

CASE STUDY

Integrating serial IEDs at disconnecter stations into a modern 4G/3G network

RUT955 router with Netcontrol's NFE software for protocol conversion helps Sipoon Energia Oy move its rural disconnectors from radio to an IP-based mobile network



Keravan Energia Oy is a medium-sized, forward-looking distribution network operator in southern Finland. Its subsidiary Sipoon Energia Oy has been investing heavily in its network, which serves Sipoo, a mostly rural municipality with some rapidly developing population centres just east of Helsinki. In addition to building more underground cable, Sipoon Energia has improved the automation for the remaining overhead lines.

The company had a number of disconnector stations in both the overhead and cable networks with Vamp IEDs using the serial IEC 60870-5-101 protocol. These had been communicating with the control centre through a serial radio network – which, however, had showed itself to be unreliable, with frequent communication breaks. The company wanted to move this communication over to its existing mobile solution, which used secured OpenVPN tunnels over a public 4G/3G network.

Since Netcontrol had delivered and configured that VPN solution, Sipoon Energia turned to Netcontrol in this project too.

Indeed, the perfect product for this project had just been created: Teltonika's RUT955 router with the Netcon NFE software. This compact and

robust mobile router can run the Linux OS and, therefore, the NFE application. As a full-featured realtime database program, NFE can easily convert the IEC-101 protocol to the IP-based IEC-104, compatible with a 4G/3G network.

Netcontrol handled both the configuration and the installation of the RUT955 devices, which were quite straightforward. Netcontrol only needed to create the NFE cross-references between IEC-101 and IEC-104 and to set up the OpenVPN software on the routers. Then it just remained for Netcontrol's engineers to visit each station, substitute an RUT955 for the radio and switch it on.



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