



Enhancing Fleet Connectivity and Management with 4G LTE-A Routers

Overview

With the increasing adoption of 4G LTE in the mobile broadband market, more and more buses are equipped with mobile broadband routers to enhance passenger internet experiences, operational efficiency, and fleet management. Chung Shing Bus has stayed ahead of these trends and partnered with Zyxel Networks to upgrade their network infrastructure with Nebula 4G LTE-A Indoor Routers. These routers can be managed remotely and centrally via the cloud. The installation allows passengers to enjoy high-speed internet on the bus, and facilitates efficient network management and troubleshooting through the cloud platform.

Challenges

Buses use mobile communication tech for efficient fleet management and service quality. Yet, managing mobile routers presents several challenges. Firstly, most mobile routers operate independently, lacking compatibility with SNMP for centralized control. This makes it hard for system integrators to create comprehensive management platforms, limiting their ability to provide extended user support. Secondly, bus mobility creates a unique challenge as 4G LTE connections may face disruptions due to base station switches or signal interference, causing passengers to experience unstable connectivity. Lastly, bus movement in urban and suburban areas often leads to 4G LTE signal instability or insufficient coverage, especially in places like mountainous terrain or tunnels where signal interruptions are common.

Solutions

To enhance mobile communication performance for Chung Shing Bus, Zyxel Networks recommends the Nebula LTE3301-PLUS 4G LTE-A router, with installation and maintenance managed by the system integrator, Yung Jih Cheng.

Customer

Chung Shing Bus

Industry

Transportation

Location

Keelung and Taipei, Taiwan

Partner

Yung Jih Cheng Co., Ltd.

Customer Background

Founded in 1965, Chung Shing Bus is a prominent passenger transportation company in Taiwan. Since 1977, Chung Shing Bus has participated in the Taipei Joint Bus System, offering services to residents across the greater Taipei area. The company is equipped with a diverse fleet comprising multiple bus and passenger vehicle models to cater to various routes and passenger requirements. Focused on delivering high-quality services to passengers, The company is dedicated to providing safe and convenient travel experiences.



The router supports features Cat.6 4G LTE-A technology with up to 300 Mbps data rates, alongside two external upgradeable LTE/3G antennas, enabling high speed, better coverage, and reduced signal interference. Employing AC1200 2.4/5GHz dual-band concurrent WiFi, ensuring stable and fast WiFi connection, enabling sharing with up to 32 devices simultaneously, and allowing passengers to surf the internet smoothly without impacting fleet management.

Moreover, the router can be managed by the Nebula cloud networking solution, which extends its services by integrating Nebula wireless access points, switches, and gateways. The cloud networking solution provides small and medium-sized businesses or advanced users with versatile deployment options as well as high-quality network connectivity for business-critical digital operations.

Product List



- Nebula LTE3301-PLUS 4G LTE-A Indoor Router

Results

By deploying the Nebula LTE3301-PLUS router, Chung Shing Bus has achieved a significant improvement in network connectivity. Additionally, with the Nebula cloud platform enabling real-time network management from anywhere, they can address network issues more efficiently. In case of equipment failures, automatic alerts ensure that IT personnel can promptly and easily assess on-site network conditions. The installation has improved operational efficiency for fleet management, allowing for real-time monitoring and management of the network on the bus, thereby optimizing bus operations.

- Improved operational efficiency for fleet management
- Streamlined Network Management facilitates efficient troubleshooting and network optimization
- Enhanced passenger experience with smooth internet access during their journeys
- Uninterrupted network connectivity through 4G LTE-A and Gigabit Ethernet dual-WAN connections

