UNEST AND RUCKUS CREATING LASTING CONNECTIONS

Unest is a student accommodation, located close to the Brussels University campus, that has everything a student needs for a comfortable and convenient living experience.

Distributed within the property are 119 student lots—114 single-student lots and five lots for two students each, providing accommodation for a total of 124 students. The residence also includes a flat for the caretaker/concierge.

Because students' comfort matters, the available rooms count on their own kitchenette and bathroom, ensuring privacy. A fully equipped gym promotes a healthy lifestyle. Additionally, the rooms count on spacious communal areas fostering connections with friends and fellow students.

Its beautiful outdoor area, surrounded by greenery, is an oasis for reflection and tranquility amidst the busy student's life. Cycling enthusiasts rest assured that their bikes will be safe and sheltered.

As part of its commitment to the environment, Unest has 253 solar panels on its roof, with a total capacity of 107,205 watt peak (Wp) (246 panels of 420 Wp plus seven of 555 Wp).

Requirements

- Always-on connectivity
- Create individual networks for each student
- Unique authentication credentials
- Prevent network congestion
- Reduce airtime usage
- Network security
- Single management controller

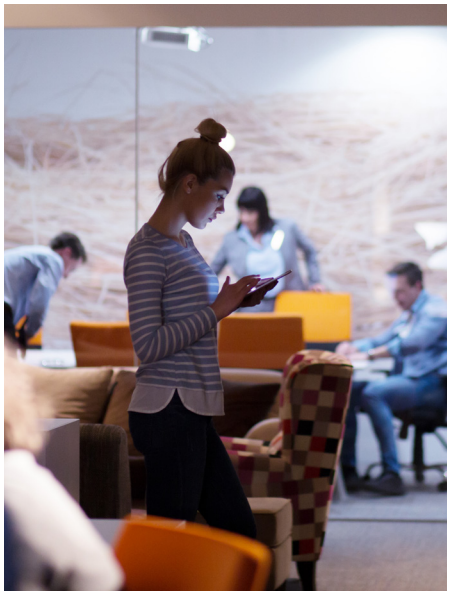
Solution

- RUCKUS® indoor and outdoor Wi-Fi[1] 6 access points (APs)
  - H320
  - R350
- RUCKUS ICX® 8200 switches
- Virtual RUCKUS SmartZone™

Key outcomes

- Optimal user experience
- Tailored/isolated network for each student
- Achieved 100% coverage
- Airtime usage optimized
- Efficient traffic separation
- Secure BYOD access
- Easy and flexible network management
- Future-ready technology

[1] Wi-Fi and Wi-Fi 6 are trademarks of the Wi-Fi Alliance



Bringing your own device in a multi-dwelling unit presents significant challenges

In an era where technology is seamlessly integrated into education, reliable and robust Wi-Fi networks are no longer a luxury but a necessity. This is especially true for student residences, which require a future-proof network infrastructure capable of handling the ever-increasing demand for connectivity, privacy, and seamless digital learning experiences.

Unest faced the challenge of providing a Wi-Fi solution that could create separate VLAN networks for each student. This was critical as personalized connectivity is essential in educational environments. However, there were no uplinks in every student's room.

To ensure optimal network performance, students should be able to easily connect all their devices, including laptops, tablets, smartphones, connected watches, speakers, and IoT gadgets, both indoors and outdoors.

Additionally, Chromecasts, printers, and other smart devices should not interfere with students' connectivity or network traffic.

In a multi-dwelling unit (MDU) property, it is essential to have robust security measures in place when students bring their own devices (BYOD) and are inundated with equipment such as printers, cameras, lighting, and climate controls. It is also critical to manage all these APs (devices) efficiently through a single cloud platform without compromising security.

VLANs and intelligent APs' behavior to create separate networks efficiently

The project was successfully developed by Unibricks, a real estate developer, and Ubicum, a member of RUCKUS' BIG DOGS Partner Program with huge expertise in the hospitality sector.

RUCKUS has achieved the creation of separate networks through intelligent configuration and VLAN management. This was accomplished as follows:

- RUCKUS APs support VLAN tagging, allowing VLANs network segmentation. RUCKUS APs are designed to handle large numbers of devices simultaneously.
- When you configure a separate network, a specific VLAN ID can be assigned.
- Trunk ports on the network switch connect to RUCKUS APs. These trunk ports carry traffic for multiple VLANs using VLAN tagging (802.1Q).
- Each SSID can be associated with a specific VLAN, allowing multiple networks to share the same physical uplink.

"The challenges were addressed successfully by implementing RUCKUS solutions, resulting in 100% coverage for each student. If a range of APs with pre-programmed SSIDs had been used, only 5-10% coverage would have been achieved in the building. Additionally, airtime usage was reduced by 32% by avoiding the need to broadcast more than one SSID, says Frederic Emmelmann, founder, Ubicum".

By intelligently managing airtime, it enhances the user experience—especially in high-density environments like this.

Empowering residents with unique and secure credentials

RUCKUS wireless technology accomodates a wide range of devices. Chromecasts, printers, and other smart equipment can seamlessly connect to the network. Whether it's streaming content or printing assignments, RUCKUS supports it all.

"As our focus was on solving and securing BYOD access, we utilized Dynamic PSK™ (pre-shared keys) technology to provide unique PSK credentials for each student on the same network. This was our first implementation of RUCKUS Dynamic PSK technology, and it has opened up a broad spectrum of possibilities for future projects, added Frederic."

RUCKUS integrates stringent security protocols to safeguard student data, because privacy is non-negotiable.

RUCKUS Dynamic PSK technology patent technology provides a robust and flexible approach to provide each student/ device with a unique and secure key.

This individualized approach enhances security by preventing unauthorized access. If a hacker cracks the Dynamic PSK technology for one user, it will not compromise other devices using their unique Dynamic PSK technologies.

Dynamic PSK technology simplifies key management and can be created, removed, and managed without affecting other devices on the VLAN.

Unest network management and control are done through a single SmartZone cluster that simplifies the complexity of scaling and managing RUCKUS APs H320 and R350 and RUCKUS ICX 8200 switches designed to handle next-generation wireless and IoT campus networks. These intelligent, scalable edge switches deliver superior functionality.

IT teams can manage proactively, providing uninterrupted user experiences thanks to real-time insights about network performance.

SmartZone technology also supports additional advanced features such as converged wired and wireless management, content filtering, rogue AP detection and mitigation, client load balancing, airtime fairness, guest onboarding, and capacity-based admission control.

"The easy Virtual SmartZone API allowed to us make a simple administrator platform that could interconnect with a custom doorbell system we developed. The reliability of the RUCKUS hardware has been a key point in our journey to keep working with RUCKUS, concluded Frederic".

A future-proof RUCKUS wireless network in student residences is not only about connectivity, but also about empowering the next generation of learners. With RUCKUS, educational institutions can confidently embrace the digital revolution.

In summary, students can stay connected whether they are attending virtual lectures, streaming movies, or video chatting with family, thanks to RUCKUS Wi-Fi's reliable connection.

Ubicum (Member of RUCKUS' BIG DOGS Partner Program)

Ubicum provides reliable Wi-Fi, TV, camera, and VoIP solutions for the hospitality sector.

Since 2008, we have proudly collaborated with hotels, resorts, and other hospitality companies to optimize their technological infrastructure and create unforgettable guest experiences.

Our passion lies in delivering exceptional service. We look forward to creating another successful story with you.

www.ubicum.be/

Unibricks

A decade ago, Unibricks, a Belgian real estate developer, entered the market to offer a comprehensive service for those seeking to invest in affordable property. This encompasses the entire process, from development to management. By doing so, Unibricks makes property accessible to a wider audience, enabling individuals to build a secure and happy future for themselves and their families.

https://www.unibricks.be/

About RUCKUS Networks

RUCKUS Networks designs and builds truly purpose-driven network infrastructure that meets the strictest requirements of all kinds of enterprise environments. Together with our dedicated go-to-market partners, we enable customers to deliver exceptional network experiences, making RUCKUS Networks one of the most trusted brands in the business—a loyal companion ready to help get the job done whatever it takes. RUCKUS Networks is backed by the corporate resources of CommScope, which powers many of the world's most advanced networks.

www.ruckusnetworks.com

Visit our website or contact your local RUCKUS representative for more information.

CS-118985.1-EN (07/24)