

RUCKUS CHANGES THE WORLD OF INDIGENOUS COMMUNITIES IN TAIWAN

Tough Environment Is no Match for Ruckus Technology



CASE STUDY



OVERVIEW

There are many remarkable things about the lives led by indigenous communities in Taiwan's mountainous areas. People have lived in the area for at least eight thousand years, and they now number over half a million people.

Due to their remote geographical locations, Taiwanese indigenous communities in mountain areas or outlying islands have much poorer access to network resources than the rest of the country. Since 2015, the Council of Indigenous Peoples under Executive Yuan of Taiwan has been working on a program named i-Tribe, designed to provide indigenous people with high-quality network services. The program not only gives them access to remote medical and real-time communications services, but also contributes to the local tourism industry. Ultimately, it will change the lives of indigenous communities in hard-to-reach areas.

REQUIREMENTS

- Fast, reliable mobile networks and robust wireless internet coverage
- A reliable deployment in a harsh environment
- Resistance to water, dust, weather corrosion, temperature and wind extremes

SOLUTION

- Deployed over 400 Ruckus ZoneFlex T300 smart APs across 69 remote communities

BENEFITS

- Brought Wi-Fi for the first time to communities in remote areas
- Greatly strengthened family and community ties, especially amongst those working from other parts of Taiwan
- Access to online medical services and greatly increased tourist interest

INTRODUCTION

Taiwan is one of the most networked countries on earth. In urban areas, fast internet access is a given, but in Taiwan's remote islands and mountainous areas, providing network services is much more difficult. Indigenous communities living in these regions such as the Lalauran and Calavi communities in Taitung and Yayo Village in Lanyu had real problems getting access to wireless internet and the services delivered across it. With fewer job opportunities as well as a lack of access to educational and medical resources, young people tended to leave their home towns to work on the main island of Taiwan, leading to a deepening divide between urban and rural areas. To address these challenges, the communities realised that they needed a radical solution.

THE CHALLENGES

The key challenge for these communities is their location and environment. The terrain is rough and varied and the weather highly unpredictable, meaning that providing wireless internet is a tough job at the best of times. The communities across the area are sparsely distributed, and there are plenty of natural features such as mountains and lakes to disrupt wireless signals. Without Wi-Fi or 4G services, locals were cut off from all online and mobile-enabled services and resources.

"People in the Calavi community love their homeland very much," said Chen Xiuru, staff at Taitung's Original-Love Woodworking Workshop, "And local people didn't want huge base stations being installed all over their community. As a result, young people working away from home could only contact their families using a landline phone. Local students also had no access to digital learning platforms."

"With a population of 5000, Lanyu only has one provider of mobile network services," said Syaman Manezeh, head of Yayo Village. "The limited coverage area of the base stations and poor bandwidth dragged down the quality of the mobile network service. Apart from inconvenience to tourists, the quality of mobile medical support was also affected as medical staff could only transcribe records manually."

THE SOLUTION

The Council of Indigenous Peoples, under local Executive Yuan, launched a program named i-Tribe in 2015 to address some of these issues. i-Tribe aimed to provide indigenous people with high-quality network services within three years by expanding infrastructure across communities and contributing to the development of the local tourism industry.

They approached reseller FarEasTone with their challenge. FarEasTone recommended Ruckus' outdoor Wi-Fi Access Points (APs), a proposal

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accepted by the community. FarEasTone considered a range of possible vendors to solve the problem, but chose Ruckus because of its product quality and comprehensive technical support.

FarEasTone installed over 400 Ruckus ZoneFlex T300 802.11ac Wave 2 smart access points (APs) across 69 indigenous communities around the country's remote areas.

The ZoneFlex T300 is designed for high-density outdoor environments. Using proprietary BeamFlex™ technology, the AP provides optimal performance and interference mitigation in challenging radio frequency environments. The compact size significantly simplifies installation, thus reducing deployment time and cost.

Thanks to the omni-directional antennas, the Ruckus ZoneFlex T300 AP can support up to 500 clients connecting at the same time, making it a perfect fit for vast outdoor areas. The AP has also factored in harsh outdoor environmental conditions. Besides an IP67-rated plastic enclosure which guarantees protection against water, dust, and corrosion, the AP can operate reliably in temperatures between -20°C and 55°C, and can survive wind speeds of up to 165 mph.

Ruckus' APs were deployed in the Lalauran and Calavi communities in Taitung and Yayo Village in Lanyu, especially in busy commercial areas. They were also deployed to support churches' mobile medical clinics and community centers.

THE BENEFITS

Local communities immediately felt the benefit of high-quality, reliable wireless networks, and locals appreciated the sensitive way in which the APs were fitted into the local area.

"Network outages are no longer an issue when Lanyu is hit by strong typhoons in the summer. Mobile medical vehicles can access digital health records or X-ray images remotely over wireless networks, and that boosts medical service efficiency and people's quality of life," said Syaman Manezeh, another local.

"The Ruckus ZoneFlex T300 smart APs have been deployed in a way without adversely affecting the natural landscape," concluded Chen Xiuru. "The seniors in the community can now contact their families working away from home using a Smartphone or video chat. They can even stream live video of festival celebrations on Facebook. Our tourism industry has become more prosperous too. We could not be happier."



"Our tourism industry has become more prosperous because tourists can check in on Facebook, share their travel photos, and contact their families or friends via Line or other messaging apps when visiting Yayo Village. We could not be happier."

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