Success Story REMTEC AG - Remote Management

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The Project

The REMTEC AG has set itself the task to provide solutions for the increasingly important remote controlling and management over the network. An assignment of the company, which is based in Ziegelbrücke CH, is to monitor and to operate water supplies. For example the monitoring systems are used to gather data related to the consumption of municipalities, to measure the water level and to regulate the water balance. The collected data also provides information about the water quality and the condition of the supply. Moreover, the monitoring makes it possible to immediately identify any leaks or burst water pipes present.
A further field of activity of the REMTEC AG is lighting control and energy monitoring for motorways. This includes lighting of traffic signs and carriageway in dependence of brightness. Among other things, the electricity supply and also third party systems, like early warning systems for black ice, are monitored in this case.

The tasks described above have one thing in common ? secure and reliable data transportation to a central process control system. Infrastructure objects of water supplies are often located on places which cannot easily be reached with landlines. Because of occasionally necessary construction work, also systems on motorways are difficult to develop, since fixed lines would be obstructive.
That?s why REMTEC AG uses the router of NetModule. These devices establish a VPN connection to a central process control system over the mobile network. Over this VPN tunnel the data can safely be transported, regardless of fixed lines.

Requirements

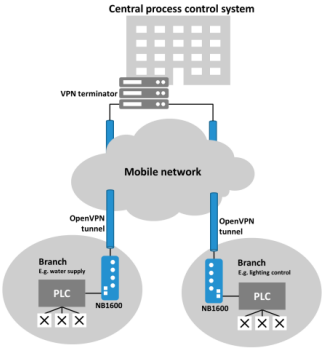
To be able to reliably transfer the collected data from the field to the central process control system, the devices of NetModule must fulfill the following requirements:

- Usage of the mobile network
- Establishment of VPN tunnels with OpenVPN
- Possibility to connect PLCs
- Usable in industrial field

Solution

In order to meet the previously mentioned requirements, the REMTEC AG uses the devices of the NB1600 product line of NetModule. These are suited for applications, where robustness is demanded.
They have a high interference immunity and security standard and are designed for the temperature range from -25 °C to +70 °C. With their integrated mounting clip, the devices can be quickly installed on a DIN rail.Equipped with a 4G (LTE) or 3G

(UMTS/ HSPA+) module with max 100 mbps downlink and 50 mbps uplink, the NB1600 enables robust communication wherever a landline is too impractical, too expensive or even unavailable.
For even more flexibility, the device comes with two Ethernet ports, which can individually be configured. For connecting sensors and actors, the NB1600 is equipped with two isolated binary inputs and two relay outputs.

			To control their actuators and sensors on site, the REMTEC AG uses a PLC which is connected via Ethernet to the NB1600. Its software supports all common VPN technologies. Thus, the NB1600 can establish an OpenVPN tunnel, which is terminated in the central process control system. Therefore, the incoming and outgoing data can be transmitted securely.

NetModule?s router software comes with an included SDK, with which it?s easy to

realize further functions and small applications. For example it?s possible to trigger an SMS alarm over the NB1600 if a sensor provides critical data. It?s also possible to address and program the different interfaces of the NB1600.