RUCKUS / ACTILITY
Integrated Platform for Wi-Fi and LoRaWAN IoT

HIGHLIGHTS

Ruckus and Actility have integrated their solutions to make it easier for service providers and cities to enable new services such as public Wi-Fi, public safety, traffic and parking management, waste management and many others.

Cities and service providers can deliver a wide range of IoT-based services over a simplified city-wide, outdoor network infrastructure that

- Delivers superior Wi-Fi connectivity even in high density, challenging RF environments

- Provides a single platform to easily deploy and manage a broad ecosystem of LoRaWAN-based IoT solutions

- Enables rapid testing and deployment of new IoT use cases using fully validated and ready-to-deploy IoT solutions

Cities can accelerate benefits from Smart City and IoT use cases with minimal risk, and flexibility to add new solutions as appropriate.

THE CHALLENGE

Cities are increasingly stretched trying to maintain current services while also meeting new expectations to serve their citizens, businesses and visitors. New sensor technologies and the Internet of Things (IoT) are opening huge opportunities for cities to provide these new services and make existing city services more efficient. Because IoT sensors and devices often transmit very small amounts of information, such as a meter read every 15 minutes or a ground moisture measurement every hour, they don't need broadband connectivity. And, since many of these sensors are being deployed in locations that don't generally have access to grid power, they are battery-powered and need to be extremely energy efficient to minimize operational costs and challenges.

These devices often connect using wireless protocols such as LoRaWAN, BLE, ZigBee and others that deliver adequate bandwidth and range while maximizing battery life. LoRaWAN-based sensors can communicate as far as 10 kilometers, making it an ideal wireless protocol to connect sensors across a city or town that are being deployed outdoors, in basements or in un-powered locations. A LoRaWAN sensor can be powered for as long as ten years or more on a single battery.

Cities are also deploying more and more public Wi-Fi, both as an amenity and as an alternative broadband access option to help bridge the digital divide that occurs when households don't have Internet access. As the least-cost broadband access technology, and because there are more than four times as many Wi-Fi enabled devices than any other wireless protocol, Wi-Fi is viewed as a critical enabler for high performance and low cost Internet access.

Previously, deploying a Low-Power-Wide-Area Network (LPWAN) such as LoRaWAN required access to tall, 30 meter towers to mount the LPWAN equipment. While these towers delivered 5–10 km radius of coverage, they are difficult locations to find and can be very costly to build or lease. Wi-Fi access points are typically deployed every 100 meters or so and mounted on a variety of street level assets, most commonly streetlight poles which may be 6–10 meters tall.

THE SOLUTION

Recognizing the challenges of deploying multiple networks within cities to support Wi-Fi and IoT services, Ruckus and Actility are working together to solve two main challenges for cities:

1. Fast and simplified implementation of the LPWAN
2. Access to a variety of new smart city IoT services and use cases

FAST AFFORDABLE AND SIMPLIFIED LPWAN

Ruckus and Actility have combined their industry leading Wi-Fi and LoRaWAN solutions to enable an integrated Wi-Fi and LoRaWAN network infrastructure with a complete LoRaWAN management platform. This provides cities with a simplified and less costly way to deliver great public Wi-Fi and LoRaWAN-based services to support numerous use cases.

Cities who have already deployed a Ruckus public Wi-Fi solution can easily add a LoRaWAN network simply by adding a LoRaWAN USB plug into appropriate Ruckus access points—typically one in every 15-20 Wi-Fi access points needs to add LoRa in order to provide full coverage. No additional mounting rights, power, or backhaul is required for the LoRaWAN network.

EASY ACCESS TO RUCKUS AND ACTILITY IoT ECOSYSTEMS

In addition to streamlined network deployment, the Ruckus and Actility alliance provides access to numerous Smart City applications, including Ruckus Ready partners offering IP Video, IoT, access management and digital kiosk solutions, and Actility's ThingPark ecosystem of hundreds of LoRaWAN-based solutions, including Abeeway ultra low power trackers. These solutions are proven to run over the Ruckus and Actility platforms.

Cities that have deployed Wi-Fi and LoRaWAN networks enable city departments, enterprises, entrepreneurs, students and other innovators to quickly pilot, validate and deploy potential solutions without the expense and hassle of deploying stand-alone networks for each and every test. This combined solution can support millions of devices with a low cost infrastructure. Equally important, management and security are built into the platform.

COMBINING INDUSTRY LEADING TECHNOLOGIES

Actility is the most widely deployed LoRaWAN platform that scales to large service provider deployments. This includes a large partner ecosystem that provides smart city solutions that are ready to deploy including:

- Smart parking
- Asset tracking
- Waste management
- Street lighting

- Signage monitoring
- Air/noise/environment/water quality sensors
- Flood and manhole detection
- Smart meters
- Soil moisture and irrigation

The **Actility ThingPark Suite** is available for individual enterprises and cities, or in a multi-tenant version for service providers. It can be easily integrated into BSS systems for a complete business enablement capability.

Ruckus is a leader in Wi-Fi solutions including the #1 provider in both service provider and outdoor Wi-Fi. Cities choose Ruckus for public Wi-Fi due to the scalability of the solution and its patented Beamflex technology that delivers better connectivity and better coverage. In addition, Ruckus provides a complete networking platform including

- A complete switching platform that provides industry leading scalability and PoE to power the outdoor access points
- A full range of indoor and outdoor Wi-Fi access points that can support video and IoT as well as high density public access
- An IoT gateway with support for multiple IoT protocols including BLE and ZigBee as well as LoRaWAN
- Future proof innovation such as an easy to deploy LTE solution through OpenG

SUMMARY

IoT has tremendous potential for cities to provide new services or make existing city services more efficient. In addition, cities are deploying public Wi-Fi to connect their city and provide broadband Internet services to citizens and guests. To be more successful in both Wi-Fi and IoT, cities can deploy a cost effective and flexible integrated network infrastructure. Ruckus and Actility have combined their Wi-Fi and IoT solutions to provide cities with a simplified way to enable Public Wi-Fi and new and efficient IoT services.

RUCKUS
an ARRIS company

350 West Java Dr., Sunnyvale, CA 94089 USA
www.ruckusnetworks.com

18-02-A