

CASE STUDY



A . P . U
ASIA PACIFIC UNIVERSITY
OF TECHNOLOGY & INNOVATION



OVERVIEW

One of Malaysia's premier and award-winning private education institutions, the Asia Pacific University of Technology & Innovation (APU) blends technology, innovation and creativity towards preparing professional graduates for significant roles in business and society globally. APU boasts an international community of more than 12,000 students from more than 120 countries in its Malaysian campus, and an iconic modern campus opened in 2017.

REQUIREMENTS

- WLAN infrastructure that is scalable, and able to meet the high density needs of students and faculty
- Campus-wide mobility that facilitates new e-learning methods including Virtual Desktop Infrastructure (VDI) and Wireless Projection to the classroom projectors
- A high-speed network with up to 1Gbps wireless connection to provide real-time Voice over Internet Protocol (VOIP), and seamless multimedia
- A network that is easy to deploy and maintain, while also enabling secure and simple onboarding for students and faculty

SOLUTION

- Ruckus' indoor and outdoor access points (APs)
- Ruckus SmartZone network controllers
- Ruckus ICX switches

BENEFITS

- Easy and fast access to e-learning tools
- Faster and more secure Wi-Fi connectivity for students and faculty
- Increased user satisfaction, and eliminated complaints from students, faculty, and visitors
- Future-proof network with capacity to spare

ELEVATING STUDENT EXPERIENCE WITH FAST AND RELIABLE CAMPUS CONNECTIVITY

While the quality of degrees offered by higher-education institutions is a key element in attracting a diverse student population, there is also an increasing role for network services in attracting and retaining students to a high-quality connected experience that employs the latest in mobile learning techniques, engagement and digital access to campus resources and teaching methodologies, and the widespread use of smart devices preferred by today's students and faculty. As Universities strive to deliver better student outcomes and achievements in the classroom, campus technology infrastructure must meet or exceed the needs of student bodies while enabling faculty and university administration to deliver the best digital experiences on campus. To that end, APU's network team faced the challenge to enable service-level satisfaction to all stakeholders across the two campuses of the APIIT Education Group – APIIT (Asia Pacific Institute of IT) and APU (Asia Pacific University of Technology & Innovation), which are located approximately 1.5km apart within the Technology Park Malaysia grounds.

A CHALLENGE FOR A NEW CAMPUS

To enable both students and faculty access to the best learning and teaching experience possible, having a reliable and high-performance Wi-Fi network was essential. Ensuring seamless connectivity and the ability to roam across APs within buildings and throughout the APU campus was a key requirement for faculty, staff and students, especially when moving between buildings on campus. A distinctive and iconic feature of the new State-of-the-Art campus is its long central "Spine" stretching from the main entrance all the way to the far end of the Campus, which provides connectivity to the teaching centres, the courtyards, central atrium and living spaces. This also provides shade and protection from the heat and rain as students and staff move from between the various facilities within the campus. Therefore, providing seamless mobility for voice and data services is critical here.

Students also need to reliably connect their mobile devices and laptops to the university network to access their Virtual Labs via VDI, as well as all the server-side applications needed for their lessons and tutorials, whether on-campus or off-campus.

Digital Learning Showcased at Iconic New Campus Powered by Ruckus Networks



In addition, APU administrators also required the network to support a fully wireless environment across multiple platforms including computers, telephones and projectors in lecture halls and university labs which allow lecturers to easily project teaching materials wirelessly.

The ability to scale according to current as well as future technology and infrastructure needs was another requirement, given the larger student population at the new campus, as well as expected student growth over the coming years.

WIRELESS NETWORK REVOLUTION

At the old campus site, APU had already been using Ruckus to power their Wi-Fi networks. At APU's new campus, a completely new network was needed as the requirements are more demanding due to the larger student population. At the same time, the new infrastructure needed to be scalable and future-proof as capital projects are typically scheduled many years apart. After extensive vendor research, Ruckus was chosen as the vendor who could deliver the best performance, ease of configuration at an optimal cost, and a complete wired and wireless network infrastructure that was also built to scale for future expansion of the student population and growing number of device connections and thus bandwidth needs.

"During the planning stages of the new APU campus, we decided to implement a scalable network infrastructure. The campus was physically set up on December 2016, with the network planning process taking almost a year. Thanks to the impressive support throughout the process from the Ruckus team, our new network was deployed in under a week," says Rasodin Ramuddin Hamzah, technology infrastructure and systems manager, APU. "Better yet, our technology partner also worked with our Technical Assistants (TA) during the deployment phase. TA is a selected group of APU students that trained to be ICT Support Personnel for student community. On one hand, this gives students invaluable practical lab experience; on the other, it is a testament to the ease and convenience in which we could deploy Ruckus technology on campus," he added.

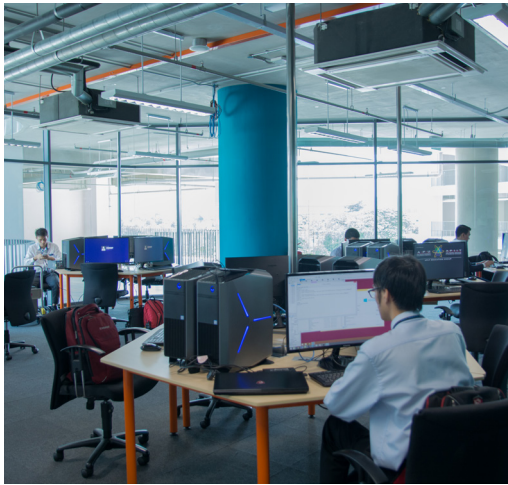
APU deployed Ruckus' access points across two different campuses, resulting in seamless wireless network roaming across the two. Combined, these access points provide seamless coverage across the entire campus. Managing these APs is the virtual SmartZone (vSZ) controller, which can scale up to 300,000 devices, enabling administrators to expand and adapt the network to the changing needs of the university. The institution also deployed Ruckus' ICX switches which simplified network set-up and management, enhanced security, minimized troubleshooting and made upgrades easy. In addition, the ICX switching architecture ensured excellent throughput for the most demanding video, Unified Communications, VDI, and mobile applications.

"With each user carrying multiple Wi-Fi connected devices such as laptops, smartphones and tablets, it was essential that our wireless infrastructure was able to perform satisfactorily, especially since more and more of our teaching syllabus includes media-rich content," noted Rasodin.

"We're impressed with the Ruckus solution as we were able to achieve a good Wi-Fi experience through a high-performance, highly reliable wired infrastructure, while putting the university infrastructure in a good position to be able to scale for future growth."

KOGULABALAN SAMADAR

Assistant Manager, Network Operations Centre,
APU



REAPING THE BENEFITS OF A WELL-DESIGNED NETWORK

After deploying the network, APU has seen a huge improvement in network reliability and coverage, as well as increased satisfaction from both students and faculty. According to APU, the network now easily handles approximately 7,000 connected devices at any one time, and with capacity to spare. On the administrative and manpower front, implementing Ruckus solutions lead to significant savings in terms of time and cost of manpower. To start, the number of complaints about the Wi-Fi network dropped drastically, leading to less time spent managing user issues. Furthermore, simplified network management requirements also meant less resources were deployed to manage and maintain the network.

While APU is certainly happy with their current investments in Ruckus solutions, they aren't content to just sit back and enjoy the ride. In fact, APU is already planning on implementing network upgrades that will help drive future innovations for the university. One such example is to apply analytics and insight into functions such as indoor location tracking, to help administrators track student movements within campus buildings in case of emergencies, or for helping lecturers automatically track attendance without requiring students to manually "tap-in" using their student IDs.

"We were looking for a high-performance network solution, and we found that in Ruckus. Now, we can focus more effort on delivering new innovations and a world-class education experience to our students at the APU campus, through digital learning and engagement," concluded Rasodin.

"The future of learning is digital, and with Ruckus Networks technology solutions, we were able to efficiently and reliably deploy a truly wireless learning and teaching environment on campus. Whether networks, computers, projectors or telephones, what was once wired is now wireless."

RASODIN RAMUDDIN HAMZAH

Technology Infrastructure and Systems Manager,
APU

Copyright © 2018 Ruckus Networks, an ARRIS company. All rights reserved. No part of this content may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from Ruckus Networks ("Ruckus"). Ruckus reserves the right to revise or change this content from time to time without obligation on the part of Ruckus to provide notification of such revision or change.

The Ruckus, Ruckus Wireless, Ruckus logo, Big Dog design, BeamFlex, ChannelFly, Edgelron, Fastron, HyperEdge, ICX, IronPoint, OPENG, Xclaim trademarks are registered in the U.S. and other countries. Ruckus Networks, Dynamic PSK, MediaFlex, Simply Better Wireless, SmartCast, SmartCell, SmartMesh, SpeedFlex, Unleashed and Ruckus Controller are Ruckus trademarks worldwide. Other names and brands mentioned in these materials may be claimed as the property of others.

Ruckus provides this content without warranty of any kind, implied or expressed, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Ruckus may make improvements or changes in the products or services described in this content at any time. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.



350 West Java Dr., Sunnyvale, CA 94089 USA

www.ruckusnetworks.com