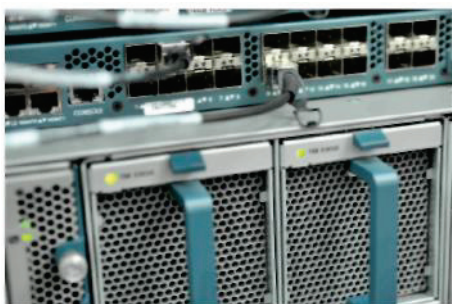




vCloud provides infrastructure as a service using Cisco UCS

## Secure, fast, scalable



The core of the vCloud data centre is a flexible, scalable shared IT infrastructure comprising Cisco Unified Computing System (UCS) blade servers, Cisco routers, and NetApp unified storage

**An ever-increasing number of companies are outsourcing IT services, from individual applications to entire data centres. vCloud AG was founded in Switzerland one year ago and became the first European service provider to offer complete infrastructures as a service. This startup company uses the Cisco Unified Computing System to provide maximum security, stability and flexibility for its public cloud solutions. Customers are able to implement new projects more quickly, manage their services independently using a self-service portal and adjust capacities to suit their own requirements. Due to anticipated growth, vCloud is already planning significant expansion of its own data centre.**

vCloud AG is based in Lucerne, Switzerland, and provides enterprise-class cloud services. The company is a professional provider of virtual data centres for companies. It offers the full range of services from simple virtual servers to handling entire IT infrastructures. Founded in 2010, it was Europe's first provider of complete infrastructures as a service. Since then, it has been providing seamless IT operations for its business customers in the areas of infrastructure, desktop services, backup, memory and security.

Although the company was founded in 2010, all six company employees have been actively employed in IT for over 15 years and have extensive experience in this field. They are aware, therefore, that a good network of relationships is essential for developing optimum solutions for customers in collaboration with other specialists. They employ state-of-the-art technologies that are tested for functionality and suitability for everyday use. At the same time, the company is mindful of providing cost-effective and highly available IT services.



### From 0 to 200

After the company was founded, vCloud AG's brand new data centre with a starting capacity of 200 virtual servers was created within just three months. The company chose to use the FlexPod data centre solution for its infrastructure. This is a prefabricated data centre developed by Cisco, VMware and NetApp. It has been optimised for a range of applications and configured for virtual infrastructures and environments with secure multi-client capability. The core is formed by a flexible, scalable shared IT infrastructure comprising Cisco Unified Computing System (UCS) blade servers, Cisco routers and NetApp



Fabian Waser, Managing Director of vCloud: "We chose this solution because it offers the highest efficiency per square metre in terms of processor performance and storage density."

### Background

vCloud AG, based in Lucerne, is a professional provider of enterprise virtual data centres. Founded in 2010, it was Europe's first provider of complete infrastructures as a service. Since then, it has been providing seamless IT operations for its business customers - from simple virtual servers to handling entire IT infrastructures.

### The challenge

The startup company required a brand new data centre which offered the highest possible efficiency per square metre in terms of processor performance and storage density. The company also required a user-friendly, central management tool to achieve maximum flexibility and scalability.

### Solution

FlexPod is a prefabricated data centre developed by Cisco, VMware and NetApp. It has been optimised for a range of applications and configured for virtual infrastructures and environments with secure multi-client capability. The core is formed by a flexible, scalable shared IT infrastructure comprising Cisco Unified Computing System (UCS) blade servers, Cisco routers and NetApp unified storage. In combination with virtualisation solutions from VMware, this creates a rack format, cloud-capable data centre.

### Benefits

- Efficient, cost-effective public cloud services with high flexibility and security
- Central, standardised management for rapid provision of new systems
- Low administration workload due to automatic updates
- Customers can implement projects more quickly due to flexible, simple self-service

unified storage. In combination with virtualisation solutions from VMware, this creates a rack format, cloud-capable data centre.

"We decided to implement this solution because it offers the highest efficiency per square metre in terms of processor performance and storage density", explains Fabian Waser, Managing Director of vCloud. "We can also manage the solution using a user-friendly, central management tool, the Cisco UCS Manager. This enables us to achieve maximum flexibility and scalability. We were thoroughly impressed by FlexPod, both technically and financially and in terms of the architecture as well as the concept. The solution was streets ahead of the only other competitor."

Using this solution, vCloud can offer public cloud services efficiently and economically. This includes virtual servers for all companies who require temporary resources or who want to replace small numbers of physical servers. In addition, they also provide three solutions for demand-oriented virtual data centres (vDCs) which customers can administrate themselves via a self-service portal. These are designed to enable companies to port their workloads quickly and easily. Any available virtual VMware machines (VM) and virtual applications (vApp) can be executed in a vCloud data centre with only a few alterations or no changes at all.

### High security

Furthermore, all vCloud data centre services provide unparalleled security: network rules and firewall rules are automatically implemented using virtual application containers (vApps) with one firewall for each organisation. All conventional security protocols are available and the service can be fully validated in audits carried out by the company's in-house security team or qualified, third-party auditors. Access and authentication are enabled via the company's LDAP directory. The company is therefore able to manage their own users and guarantee users role-based access in accordance with their individual rules.

"Security and isolation are of paramount importance to our services", explains Fabian Waser. "In addition to the functions for multi-client capability integrated into Cisco UCS, we also use proven VPN, VLAN and VMware cloud infrastructure technologies in our data centre. We also employ firewalls for isolation from internet risks. We use IPsec to encode VPN connections. Our cloud infrastructure technology offers verifiable security in accordance with SAS 70 type II and ISO 27001 on several levels. This enables us to guarantee maximum security of our virtual IT infrastructure."

### The new data centre

The vCloud data centre consists of 16 Cisco UCS B200-M2 blade servers which are fully integrated into the Cisco Unified Computing System. This architecture integrates network resources, computing resources, and virtualisation resources into a single, seamless system with the network as a platform. It breaks down the prevailing silo architecture to provide data centres with all virtualisation options. These are enabled by FlexPod solutions from VMware. VMware vCenter servers provide a scalable and extendable platform for virtualisation management. VMware vSphere is a cloud operating system which uses virtualisation to convert data centres into simplified cloud computing infrastructures. The VMware vShield security solution and unified storage from NetApp are also employed.

"We called on our partners vmnet GmbH to implement the solution", explains Fabian Waser. "They were recommended to us by Cisco as they have more experience with FlexPod than any other IT service provider in Switzerland and have a thorough knowledge of solutions using Cisco routers and the VMware Cloud Stack. We benefited from our partner's expertise during our very successful collaboration."



The vCloud data centre consists of 16 Cisco UCS B200-M2 blade servers. These are fully integrated into the Cisco Unified Computing System.

### Additional services

vCloud also uses Cisco Support Services as well as Cisco Capital for easy financing. The support service responded competently and quickly with solution proposals during the start-up phase. However, this service was no longer required during live operation as the Cisco components have been running completely stably since then.

vCloud customers can therefore reliably access the VMware vCloud Director self-service portal from their own private cloud via the VMware vCloud API programming interface. In addition to numerous operating and management functions, it also provides catalogues for virtual applications and various security settings. The virtual data centre has a fully redundant structure and enables users to access vCloud public cloud services.

### Numerous advantages

"The main benefit of using this new solution is central, standardised management via Cisco UCS", Fabian Waser explains. "It enables us to provide new systems very time-efficiently. In addition, there is no need for us to further develop our systems since the manufacturer continually imports new functions and updates. This saves us a lot of unnecessary administration and allows us to streamline our resources".

Customers also report numerous advantages. For example, the virtual data centre is flexible and simple to use and enables them to implement new projects more quickly. Self-service functions mean that there are fewer obstacles when implementing new services and managing existing services. Furthermore, they no longer need to worry about capacity planning as they only use resources they actually need and these can be quickly scaled.

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### Outlook

vCloud already has many customers in the areas of software development, service providers, and vehicle rentals. However, the startup company anticipates increasing demand for public cloud services and Fabian Waser is already planning the next steps towards expansion: "In the near future we want to increase our current data centre capacity to 400 virtual servers. We can then continue to double this capacity in stages until we ultimately reach a maximum of 8000 virtual servers. This would make us not only the most innovative, but surely also the largest cloud provider in Switzerland."



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