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ZHAW | PROBLEM SOLVED

FlexPod from Cisco and NetApp is the university's IT services backbone and paves the way for a hybrid IT model.

Zurich University of Applied Sciences is Set to Embrace New Levels of Innovation

Zurich University of Applied Sciences (ZHAW) is one of Switzerland's leading universities for applied sciences. Its eight departments include Applied Linguistics, Applied Psychology, Architecture, Design and Civil Engineering, Health Professions, Life Sciences and Facility Management, School of Engineering, School of Management and Law, and Social Work. The university is committed to innovation and its IT team aims to simplify processes—a challenge that can be solved easily using NetApp® solutions.

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Martin Casserini
Head of Servers and Systems, ZHAW

REFOCUS ON A HYBRID IT MODEL

The university's central IT system manages a sophisticated infrastructure covering three locations and offering applications for everything from teaching, e-learning, finance, and CRM to file sharing, collaboration, e-mail, and phones. For Martin Casserini and his team, scalability and availability are the main challenges.

“We are committed to innovation and our goal is to significantly simplify IT processes. This will unleash a new dynamic and help us to forge new paths. The ability to deliver fast IT solutions and take advantage of the technical opportunities offered by the cloud is also essential in the higher education sector,” says Caserini. As head of servers and systems at ZHAW, he is also responsible for designing the further development of the university's infrastructure.

At the moment, cloud services are being used in select areas within the university; for example, the SWITCH cloud is used for file sharing. When it comes to dealing with performance requirements and user behavior, these services are of strategic importance. In short, the move to a service-oriented, hybrid IT model is a foregone conclusion.

ONE FLEXPOD FOR THREE LOCATIONS

FlexPod® from NetApp and Cisco became the solution of choice. Its implementation at the university's two data centers in Wintherthur went perfectly to plan. Initially the university will be using the converged infrastructure with VMware virtualization for a private cloud. Involving a raw capacity of 650 TB, all file and block data was migrated successfully from the various systems, including virtual machines. Apart from achieving full consolidation, this migration allowed data availability to take on an entirely new dimension—that of business continuity, thanks to NetApp Clustered Data ONTAP® with MetroCluster® software and synchronous data mirroring, enhanced by ClusterLion for automatic site failover without the risk of split brain.

Economic efficiency is beyond question. FlexPod can be adapted to change dynamically—for example, with more CPU power or by adding SSDs for a hybrid solution. In terms of efficiency, the NetApp systems have really come into their own. For example, compression and deduplication slow down the growth of stored data and postpone the purchase of new disk shelves.

BUSINESS BENEFITS

- Simplified IT operations
- Dynamic scalability
- Improved backup service for users
- 75% deduplication effect in VMware environment
- 85% more performance thanks to Flash Cache
- Cloud- and service-ready
- IT organization can respond more quickly
- Role of IT as enabler is reinforced

“What impresses me most is the ability to seamlessly migrate data within the cluster itself. To my knowledge, this is a first,” explains Thomas Elz, system engineer for servers and systems at ZHAW. “FlexPod is easy to administer—everything is fully integrated, and it offers extensive automation. And having just one architecture means we're saving additional time and money.” In terms of performance, Elz is also impressed:

“Access to frequently used data is automatically faster with Flash Cache. The hit rate is 85%, which is outstanding!”

ALL-IN-ONE SOLUTION FOR BACKUP AS A SERVICE

NetApp solutions handle the university's entire backup needs. NetApp Snapshot™ technology is used to create backups of databases and files to primary systems as well as to an FAS system at a third location several times a day. Users can restore their files themselves for a period of up to six months. “By using NetApp Snapshot copies and disks instead of tape, we have at least tripled the backup horizon available online. Together with the DIY restore feature, it's a fantastic service for our users and significantly reduces workload,” explains Casserini. “Seamless, all-in-one backup technology has its advantages.”

This scenario enables disk backup across multiple systems and locations, and even allows access to the cloud. It's completely seamless, whether you're working with a NetApp authorized partner or NetApp certified backup services in the cloud. This means that IT can implement new requirements, such as additional external backup storage, quickly and cost-effectively.

CLOUD- AND SERVICE- READY

Investment in areal redundancy and active-active configuration for file and block data, plus automated failover in the case of disaster, are paying off. “We have achieved business continuity and resilience against failure. Students can access data whenever they want,” explains Casserini.



**STUDENTS CAN ACCESS
DATA WHENEVER THEY
WANT THANKS TO
BUSINESS CONTINUITY
AND RESILIENCE
AGAINST FAILURE.**

And what's more—thanks to FlexPod, the university is now on track for a service-oriented, hybrid IT model. Cisco Intercloud Fabric will make this model easy to build and use, while NetApp Data Fabric will provide seamless data management across all data. Together, they will provide an infrastructure that can be easily combined for private and public cloud services.

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"This is the kind of flexibility we've always envisioned," says Casserini. "We want to be able to decide on a case-by-case basis whether a service should run on-premises or from an external cloud. Choosing which type of service to use is a matter of compliance for ZHAW. But having options is what counts. This is the only way we can respond to departmental requests quickly and provide innovative solutions."

In the Winterthur, Zurich, and Wädenswil campuses, about 3,000 people work in the areas of teaching, research, and administration. The number of students exceeds 12,000. The IT team provides all of them with core

applications. However, the departments also have an element of autonomy when it comes to budget, allowing them to use their funds as they see fit.

"As an internal service provider, we also have to be competitive," explains Casserini. "We can't lose sight of the big picture, and we have to keep things such as costs and compliance in mind. Having a hybrid IT model based on FlexPod allows us to do just that, and in a way we can really deliver on." The team is already working on a detailed breakdown that will map out all costs and services. As a result of all this, ZHAW is now one step closer to achieving IT as a Service.

SOLUTION COMPONENTS

FLEXPOD

NetApp FAS8060AE systems, NetApp Flash Cache, NetApp Clustered Data ONTAP, NetApp MetroCluster Software, Cisco Nexus 5548 UP, Cisco UCS B200

VIRTUALIZATION/ ADMINISTRATION

Cisco UCS Manager, NetApp OnCommand® Unified Manager, VMware vSphere

NETAPP PRODUCTS

NetApp FAS3220 (Backup), SnapManager®, Snapshot, SnapVault®

ENVIRONMENT

ClusterLion, Linux, Microsoft Dynamics, Exchange Server, SharePoint, SQL Server, Moodle (E-Learning), MySQL

Image: ZHAW

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