Solution
- Smart Bus

At a Glance

With rapid development of new technologies and the increasing rise of urbanization, the demands of transforming transportation systems into technologically advanced vehicles are growing swiftly. Recently, CTC Union has implemented several successful cases of adopting "smart bus" systems for public mass transportation. For example, buses or minibuses are being equipped with multiple networking devices such as 4G WiFi router, passenger information display, surveillance cameras, electronic ticketing, GPS tracking, etc.

By using "smart bus" system, not only passenger experiences are optimized by providing networking services in innovative and cost-effective ways, but also methods for real-time data collection, such as fare records, passenger flow and road conditions will enable future improvements and planning. When selecting appropriate networking devices to build up convenient and efficient "smart bus" systems, there are a few factors that need to be taken into consideration.

Challenges

- The network devices placed in buses often operate in harsh environment where vibration is common when vehicles are moving.
- Providing services that can enhance user experiences and strengthen passenger safety becomes a major requirement of a smart bus, such as 4G WiFi connection, immediate information display, in-vehicle cameras.
- Power sources are limited on buses.
- Networking devices should be able to upgrade easily for future scalable purposes.

CTC Union's Solution

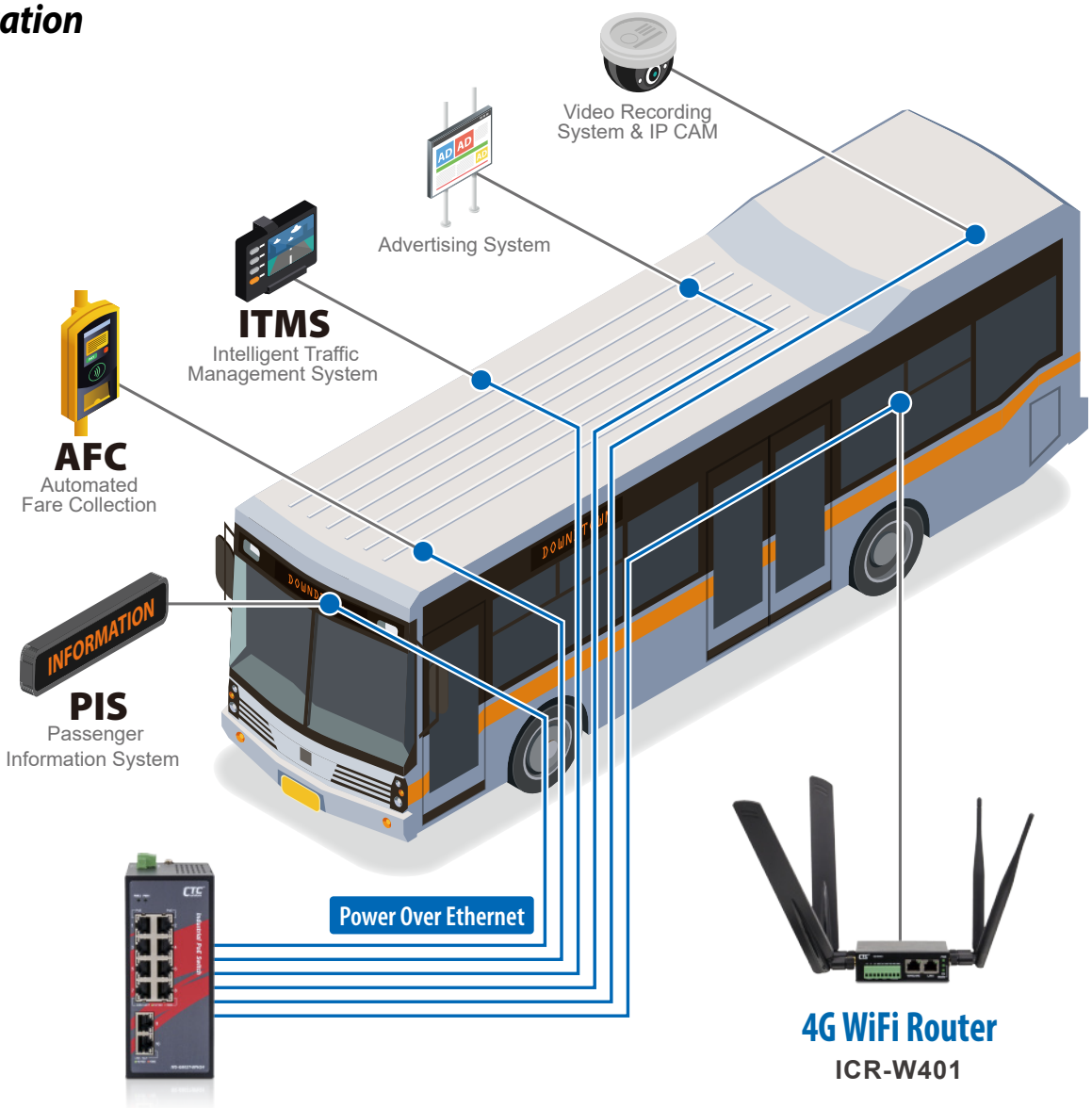
CTC Union, with abundant experience in providing networking solutions, offers a comprehensive range of network devices targeted at Intelligent Transportation Systems (ITS) applications. Our intelligent bus solutions are designed to provide uninterrupted and reliable network services of many kinds to eventually enhance passengers' experience and integrate operational information into a management system for future analysis or planning. Major features of the proposed network devices that are crucial to building up successful smart bus systems are as follows:

- Network devices of ITP & IVS series are all IP-based products that are easily connected to other devices and are easy to upgrade for future network expansion planning.
- Network devices of ITP & IVS series provide multi-port connections with power over Ethernet (PoE) function so that there is no need for powered devices (PD) such as IP cameras, traffic management systems, to run extra power cabling.
- Network devices of ITP & IVS series support 24VDC power input and can boost PoE output voltage to 50VDC.
- ITP & IVS series all support wide range of operating temperatures (-40~75°C) with rugged design.
- IVS series pass E-Mark safety and protection requirements.
- ITP & IVS series all provide industrial grade EMI and EMS certifications to offer better protection against unexpected lightning strikes, ESD or surges.
- With M12 and M23 connector design, ITP devices are designed to withstand severe shock and vibration, making them reliable for uninterrupted communication in moving vehicles.

E13

EN50121-4 | EN61000-6-2/4 | EN50155 | EN45545-2 | M12 | -40~75°C | PoE Regulated | PoE Booster

Application



E-Mark Certified PoE Switch
IVS-802GT-8PH24

4G WiFi Router
ICR-W401

- Fleet Management System
- Passenger Internet Service

Related Products

E-Mark Certified PoE Switches
IVS-G802T-8PH24 & IVS-802GT-8PH24
◄10x GbE RJ45 with 8x PoE, 24/48VDC
►8x FE RJ45 with 8x PoE + 2x GbE RJ45, 24/48VDC

Cellular Routers
ICR-W401 & ICR-W402
◄4G LTE, WiFi IEEE 802.11 b/g/n, 2x FE RJ45
►4G LTE, WiFi IEEE 802.11 b/g/n, 3x FE RJ45

EN50155 Certified PoE Switches
ITP-802GT-8PH24 & ITP-800A-8PH24
◄8x FE M12 with 8x PoE+ 2x GbE M12, 120W, 24/48VDC
►8x FE M12 with 8x PoE 120W, 24/48VDC

・The specification and pictures are subject to change without notice.

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