

# Central vehicle network infrastructure in public transport



Reference report on the WLAN solution for Magdeburger Verkehrsbetriebe



A vehicle network as central IT infrastructure, on which we can transparently set up all systems – even passenger WLAN: no problem at all thanks to onway's routers!

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## Initial position

Magdeburger Verkehrsbetriebe GmbH & Co. KG (MVB) was looking for a partner to implement an integrated network infrastructure across its buses and trams. The public tender stipulated the following requirements:

- Central vehicle router to access various internal and external applications
- Securing and controlling data traffic between different network segments
- Passenger WLAN (optional)
- Potential for expansion of additional IT applications in buses and trains

## Decision

The following points convinced MVB that onway's solution was the most suitable:

- A stable and high-performance vehicle-to-ground connection thanks to specially developed routers and VPN gateway software
- Devices auto-configured, which simplifies installation significantly
- Robust and reliable hardware that meets bus and rail standards
- Comprehensive security functions (firewall, VRF, VLAN, NAT, etc.)
- Subsequent configuration changes and software updates implemented automatically

## Solution

Traditional functions, such as monitoring the devices, are combined in a modern back-end system. Using the fleet management system – onway director – MVB can check the current status of all mobile routers at any time. As a result, vehicles can be easily configured, managed and monitored via an intelligent cloud application. This is made possible thanks to an operating system specially developed by onway for network devices.

As for the hardware, MVB uses the certified mobile routers ON2800 and ON3800 to easily network large fleets.

### Backend



**onway  
director**



**macman**  
Network  
Access-Control



**mpp**  
Captive Portal  
Marketing



**Internet**

### Value added software



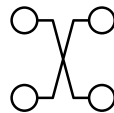
#### Device management

Auto-provisioning  
Monitoring  
Alarming  
Software updates  
Security updates



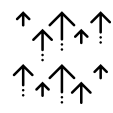
#### Firewall VPN

Access-Control  
Network partitioning  
VLANs / ACL  
Perimeter FW



#### Routing QoS

Routing per application  
Bandwidth control  
QoS  
NAT / PAT



#### Uplink-control

Multiprovider  
Uplink managem.  
Load sharing  
Cost control



#### Guest WiFi lawful intercept

Landing-page  
SMS auth.  
Webfilter  
Lawful intercept



#### GPS

Localisation  
Mobile radio  
measurement  
Statistics

### Certified hardware



## Magdeburger Verkehrsbetriebe GmbH & Co. KG (MVB)

MVB operates a 138-kilometre-long track network in Magdeburg, the capital of Saxony-Anhalt, for local public transport purposes. Ten tram lines and 14 city bus lines run on this network. As of April 2022, the company operated 108 trams (including 13 trailer cars) and 67 buses.

## onway

Since 2004, the team at onway ag has been supporting customers to evaluate, plan, implement and operate their WLAN/Network Access Control solutions, as well as offering ongoing support. To date, the team has successfully completed over 100 projects. We would be delighted to support you with your project.