT consumerization" trend—the professional use of devices such as iPads and iPhones developed for private use—produces a huge range of client hardware, operating systems, and versions in companies

and increases end users' influence on the type of clients deployed. This evolution requires high standards for provisioning and quality of service for CIOs in companies as well as providers of managed workplace services (MWS). Without virtualization across all levels, the new complexity is almost impossible to support while keeping cost-benefit ratios at reasonable levels.

Computacenter is a leading IT service provider in the desktop outsourcing field. Although the company's existing infrastructure offered end-to-end outsourcing for clients, including a managed environment and services, including for files, e-mail, Web, and print, it was due for replacement because of its overdependence on dedicated infrastructure blocks. As a result, Computacenter set out to take a new path with a cloud-capable reference architecture that would:

- Meet increasing requirements on desktop outsourcing and
- Efficiently and flexibly serve the extensive service portfolio within a shared IT infrastructure.



“Our decision in favor of Cisco, NetApp, and VMware gave us a wide scope for creating new services, smoothly running support, and secure perspectives for the future.”

Tobias Geber-Jauch

CTO, Managed Services Factory, Computacenter

“Multi-tenancy and performance set the bar for the new infrastructure’s capability. In addition, we needed a high degree of virtualization in the data center to keep pace with changes in end-device computing,” explains Tobias Geber-Jauch, CTO managed services factory at Computacenter. “Customers are demanding flexible scalability, mobile computing, and the fastest provisioning of services more than ever before.”

In early 2010, Computacenter began to develop its new managed workplace products and in parallel defined the criteria for a reference architecture. High performance was key, since client virtualization requires a lot of processing power, memory, and CPU elasticity. Companies subscribing to clients from the cloud also want the utmost flexibility, because the number of workplaces has to be adjusted daily to meet current demands. Therefore, the new infrastructure had to be capable of providing this flexibility.

Further, Computacenter wanted high I/O bandwidths between the computing architecture and storage, since access rates tend to rise enormously, particularly at peak times. Here, too, customer acceptance of client virtualization absolutely depends on performance: Customers who have to wait will simply not take up the offer. In terms of storage, Computacenter aimed to eliminate the previous separation into

storage area network (SAN), network-attached storage (NAS), and various storage classes. Since customers expect ever greater quality and flexibility in data management, data migration needed to be seamless, and it had to be possible to integrate services for archiving and backing up to disk in an efficient and affordable way.

The Solution **FlexPod with Cisco, NetApp,** **and VMware**

In the summer of 2010, a comparative feasibility study was performed on the network, storage, and server components required for the infrastructure stack. The study sought to discover how well the complex communication between physical hardware, virtualization layers, and business applications functioned, and to assess the performance and stability for outsourcing services.

With FlexPod, Cisco, NetApp, and VMware offered an all-in-one solution. FlexPod is a unified, pretested, and validated “out-of-the-box” data center solution optimized for a range of applications and configured for virtual infrastructures and environments with secure multi-tenancy. The architecture builds on a flexible and scalable shared IT infrastructure based on Cisco® Unified Computing System™ (UCS™) blade servers, Cisco Nexus™ switches, and NetApp unified storage. Enhanced by VMware® solutions it produces

a cloud-ready data center in a rack: VMware® vSphere™ built on FlexPod.

“With FlexPod as the dynamic infrastructure for Citrix® XenDesktop we have found the ideal solution for our managed workplace services,” says Geber-Jauch. “And this is not only true of the individual components, but for the entire solution and support. Furthermore, Cisco, NetApp, and VMware helped us across the board with their expertise in setting it up.” The three vendors operate a joint support model, and work together to find solutions to technical questions. Confusion over responsibilities never arises because the customer has one dedicated contact.

The profile concept provided by Cisco UCS was another main factor in the solution’s favor—it allows additional servers to be added simply and quickly by a mouse click. The key criteria for storage were manageability and efficiency. Here, NetApp’s unified architecture beat other storage systems with NAS gateways hands down. “The NetApp storage was configured and ready for use in just two days,” says Christian Hietzschold, IT architect managed services factory at Computacenter. “The system worked right away, precisely as we wanted it to, not least thanks to its superlative system logic. When it comes to deduplication and compression, NetApp is lengths ahead and, what’s more, across the entire storage system.”

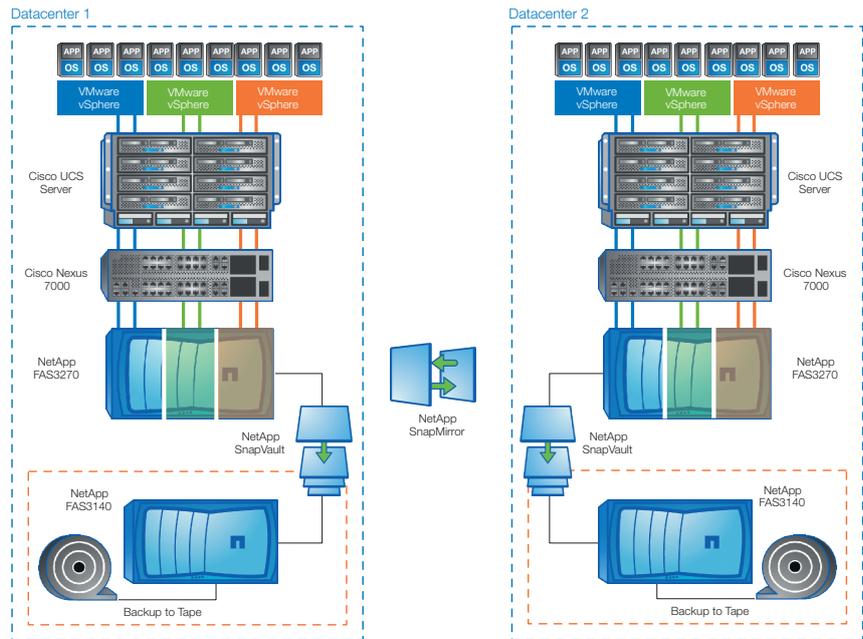


Figure 1: Computacenter infrastructure based on VMware vSphere built on FlexPod, secure multi-tenancy, replication, and backup-to-disk-to-tape.

The conversion of the two data centers in Frankfurt began at the end of 2010. To protect against disaster, the buildings are about 10 kilometers apart as the crow flies and have redundancy built in. Two NetApp FAS3270 systems serve each data center as their primary active storage. Computacenter also installed two FAS3140 systems as secondary storage for backups at each data center. NetApp SnapVault® backs up all data differentially at block level from the production to the backup systems. The switch infrastructure consists of two Cisco Nexus 7000 switches for each data center for the network. Cisco MDS for the Fibre Channel (FC) SAN connection is designed redundantly as well. The infrastructure is rounded off with Cisco UCS blade server systems and VMware vSphere and vCenter™. In April 2011 the new shared data center with managed workplace services went live.

Business Benefits

Substantial savings, greater efficiency

FlexPod has raised the performance and cost efficiency at Computacenter enormously. “Because we consistently deduplicate the virtual machines with NetApp, we save up to 90% in storage capacity. The figure is 30% for the file service. Both are surprisingly close to the vendor’s claims,” says Hietzschold. Without FlexPod, the company was previously able to use only 50% of raw capacity.

“After all storage optimizations, we have raised the level of utilization to 150%,” the IT architect now reports. At the same time, space, power, and cooling needs were cut by more than 30%—all a result of the acceleration produced by NetApp Flash Cache, which enables the use of cheaper, high-capacity SATA disks. “With FlexPod, we cut our power costs by a third every month, and that has raised our competitiveness enormously.”

Computacenter also benefits to a high degree from NetApp’s integrated data protection. “The NetApp Snapshot™ technology is almost load free,” adds Hietzschold. Integration with applications such as SAP®, Microsoft® Exchange, or SQL Server® in particular provides huge benefits. “SnapManager® controls the entire application to create consistent snapshots,” Hietzschold says. “This avoids the extremely high load peaks we had in the past with traditional backups to Data Domain storage. With NetApp the backup is done within a minute instead of running all night.”

Self-service flexibility and automation

Whether for storage classes, performance levels, or fast additions of server blades, disk shelves, virtual clients, machines, or applications, there are virtually no limits in the private FlexPod cloud. Any adjustments can be done extremely quickly and easily, and without the need for complex change projects. The

secure multi-tenancy capability of the FlexPod architecture gives numerous customers not only secure space on the platform, but also lets them participate in the flexible options for provisioning clients and services. This enables Computacenter to lower its operating costs and simplify administration. With NetApp OnCommand™ Operations Manager, the administration has the environment under control and can make adjustments quickly if required.

Computacenter has already achieved a very high degree of automation at the infrastructure level and aims to duplicate this success at the service level. Part of this will involve replacing the manual order process with an automated procedure. With this in place, users will be able to simply choose the matching virtual client and apply it immediately at the click of a mouse.

Future-proof investment

“Our goal is to continuously expand and refine the managed services with a particular focus on our data center reference architecture. This gives users more solution offerings and raises the appeal of the offer,” says Geber-Jauch. “Our decision in favor of Cisco, NetApp, and VMware gave us a wide scope for creating new services, smoothly running support, and secure perspectives for the future. We know that our partners understand our strategic goals and share in them in the interests of our customers.”

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Christian Hietzschold

Architect, Managed Services Factory, Computacenter

SOLUTION COMPONENTS

NetApp products

4 NetApp FAS3270s
(primary storage)
4 NetApp FAS3140s
(secondary storage)
NetApp compression
NetApp deduplication
NetApp Flash Cache
NetApp FlexClone®
NetApp MultiStore®
NetApp OnCommand Operations
Manager
NetApp SnapManager for
Oracle®, SQL Server and Virtual
Infrastructure
NetApp Snapshot™
NetApp SnapMirror®
NetApp SnapRestore®
NetApp SnapVault®
NetApp SupportEdge

Protocols

FC, CIFS, NFS, iSCSI

Environment

Cisco MDS Multilayer Fabric
Switches
Citrix XenDesktop 5
Matrix42 Workplace Management
Microsoft Windows® File Service
Microsoft SharePoint® Server 2007
Microsoft SQL Server 2005

FlexPod

Cisco UCS blade servers
Cisco Nexus 7000 switching
system
NetApp FAS3270 systems
VMware vCenter
VMware vSphere



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