

## **DHBW brings its WLAN up to a high-speed level with Aruba**



Baden-Württemberg Cooperative State University (Duale Hochschule Baden-Württemberg or DHBW) is the first cooperative university in Germany with integrated practice. With approximately 34,000 students and more than 125,000 alumni, it is the largest university in the state of Baden-Württemberg. In conjunction with select companies and social organizations, the DHBW offers (inter)nationally accredited Bachelor courses in the fields of economy, engineering and social services.

The university is spread over nine locations and three campuses. The DHBW has been providing Wireless LAN (WLAN) across the board at every location for years. It is used by the students on-site and by the administration, as well as for connecting remotely and for working from the home office. "Students take it for granted these days that WLAN is available", explains Grad. Eng. Hardy Lau, IT engineer responsible for the Friedrichshafen campus. "Quite a few are using the network with multiple devices. In order to be able to consistently provide the best performance possible, we keep an eye on the WLAN market and shift if necessary."

In the course of this quest for innovation, the persons responsible for upgrading decided on the new WLAN standard 802.11ac for the Friedrichshafen location. Prior to this, 802.11n solutions from Aruba Networks had been in place here since 2009. Many years of experience with these products and their performance, which was found to be outstanding, tipped the scales in favor of likewise selecting Aruba for the 802.11ac. With that, the manufacturer prevailed against numerous competitors, Cisco among them.



The system vendor, aeroaccess GmbH, experts in mobile communications, assisted the IT team in an advisory capacity as a support partner. The company had already seen the university through earlier installations.



In order to upgrade the existing network to the 802.11ac, the IT staff at the DHBW location in Friedrichshafen installed 58 APs. At the heart of the installation is an Aruba 3600 controller with AP licenses, PEFNG firewall and RFP wireless intrusion detection, protection and containment. Students can log onto the university network even remotely by means of VPN connections using the Aruba VIA Client for remote connection and obtain authorization to use the online library, for instance. No additional technical installations were needed.

A fast gigabit connection was available as a compatible PoE (Power-over-Ethernet) standard as well. The underlying core network with up to one terabyte switching capacity was likewise able to support the 802.11ac performance.



The upgraded installation runs based on early adopter software, with which the old APs are not compatible. As a result, the environment had to be completely changed as quickly as possible. The conversion was performed during the course of ongoing operations. The aeroaccess and Aruba support teams were standing throughout. All of the work was completed within a few days and the comprehensive and stable network for approx. 1,800 users was set up.

"For us, Aruba is absolutely the most scalable product", commented Hardy Lau. "With the one controller that's currently in use, we could expand the network virtually indefinitely. We very seldom get questions about using the WLAN because the Aruba solution is extremely user-friendly. The construction of a new building is planned for the coming year, which will also be equipped with WLAN as a matter of course. Other locations such as Ravensburg for example, will most likely be changed over to the 802.11ac as well, once we'll have gained enough experience with the current network in Friedrichshafen."

Thomas Rödel, CEO of aeroaccess GmbH, opines: "Indeed, we're very happy to be actively supporting the DHBW Friedrichshafen in the cooperative approach to education. Mr. Lau's HF lab here is an institution, repeatedly pointing out issues to us, in particular with respect to innovative developments, which pave the way for us to further improve products, solutions and services."

#### **About the DHBW:**

The Baden-Württemberg Cooperative State University (DHBW) was established by the merger of several technical colleges on March 1, 2009, as the first cooperative university in Germany to integrate practical experience. Characteristic of the DHBW are the cooperative approach to studies with alternating theory and practice phases and the tight cooperation between the university and its partner firms. The university has set up its own EMC test lab at the Friedrichshafen campus, where the DHBW Ravensburg's technical fields of study with degree in engineering are located. Beta testing is frequently conducted here. The WLAN can be tested in the HF lab without external influences and, for instance, an analysis of effective throughput values in the air, a comparison with theoretical values, the HF range and roaming can be modeled.

#### **About aeroaccess GmbH:**

Founded in 2008 and located in Ismaning, Germany, aeroaccess is a medium-sized technology- and service-oriented system vendor for mobile communications. The company specializes in planning, implementing, and managing mobile communication and networking environments. Customers have the means to develop innovative and profitable business models, upon request even without the use of their own resources. aeroaccess plans, implements and maintains future-oriented mobile network environments. Altogether, aeroaccess supports more than 300,000 users in 122 countries in working with mobile solutions. Customers also have access to aeroaccess' in-house support.