

MYANMAR NET

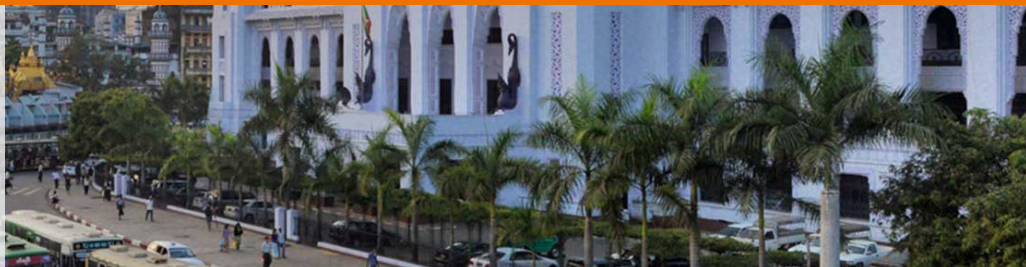
Connecting Myanmar to the Digital Future with Affordable, Seamless Internet Connectivity



CASE STUDY



Myanmar Net
FRONTIIR



OVERVIEW

Myanmar Net, a subsidiary of Frontiir, is the largest internet service provider (ISP) in Myanmar, with a growing subscriber base that is expected to hit a high of 800,000 users by the end of 2018. Myanmar Net services cover the breadth of Yangon and Mandalay, including 80+ apartments, planned residential developments, and high traffic shopping malls across this South East Asian nation's two largest cities.

REQUIREMENTS

- Build a network infrastructure able to deliver high-speed internet services.
- Provide access to affordable and high-quality internet connectivity, as well as digital information services for consumers and businesses in Myanmar.
- Deliver easy-to-install access points (APs) able to handle high population density, changing weather conditions, and power grid situations.

SOLUTION

- Ruckus H500, H320 wired and wireless wall switches
- Ruckus R300, R500 and T300 Wi-Fi APs
- Ruckus SmartCell Gateway 200 WLAN controller

BENEFITS

- Provide both consumers and businesses with high-speed internet that reaches up to 62 Mbps speeds, priced affordably to compete with existing data plans from mobile carriers.
- Reduce operating costs by implementing bandwidth sharing across the entire coverage area, while maintaining superior connectivity for customers using data-intensive applications.
- Deliver high-quality performance, while maintaining reliability to support all customer requirements, regardless of indoor or outdoor coverage.

DELIVERING AFFORDABLE, RELIABLE AND PERVASIVE CONNECTIVITY TO A NATION

Myanmar is a developing nation that has recently shifted its economic focus to the digital space, to build a knowledge-based economy and deliver higher-value products and services. This lofty ambition aligns with Myanmar Net's mission of delivering top-quality and affordable digital connectivity to the masses.

THE CHALLENGE

Reliable connectivity is a challenge for any developing country, and Myanmar is no different. To deliver effective and affordable connectivity to the masses, Myanmar Net chose to explore the use of carrier-grade Wi-Fi technologies.

To achieve their ambitious goals of pervasive connectivity, deploying a high density of APs was required. However, this can also lead to higher chances of interference, which undermines reliability and performance. In addition, the installation process needed to be simple as Myanmar currently faces a shortage of skilled workers, which affects deployment timelines. More importantly, the equipment used must be able to handle the extreme summer temperatures and monsoon weather in Myanmar, while also being resilient to withstand frequent electricity outages and fluctuating voltages from a dated power grid. Finally, the solution must be scalable and reliable as connectivity reaches to more and more residents outside of the two major cities.

"Besides AP density, the high population density is also a challenge as we anticipate huge demand for our services due to the very affordable prices we offer. One of the key initial concerns we had was whether Wi-Fi technology could hold up to the growth and demands on our network," said Allen Miu, CTO, Frontiir.

THE SOLUTION

Each part of the extended network that Myanmar Net intended to develop had a unique requirement, which led to the need for optimal equipment for each function, in order to engineer the best-performing network possible for their customers. After extensive market research on the most cost-effective, high-performing and reliable solution providers, Ruckus Networks was the only organization able to meet Myanmar Net's stringent and highly-customized requirements.

A key reason Myanmar Net chose to partner with Ruckus Networks was due to the consistent performance and reliability of Ruckus' solutions. The T300 series APs have a 180-degree and 120-degree antenna pattern which is a perfect match to the type of coverage and beam width that Myanmar Net needed.

Ruckus' AP solutions leverage the BeamFlex smart antenna system to provide stable connectivity and higher performance, with minimal transmission errors. This enables Myanmar Net to mitigate interference in a high-density user environment while using fewer APs to deliver high capacity coverage over a greater footprint. Myanmar Net was also able to increase reliability for more devices and applications, while also supporting bandwidth-intensive applications and usage, such as video streaming.

"Besides high-performing solutions that met and exceeded our expectation, a key differentiator for Ruckus Networks is their tremendous support in helping us achieve our mission. Being the first in Myanmar to deploy a wireless network for the general populace is no easy feat, and we are only able to make this a reality with Ruckus' engineering expertise and



"Affordable, reliable internet connectivity will enable both businesses and consumers to participate meaningfully in Myanmar's growing digital economy. With support from Ruckus Networks, Myanmar Net became the first to deploy a wireless network to the people of Myanmar and we believe we have the right strategy to lower the barrier to entry for broadband Internet access."

ALLEN MIU

CTO, Frontiir, parent company to Myanmar Net

knowledge. For the entire lifecycle of the project, we received top-notch service and attention across the board from sales, logistics and shipping, support, engineers, and product management all the way to their CEO," said Allen.

THE BENEFITS

Today, thanks to Ruckus' solution and partnership, over 400,000 subscribers across all major townships in Yangon and Mandalay can enjoy affordable internet services.

"Until 2014, internet access in Myanmar was considered a luxury and out of reach for most. However, our partnership with Ruckus Networks has democratized connectivity. Today, Myanmar Net allows our users to enjoy high-speed internet that goes up to 16 Mbps speeds and at prices far more affordable than plans from mobile carriers," said Allen.

In addition, Myanmar Net offers mobile account cards which enable users to access their service subscription throughout the entire footprint of the company's public Wi-Fi network. Customers can enjoy seamless IP mobility equivalence, where the handoff from one AP to another AP—such as from the street into a retail store—is seamless. As such, the quality of their connectivity as well as the online activities they are engaged in, including video streaming and online gaming, will not be compromised.

"Being able to provide bandwidth sharing across the entire coverage area helps us effectively optimize operating costs as an ISP. This is a unique proprietary technology we were proud to have developed while using Ruckus Wi-Fi to provide direct connectivity to both outdoor and indoor locations," shared Allen.

Having a dependable Wi-Fi access layer also means Myanmar Net spends less resources on network maintenance and repairs, allowing more time to focus on staff training, new product innovations, and providing top quality service to their customers. More importantly, Myanmar Net is also able to spend more time and effort in working with regulatory agencies to develop policies that promote growth for Myanmar.

"Thanks to Ruckus, we now have a robust connectivity infrastructure and we can now free up more time and resources to R&D so that we can develop more value-added services, improve efficiency of our core data center, as well as improve the reliability and uptime of our hybrid metro distribution network to bring affordable products and maximized benefits to our customers," concluded Allen.

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