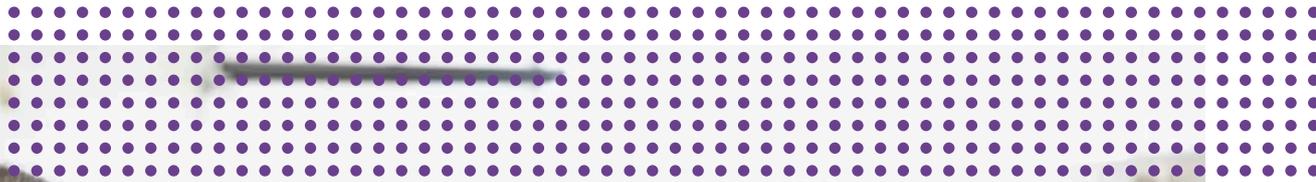




Case study • Education



ALCATEL-LUCENT HELPS TÜBINGEN-HOHENHEIM STUDENT UNION TO GO GREEN WITH LOW ENERGY, HIGH PERFORMANCE NETWORK SWITCHES



A 40,000-strong German students' union deploys an advanced network across halls of residence and offices – and saves 70 per cent on energy costs

The old data network managed by Tübingen-Hohenheim student union had to be replaced because it could no longer meet the needs of today's students and employees. In its place, 130 state-of-the-art Alcatel-Lucent switches were integrated into a new network that offers not only high performance, but also extremely low levels of energy consumption.





CHALLENGE

- To transform an existing obsolete infrastructure
- To deliver state-of-the-art network functionalities
- To reduce the customer's energy consumption

SOLUTION

- Stackable 10/100 Ethernet switches with fixed port configuration:
 - 130 Alcatel-Lucent **OmniStack** LS 6200 switches
 - Standard support packages for all switches

ADVANTAGES

- Significantly lower energy requirement and cooling expenses
- Excellent network performance for students and staff alike
- Substantially reduced total cost of ownership through lower energy costs and better performing devices

TÜBINGEN-HOHENHEIM STUDENT UNION

The Tübingen-Hohenheim student union is a public body that – in collaboration with their colleges – supervises the social welfare of its student members. Its duties include managing halls of residence as well as fostering its members' cultural and social lives. The student union's activities are financed by its revenues from its halls of residence and cafeterias, as well as from membership subscriptions and subsidies from the Baden-Württemberg state government.

The student union, under the leadership of its director, Oliver Schill, is responsible for the students of Tübingen university, Hohenheim university, the Ludwigsburg teacher training college, the Reutlingen education faculty, the college for technology and trade, which is also based in Reutlingen, the college for economics and ecology in Nürtingen-Geislingen, the Trossingen college of music, the Rottenburg college of forestry, Albstadt-Sigmaringen college, and, finally, the college for church music in Rottenburg. On average, each semester the Tübingen-Hohenheim student union represents about 40,000 students. Efficiency, customer orientation and quality of service are prerequisites for the successful operation and competitiveness of student unions.

BETTER INTERNET ACCESS IN STUDENT ACCOMMODATION

Between August 2006 and August 2007, one of the student union's halls of residence in Tübingen was completely renovated and refurbished. The schedule of works included the modernization of the hall's data network.

“The Alcatel-Lucent switches meet all our expectations. We were very impressed by our experiences during testing, by our first meeting at CeBIT, and by the contact we have had with their Technical Support people. These days, when we run tests for new projects we always take care to check what a solution might look like from Alcatel-Lucent. And we certainly see future possibilities for our use of Alcatel-Lucent products.”

Klaus-Dieter Kosok,
head of IT, Tübingen-Hohenheim student union



Students today need fast and reliable Internet access in their rooms, and to meet this requirement Tübingen-Hohenheim student union maintains a modern data network that provides every accommodation unit with symmetrical access to a university network. Previously, the union had deployed switches from a number of network vendors and these were becoming increasingly incapable of performing in line with expectations. Moreover, it was proving difficult to find replacement devices and to maintain the stability and reliability that were needed.

For this reason the student union's managers decided early in 2007 that they would implement a new, unified, switch-based infrastructure.

FINDING RELIABILITY, PERFORMANCE AND AFFORDABILITY

A team of professionals in the student union's ICT department launched a thorough survey of the market. Switches from 10 different network vendors were tested to check the accuracy of manufacturers' claims in a real-world environment. The power usage of all devices was also measured – a criterion that was not originally seen as particularly critical.

Alcatel-Lucent – who had met one of the student union's ICT team at Hannover's CeBIT 2007 – was one vendor whose devices

were shortlisted. A small but telling detail arose when the courier company was suddenly unable to deliver the switches in time for the test. Gert Postor, a consultant with Alcatel-Lucent's Business Partner, NextiraOne, packed the devices into his own car and drove them personally to Tübingen-Hohenheim.

At the end of the trials, it became clear that several vendors' products offered very similar performance levels. That is why the student union's ICT team decided to look more closely at energy running costs – and had a few surprises. This was a factor that no vendor even mentioned and that was not among the team's original decision-making criteria. However, more than 100 devices were to be deployed and power usage quickly emerged as a deciding factor. According to the student union's own tests, the Alcatel-Lucent switch not only had a low purchase price, but also the lowest energy requirement of all the devices tested. The two models of switch chosen were both from the Alcatel-Lucent **OmniStack** 6200 series, and fully met every one of the union's requirements.

ALCATEL-LUCENT SWITCHES MEET EVERY REQUIREMENT

After opting for a solution based on Alcatel-Lucent **OmniStack** technology, the union decided to undertake the entire installation and configuration process itself, using its own team of ICT



technicians. After completion of the project, its administrators received full network management training.

The project encompassed 11 halls of residence, serving a total of 3,000 users, and required the deployment of some 130 Alcatel-Lucent **OmniStack** model 6224 and 6248 switches. The Tübingen-Hohenheim student union also chose to take an optional Standard Support Package for each switch.

These Alcatel-Lucent switches not only have a low energy requirement, but also deliver the complete range of functionality demanded by a modern, high-performance network infrastructure. For example, Power over Ethernet (PoE) permits true plug-and-play connectivity for wireless LAN access points, IP phones and other network devices.

OmniStack 6200 models are stackable fixed configuration, 10/100 copper or 100BaseX fiber layer-2 switches that deliver the advanced features and services demanded by users. They also securely support advanced Quality of Service (QoS) with advanced user and traffic classification capabilities for exceptional video, voice, and data performance. Every **OmniStack** 6200 switch comes with two 10/100/1000 copper ports that can be used with standard Ethernet cabling for fault-tolerant dedicated stacking links or as Gigabit ports in a standalone configuration.

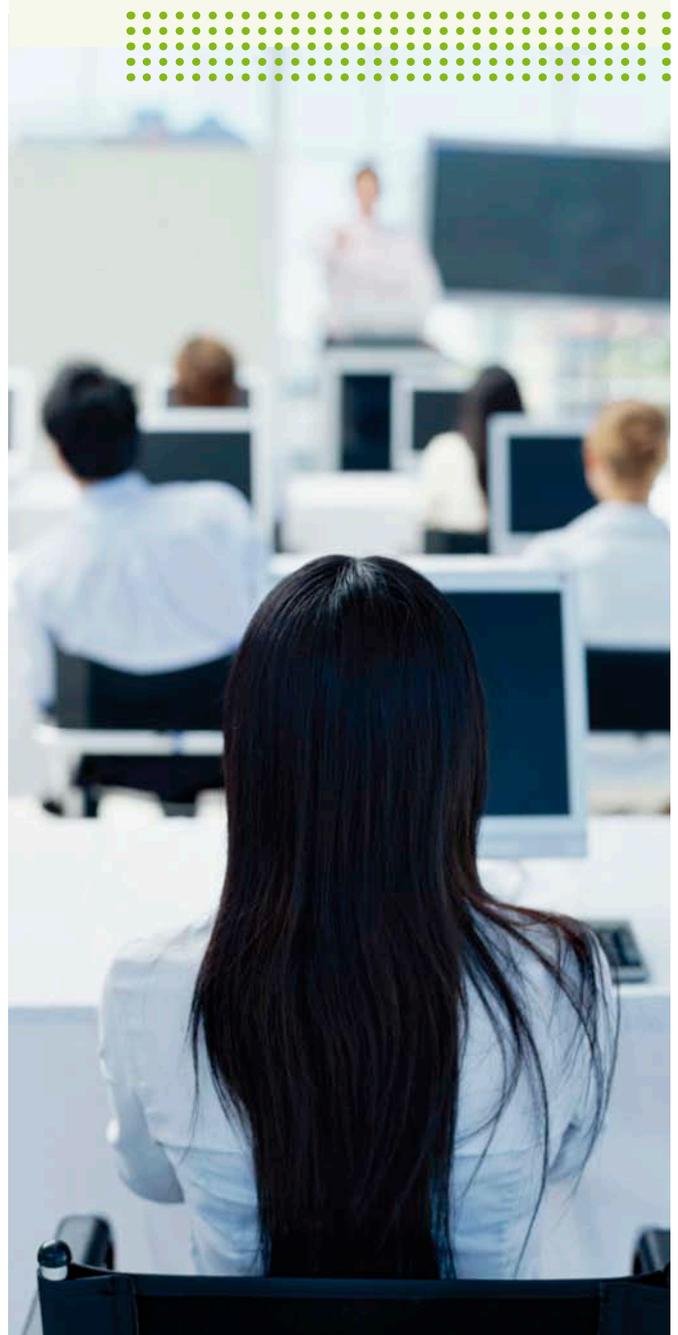
RELIABLE SOLUTION THAT DRIVES DOWN ENERGY COSTS

The new network, based on Alcatel-Lucent **OmniStack** LS 6200 switches, has more than met all the union's expectations. Not only is it delivering excellent all-round functionality, but also its energy usage (of only 29 Watts) remains exceptionally low – which significantly reduces overall running costs. Indeed, the union's ICT team has calculated that energy savings will reduce the devices' total cost of ownership by 70 per cent over the next five years. This calculation includes only the buildings where the switches are actually deployed, or where there are current plans to deploy them. However, the union is confident that more buildings will be networked using Alcatel-Lucent switches. The calculation is also based on conservative assumptions about future growth in energy prices. Should these turn out to be too conservative, then the savings will be even greater.

“The chance to save so much does not crop up in computing projects very often,” points out Klaus-Dieter Kosok, who is head of IT at Tübingen-Hohenheim student union.

Current thinking on energy conservation only became a hot topic two months after the union's choice of Alcatel-Lucent technology, when the United Nation's world climate report was published.

Alcatel-Lucent **OmniStack** 6200 series switches not only offered state-of-the-art networking functionalities, but also very low energy usage. This significantly reduced the total cost of ownership of more than 100 devices, and created worthwhile savings.





Nevertheless, members can be sure that Tübingen-Hohenheim student union is helping them to do their bit.

In the future, the Alcatel-Lucent **OmniStack** LS 6200 switches will benefit the union in other ways. For example, they are smaller in size than the ones they replaced so they will need fewer cables. They also need less cooling, which means that the union can cancel at least one planned investment. And they are 48-port (rather than 24-port) switches, which significantly reduces the number of devices required. In fact, the current network already has one third fewer devices.

The Alcatel-Lucent switches fit into the union's network concept very well. They work seamlessly with those existing devices that are yet to be replaced. All told, this project has allowed the ICT department to make a valuable contribution to the Tübingen-Hohenheim student union's refurbishment program.

FUTURE PROJECTS

The Tübingen-Hohenheim student union intends to continue to deploy Alcatel-Lucent products in the future, and a new generation of orders has already been placed. In addition, the union is currently considering making further investments in other Alcatel-Lucent products that could help to lower costs.

“We are very happy with all the technical support we have received from NextiraOne, before, during and after this project.”

Klaus-Dieter Kosok,
head of IT, Tübingen-Hohenheim student union



THE COMMUNICATIONS EXPERTS

“This project is one of the first in which energy usage has been a deciding factor. However, that criterion will play a much wider role in the future.”

Gert Postor,
account manager, vertical public, NextiraOne

BUSINESS PARTNER INFO

NextiraOne in Germany collaborated with the Tübingen-Hohenheim student union in running this project. The system integrator and Alcatel-Lucent Business Partner was already a Tübingen-Hohenheim student union supplier, and made the contact with Alcatel-Lucent. NextiraOne was involved in implementing the project in a supporting role. It also carried out the training of the union's administrators and is the Service Partner for all the support packages.

NextiraOne is Europe's leading specialist in communications solutions with a business and service presence in 17 countries and over 100,000 customers. The company offers consultancy, planning, installation, maintenance and support for all communications needs, including voice, data and video.

