



Making Everyday Digital Life Easier for German Student Dormitory

Overview

The Albrecht-Bengel-Haus in Tübingen, Germany, is a student dormitory housing over 100 theology students across four buildings and seven floors. To support daily academic and residential life, the facility required a high-performance, future-proof network that could deliver stable and redundant connectivity, seamless WiFi coverage, and centralized network monitoring. In collaboration with Zyxel Networks and local IT service provider eSZet IT-Lösungen - Sascha Zehender, the dormitory deployed a tailored solution that met the requirements. The project was completed on time and within budget, significantly enhancing the digital experience for both residents and staff.

Challenges

The student hall faced serious network issues, including frequent WLAN failures and uneven bandwidth distribution. Outdated switches and lacked centralized management, which hindered effective troubleshooting. On-site measurements revealed several critical problems: an insufficient number of access points, high interference, and congestion in the 2.4 GHz band, making reliable network usage nearly impossible.

Solutions

Four buildings across seven floors were comprehensively modernized in two expansion phases, ensuring reliable, high-performance connectivity throughout the facility. The project began with careful planning and on-site measurements, followed by pre-installation and delivery of the required technology.

For wireless connectivity, forty Zyxel WAX630S WiFi 6 access points were deployed. These access points provided six parallel radio links, delivering high-capacity connections and robust, comprehensive WiFi coverage.

Customer

Albrecht-Bengel-Haus e.V.

Industry

Education

Location

Tübingen, Germany

Partner

[eSZet IT-Lösungen - Sascha Zehender](#)

Customer Background

Albrecht-Bengel-Haus e.V. is a theological study residence located in Tübingen-Derendingen, Germany. It accommodates over 100 students and theologians living in shared flats and apartments while studying theology for ministry or teaching at the University of Tübingen. In addition to their academic pursuits, students share daily life in the house and receive both theological and personal support to enrich their overall development.



Thanks to our collaboration with Zyxel Networks and our distributor, API GmbH, we have upgraded the Albrecht-Bengel-Haus network, providing over 100 students with a stable and redundant living and study area. Thanks to the powerful network management of the Nebula cloud networking solution, maintaining and configuring the network is straightforward for us as a service organization."

Sascha Zehender, CEO

eSZet IT-Lösungen - Sascha Zehender

Solutions

On the wired side, the deployment included switches with 2.5 Gbps PoE on each floor, all connected via a 10 Gbps backbone and central firewall to boost performance and security. An XS1930-12F served as the core switch, while six XGS1930-52 switches were deployed as the main floor switches for LAN connectivity. Besides, six XMG1915-10EP switches provided PoE and 2.5 Gbps links to the access points. Besides, uninterrupted connectivity was ensured through three redundant internet connections.

Network security was further strengthened by deploying a central USG FLEX 700 firewall, offering comprehensive protection against cyberthreats.

The Nebula cloud networking solution enabled centralized control over all components. It supported automatic updates and provided a graphic-based dashboard within the network topology, allowing fast and intuitive monitoring, troubleshooting, and device management.

Results

The upgraded network now delivers fast, stable, and redundant connectivity to over 100 students and supports more than 500 devices without issue. With full WiFi coverage and centralized cloud management via Nebula, maintenance is now streamlined, cutting troubleshooting time from hours to just minutes. Since the upgrade, there have been no major outages, and network administration runs smoothly from a single platform. The project was completed on time and within budget, greatly improving daily digital experiences for both residents and managers, who are highly satisfied with the reliable and hassle-free network performance.

- Over 500 devices connected seamlessly
- No significant outages since deployment
- Completed on time and within budget
- Nebula cloud networking management ensures easy maintenance and quick troubleshooting

Product List



- WAX630S WiFi 6 Access Point



- XS1930-12F Lite-L3 Smart Managed Fiber Switch
- XGS1930-52 Lite-L3 Smart Managed Switch
- XMG1915-10EP Smart Managed PoE Switch



- USG FLEX 700 Firewall

