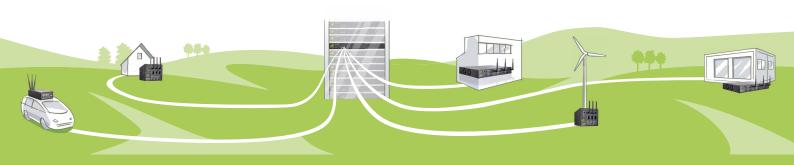# viprinet ®

BROADBAND INTERNET IN BUSES

The Internet is an indispensable part of our everyday lives. Whether at home or at work – most jobs at least involve e-mail communication and Internet research. Only during long-distance travels in Germany, it was not possible so far to use the Internet. The German Rail provides Wi-Fi in some of their trains. However, the usability of the Internet connection is quite unsatisfactory, mostly due to many interruptions and low bandwidth. As one of the first companies in Germany, Publicexpress from Oldenburg is using Viprinet in their buses, and can now provide its passengers fast and stable Internet while driving.

OVERVIEW OF BENEFITS

- Fast and uninterrupted Internet at home and abroad
- Easy to use by operators and passengers
- High profitability
- Effective USP when compared to competitors

THE TASK

Regarding Internet connections for vehicles, mobile radio is the medium of choice. However, as a shared medium, mobile radio does not provide a guaranteed bandwidth; rather, the bandwidth varies from one radio cell to the next depending on the number of connected devices and the Internet connection of the radio cell. Additionally, a radio cell only covers an area of small extent, so that receivers in motion have to select a new radio cell again after a short time. On top of that, the mobile phone networks from individual providers differ regarding coverage area. A solution for stable broadband Internet on board of a coach must therefore consist of bundled wireless connections from multiple providers: This is the only way the bandwidth of individual links can be added together. Then, the failure of a single connection only causes a reduction of total bandwidth available, while user sessions of applications are maintained. Passengers will not be interrupted surfing the Internet.

IMPLEMENTATION

In each Publicexpress bus, a Multichannel VPN Router 1610 was installed in a 19" rack. Viprinet partner JHP-IT Optimierung GmbH equipped the routers with three UMTS / HSPA+ modules each. These are connected via SMA to cellular antennas which have been firmly mounted on the vehicle roof. Another three module slots in the router can be equipped with further modules if necessary, e.g. with the new LTE standard. A separate Wi-Fi access point provides the passengers with broadband Internet independent of the terminals being used. It offers passengers convenient options for logging into the on-board Wi-Fi via a service portal and via SMS.

RESULT

The passengers of Publicexpress can now surf the Internet during the entire bus trip, because the Internet connection on the bus is fast and stable. By bonding mobile phone connections from different providers located in different countries, passengers have the opportunity to use reliable broadband Internet also in cross-border traffic. Publicexpress uses Viprinet e.g. on the line Bremen – Oldenburg – Groningen (NL): During the entire trip, the Internet access is not once interrupted. Still, the costs for this service stay manageable for the bus company by using low-priced mobile phone offerings for consumers. By that, Publicexpress satisfies their passengers, and wins loyal customers.

"Owing to Viprinet, Publicexpress is now able to offer their passengers reliable Wi-Fi access on the whole cross-border route. As first-class provider for public transport, this once more makes us the pioneer in implementing innovative ideas."

Christoph Marquardt,
CEO of Publicexpress

Partners involved:

JHP IT-Optimierung GmbH
Jessenstraße 4
DE 22767 Hamburg
www.jhp-it.de