



Success Story

Zyxel LTE Solution Delivers Speed and Reliability to Finnish Telecom



Telco



DNA



Finland



Zyxel
LTE
Solution

Overview

Challenges

- LTE unit was integrated in the office routers
- The router's technology couldn't fully utilize DNA's advanced mobile network
- Office routers were placed where 2G/3G/LTE signals were weak/non-existing
- Use of external antennas wasn't a reliable solution

Results

- Improved utilization of DNA's modern high-speed mobile network
- Faster and more reliable mobile connection for DNA's customers
- Enhanced redundancy for fixed line customers
- Easy installation and minor changes to customer's existing infrastructure
- Possibility to either route or bridge data traffic to customer's local network
- Easy configuration where only one available WAN Ethernet port was required
- Encrypted communications between the 3G/4G LTE base stations and the LTE 7460

Solution

- Zyxel LTE Solution

Background

DNA is Finland's third largest telecommunication service provider with more than 3.9 million subscriptions in their fixed and mobile communications networks. DNA Corporate Network provides companies with data communication connections between company sites, and owns and operates nationwide mobile and fixed networks.

Challenges

Sadly, the LTE features in the office router couldn't utilize the full power of DNA's modern high-speed mobile network. Firstly, the office router's 3G/LTE was a slow CAT3 level, with download speeds peaking at 100Mb. Secondly, it wasn't possible to combine the LTE bands used in DNA's mobile network. But, perhaps the biggest misstep came from the physical placement of the routers.

Solutions and Benefits

The Zyxel **LTE7460 4G LTE-A Outdoor Router** solved the problem of slow mobile communication between the office router and LTE network. The fast CAT6 technology used in the **LTE7460** provided a maximum download speed at 300Mb. Thanks to the Carrier Aggregation technology, the **LTE7460** could also use several bands from DNA's mobile network simultaneously, so the radio spectrum was used more efficiently.

To further optimize the use of DNA's fast mobile network, Zyxel designed a customized firmware for DNA. This

Initially DNA had chosen an office router to be used in standard configurations for corporate customers. This office router had fixed line WAN interfaces and integrated 2G/3G/LTE back-up with external antennas.

Like in many other companies, office routers were placed with the in-house wiring, in data rooms or in metallic cabinets – all places where mobile signals are weak or on nonexistent. In order to function, extra antennas had to be installed, adding extra cost and even then, still not solving all issues as the maximum cable length was 10 meters.

meant that there was no need for external antennas, and DNA could easily install the routers in the right place and aim it to optimal signal angle using the integrated display lights in the **LTE7460**.

Furthermore, installations now only require a single Ethernet cable between the office router and the **LTE7460**. This cable can be up to 90 meters long and it's the only one needed, as the Ethernet cable also carries the power to the outdoor unit with Power-over-Ethernet technology.

Product Used

LTE7460 • 4G LTE-A Outdoor Router



- Ultra-fast Internet with Cat 6 LTE with carrier aggregation
- Download speeds of up to 300 Mbps
- Embedded bridge/router mode
- Built-In multi-band, high-gain antenna of up to 8 dBi
- Standard 802.3af Power over Ethernet (PoE)
- IP 65 hardened enclosure with Industrial grade components

About Zyxel

Focused on innovation and customer-centricity, Zyxel has been connecting people to the Internet for nearly 30 years. Our ability to adapt and innovate with networking technology places us at the forefront of creating connectivity for telcos and service providers, business and home users. Zyxel is building the networks of tomorrow, unlocking potential, and meeting the needs of the modern workplace — powering people at work, life, and play. Zyxel, Your Networking Ally.

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