

Enabling Wireless Rural Broadband

Objectives

- To bring affordable and reliable broadband access to rural communities;
- To deploy a rural broadband network that requires minimal infrastructure support and maintenance;
- To utilise wireless backhaul technologies to quickly deploy the community networks.

Solution Technology

- InfiLINK 2x2 300Mbps, 200mW point-to-point wireless backhaul products;
- GRANTE high performance antennae.

Customer Benefits

- Highly reliable and easy to deploy core backbone network based on 5GHz wireless;
- InfiNet's open standards allows easy deployment and integration of CPE units to the core network;
- Highly affordable solution for rural broadband with minimal support and maintenance cost profile;
- Highly robust InfiLink 2x2 links mean fewer links required for high bandwidth transmission rates despite inclement weather conditions.

Introduction

Tom-Technik Kft. is an established ISP operating primarily in the Southern Plains of Hungary, with technical operations centred in Bekescsaba. Through close relationships with a core ecosystem of partners and servicing a wide geographical area, Tom-Technik regularly participates in Rural Development Projects aimed at improving access to broadband infrastructure in rural or "technology underdeveloped" areas. As part of one of these projects, Tom-Technik secured EU funding to bring broadband internet into technically underdeveloped areas in Bekes County, in the South Eastern part of Hungary.

Tom-Technik contacted Crown-Tech with the need to develop a feasible and cost-effective wide-area wireless network that could be rapidly deployed and easily maintained, targetted at offering affordable broadband connectivity for rural communities across the regions.

Following extensive field trials of the network architecture, Crown-Tech specified a wide-area network based exclusively on two vendors, with InfiNet Wireless playing the key role in the core backbone of the wireless network, linking together smaller rural "collector" nodes with its high capacity, point-to-point backhaul products.

Challenges

One of the key challenges to bringing broadband to underdeveloped areas is that the network needs to be ultra-reliable, since no alternative back-up option based upon traditional infrastructures such as leased line existed in many of the villages and small towns. Tom-Technik had to therefore deploy a core wireless backbone system that can support high-density traffic patterns with 24x7 reliability. The key challenge was to carefully select the equipment on the "user (CPE) side" of the network and then aggregate these connections in central locations, from where the heavy-duty links would connect to the central core network and HQ of Tom-Technik.

It was also extremely important that all of the key backbone links would operate without the need for external maintenance, given the size of the initial deployment (approximately 1000 units) of CPE equipment to new subscribers. In addition, a seamless integration of CPE units to the core backbone network would be required, so that on-site engineers would not be spending too much time fault-finding on interface and protocol interconnection problems.

Licensed spectrum radios were also considered as an option, but the project needed to offer affordable rural broadband connectivity in villages and small towns which meant that the system should be cost effective, yet robust. This led to the conclusion that a 5Ghz wireless equipment solution would be optimal-both technically & commercially- for the implementation.



Customer's Perspective

"I believe that we have finally found a core network wireless product which has the right features for the right price, whilst offering very high availability and reliability."

Tamas Batki, CEO
Tom-Technik Kft.

Solution

Tom-Technik and Crown-Tech decided upon InfiNet Wireless's InfiLink2x2 300Mbps, 200mW point-to-point products, equipped with GRANTE high performance antennae, to form the backbone of the 5Ghz solution, which had proven itself to be the best alternative both technically and commercially during the field trials. Initially, 3 links of the InfiLINK 2x2 full capacity units were provisioned for the first phase of the project, and more will be deployed in the next phases.

The reliability and ease of interface to InfiNet Wireless's InfiLINK 2x2 core backbone units made it possible for the installation teams to rapidly deploy the CPE units without the need to solve interconnection or protocol problems on the backbone side of the network, which is operating flawlessly.

The main benefit of the InfiLINK 2x2 system is that it provides the same reliability factor as a licensed wave radio system, but without the operational overheads, allowing Tom-Technik to operate and support the network with minimal support resources and costs. In addition, the InfiLINK 2x2 products offer extremely high spectrum efficiency, optimising the use of the bandwidth available and further reducing the need for additional equipment whilst still offering unrivalled throughput and bandwidth.



About InfiNet Wireless

Established in 1993, InfiNet Wireless is one of the largest privately owned Fixed Broadband Wireless Access (FBWA) development and manufacturing companies in the world. With more than 17 years of intense customer based research and product development, InfiNet's range of wireless connectivity solutions are the preferred choice of global communication corporations and governments who require uncompromising connectivity. To date, InfiNet Wireless has forged a solid foundation in fixed wireless installations, and currently has thousands of deployments successfully deployed in over 50 countries. Its philosophy of providing the most flexible, reliable, cost-attractive and innovative solutions in the industry has helped it to reach the market leader position for Wireless solutions in Russia and Central & Northern Asia, and is the benchmark of carrier grade multiservice broadband wireless access systems.