Taiwan Railway Network Extension Solution

Taiwan Railways Administration (TRA) is a railway operator affiliated to the Ministry of Transportation and Communication in Taiwan. Developing from Qing dynasty till present days, TRA possesses the largest scaled railway system of Taiwan. The TRA train stations cover every county, and provide service to approximately six hundred and fifty thousand passengers per day. The network of TRA intertwined with other major transportation such as HSR (High Speed Railways), Taipei Metro and the Taoyuan Airport MRT, hence, it plays an important role in Taiwanese daily life.

Find the solution based on the original copper wired system

Considering the IoT (Internet of things) ecosystem starts to become more and more popular, TRA is planning to deploy sensing device to collect data from the railway. The collected data will be analyzed so as to improve the safety of the customer while reducing the labor cost. The foundation of the TRA legacy network is copper-wire-system with no effective long-distance transmission functions. In order to achieve the IoT application, the existing system has to be upgraded. Since replacing the whole system into optical fiber is way too unrealistic due to the cost of time and money, TRA decides to find the solution based on the original copper wired system.
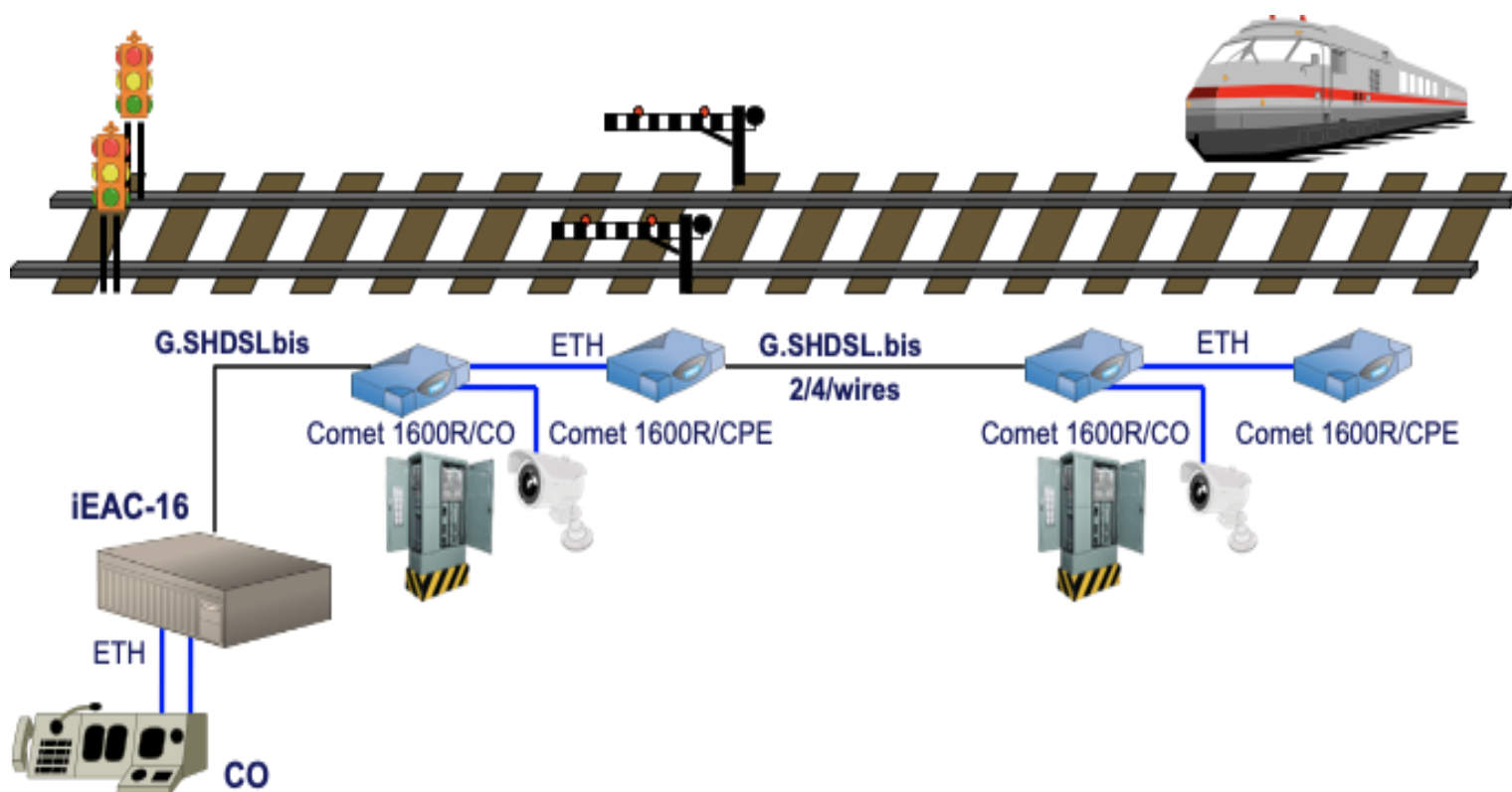
Point-to-Point Ethernet extension

The solution Tainet provided was Comet 160xR, a point-to-point Ethernet extension over copper wires. This modem supports up to two pairs of G.SHDSL.bis with 15 Mbps transmission rate per pair under extension mode. To be installed by the rail, the electronic equipment must be industrial grade standard to endure the high- temperature environment. Tainet Comet 160xR equips IP 30 metal cover, and it is able to operate smoothly within 0-75°C. In addition, it was also certified with EN 50121-4 and ITU-T K.21, which indicates it's capable of being deployed at the environment with occasional lighting strikes and mild consistent vibration. Lastly, it is compatible with Tainet iEAC-16, a 19" rack-mounted chassis, which enable the engineer team to manage remotely.

With the solution TAINET provided, the railway system becomes more efficient and secured. TRA is satisfied with the significant improvements, thus, the scale of the project is expanded to cover more regions. As a result, there will be more Comet 160xR serving in TRA railway system for IoT application in the following years.

Why Choose Us

TAINET Communication System Corp. has been connecting the world since 1990 with data and voice communications products and solutions that allow businesses to be more productive than ever. Our solutions serve the small and medium business, enterprises, government utilities, infrastructures markets and so on. We have been recognized throughout the world for their quality, reliability and innovation. The core of TAINET is comprised of a skilled and experienced engineering team, which enables us to deliver the extended technology solution from Voice communication, legacy TDM modem, multiplexers, to Ethernet-based and fiber access, while still remaining top quality, flexibility, yet cost-efficient products for all customers across a broad spectrum of applications.