



## University of Bern: Rapid Resource Provisioning With Cisco UCS

### Flexible Support for Researchers

#### Background

The University of Bern is involved in a number of research projects on national, European and global levels. In order to offer researchers the most efficient IT infrastructure possible, server and storage resources are provided by the university's centralized data center.

#### Challenge

Constant data growth requires efficient solutions that make resources available as quickly and flexibly as possible. Ease of operation and central management are equally important in order to keep administrative expenditure as low as possible.

#### Solution

124 virtual devices store up to 18 TB of data on six physical servers using Cisco UCS. With 1.5 TB of working memory, they can also run a number of applications and computing processes. Virtualization is provided by VMware solutions, with Hitachi Data Systems supplying the memory.

#### Benefits

- reliable and rapid resource provisioning
- central management, easy management of service profiles
- intuitive operation with no training required
- fast installation, high level of scalability
- optimized cooling and energy costs

Scientists and researchers require fast and comprehensive data storage and computing solutions. With Cisco UCS, the University of Bern is able to provide flexible and highly scalable IT resources to its institutes and research groups. This efficient, centralized and easy-to-manage solution saves the university money while accelerating the progress of scientific projects.

The University of Bern offers cutting-edge international research and excellent study and living conditions in an attractive environment. Its origins date back to the 16th century. With approximately 14,900 students, eight academic departments and around 160 institutes, it ranks amongst medium-sized Swiss universities. An interdisciplinary approach to teaching and research is integral to the four Bern-based National Centers for Competence in Research focusing on climate sciences, sustainability, world trade and membrane biology. The University of Bern is involved in a number of research projects on European and global levels, such as in the field of space exploration.

In order to offer the various institutes and research groups the most efficient IT infrastructure possible, server and storage resources are provided by the university's centralized data center. This also minimizes energy consumption and expenditure on cooling, and eliminates the need for internal support to operate individual data centers in different buildings.

#### A Practical and Fast Solution

"We are always looking for practical, fast and reliable solutions in order to optimize our services," says Simon Stähelin, the university's virtualization manager. "Cisco UCS's performance record and management functionalities were so impressive that we decided to install the system without even testing it first."

With support provided by partner Netcloud, the solution was fully installed and operative in just three days. Now 124 virtual devices store data from 40 institutes and research groups on six physical servers utilizing a total of 96 processors. In addition to this, they manage various applications and computing processes.



The Cisco Unified Data Center architecture offers maximum flexibility. This unified framework provides the University of Bern with an ideal foundation for future data growth.

"Cisco UCS has proved to be a resounding success," reports Simon Stähelin. "The system runs smoothly and reliably, and is faster than previous solutions. We're particularly impressed with the centralized management, which significantly simplifies administration. This means that it only takes a minute and a few mouse clicks to provide additional resources, while service profiles are easier to manage. It is so intuitive that we didn't even need any training."

### Easily Expandable

The virtual devices currently offer a storage capacity of 18 TB and a working memory of 1.5 TB. Virtualization is provided by VMware solutions, with Hitachi Data Systems supplying the memory. In order to cope with the challenges of data growth and to benefit from the easily expandable solution provided by Cisco UCS, the University of Bern is planning to purchase a second UCS domain during the next year and provision 20 physical servers for virtualization.

"After all, data usage is increasing at a rate of 150 to 200 % per year, driven largely by the growth in research data and the more demanding requirements in server development," as Stähelin points out.

"In addition, we have introduced a centralized data storage service for the entire university. As a university, we like to experiment, and that also includes testing different technologies for our IT needs. However, due to our positive experiences with Cisco UCS, we are considering changing our entire infrastructure over to their technology."

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