



A modern network for emergency management

The Rhine-Hunsrück district, with its headquarters in Simmern/Hunsrück, is located in the heart of Rhineland-Palatinate. Between the Middle Rhine, the Moselle, and the Nahe, almost 104,000 inhabitants live in 137 communities in a rural area. Hunsrück delights with its dreamlike nature and a landscape worth living in. However, as inviting as the small villages and towns may be, the challenge of organizing a suitable disaster management system for the region is equally great.

Restructuring of the emergency management system

At the beginning of 2021, the existing technical components of the Technical Operations Management (TEL) and the centrally provided technology were to be restructured. The aim was to create a modern and interconnected network of the equipment of the Operations Management. The entire Operations Management comprises a command vehicle (ELW2), a mobile remote unit for a staff unit (TEL) as well as the fire brigade operations center as a stand-by command & control center.

The project aimed at networking the aforementioned spectrum of the Operations Management via a secure VPN. For this purpose, the command vehicle and the TEL unit network with the fire brigade control center via an IPsec VPN. However, the guidelines for this specify a separation of the networks (General – BOS (authorities and organizations with security tasks)). This separation was sometimes ensured via separate hardware, but in practice was characterized by high complexity and low flexibility.

Interactive flexibility in the VPN network

The mobile units already have highly secure LANCOM routers with 4G or 5G mobile radio modems, which ensure communication in the field. Another challenge was the remote maintenance of the mobile components so that they can be kept ready for use at all times. Among other things, 12 laptops and other components are in use here, which require regular updates, licence activations, etc..

These functions can now be handled via the VPN network. In the course of the conversion, the networks are now separated via VLAN (layer 2) as well as routing and firewall rules (layer 3). This means that pre-configured devices (e.g. telephones) can be connected to any network interface and are then automatically connected to the correct network. Unconfigured devices, on the other hand, are connected to a general network. All switches are fully equipped with PoE+ ports and a Wi-Fi 6 access point for wireless communication is available for the mobile unit. This not only allows the staff members to start working while the wired communication is being established, but also allows mobile devices such as tablets to be used.



In case there is no mobile Internet connection at the location of the mobile unit, the unit can also use an existing wired line as a connection. It is also possible to use the ELW2 vehicle as a means to connect to the Internet. In addition to the classic network cabling, it is also possible to use a directional radio link or an dedicated point-to-point VDSL2 connection via field cable.

In the ELW2, an Internet connection via satellite communication is available in addition to the connection to wired lines and various mobile networks.

Potential for optimization

Until the planned restructuring, all components used were maintained manually and individually. The LANCOM Management Cloud offers an optimization of these processes, which will significantly simplify future configurations, monitoring, and troubleshooting. This means that all data will remain in the local network, and only the components will be controlled via the central management system. The LANCOM 1780EW-4G currently installed will soon be replaced by an up-to-date device with a 5G mobile modem.

The procurement of a new command vehicle is planned for the next few years, which is why the components have already been selected in such a way that they can be easily transferred to the new vehicle.



Why LANCOM?

"The LANCOM solution provides the backbone of the infrastructure and enables us to implement the complex application and security requirements in a distributed manner. With the help of the cloud solution, we keep track of our fleet and integrate infrastructure components into our monitoring solution." Jan Sorgenfrei (CTO Platform)

Project profile

Project management: Johannes Clemens

Customer: Rhine-Hunsrück district, Disaster Management

Project

The Rhine-Hunsrück district, based in Simmern/Hunsrück, is located in the heart of Rhineland-Palatinate. The rural area, with almost 104,000 inhabitants in 137 municipalities, poses a great challenge for disaster control and the fire brigade to organize suitable protection for the region. Components from LANCOM Systems provide a modern VPN network for linking all the individual components of the emergency command system.

Components used

The following components are used for the equipment: LANCOM 1926VAG-5G, LANCOM 1790VAW, LANCOM 1780EW-4G (to be replaced by a 1926VAG-5G in 2023), several LANCOM GS-2326P+, AirLancer O-360D-5G, AirLancer O-360Q-5G and LX-6400.

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