



Using InfiNet's 5GHz product range to implement large scale wireless backhaul

Objectives

- To provide regional backhaul routes using 5GHz wireless technology to local PoPs (points of presence) across Hungary;
- To ensure unrivalled reliability of the links across different geographies and climatic conditions;
- To provide a minimum of 200Mbps throughput to all times to prove cost-effective against traditional backhaul technologies;
- To meet minimum latency specifications along the backhaul routes to compensate for the TDMA round-trip delays within the cellular network.

Solution Technology

- 10 x InfiLINK 2x2 300Mbps point-to-point links (H08 platform).

Customer Benefits

- Significantly reduced deployment time over fibre installation and reduced upfront network investment due to product flexibility and ease of deployment;;
- Highly efficient and focussed spectrum usage provided maximum bandwidth in a narrow and congested 5GHz spectrum field;
- Supreme reliability of the system provided a viable alternative to fibre deployment;
- Competitively priced products coupled with lower operating costs meant a viable alternative to traditional fixed-line solutions.

Introduction

Z-Net is a mid-sized, regional W-ISP provider in Hungary with approximately 5000 end users across their network. With a wide range of customers covering both business and consumer sectors, they offer not only "classic" ISP services such as data connectivity, internet access and web hosting, but also more advanced services including IP Voice, HDTV and IP Surveillance for businesses and the public sector.

Utilising wireless as its main backhaul technology, all of the main data backbone routes operate on licensed frequency bands, thus providing a very high and reliable throughput across the widespread service area of Z-Net. However, following expansion & growth into new regions, Z-Net also identified the need for a second subsequent layer of high-throughput, 5Ghz links that were able to link the regional hubs to the core backbone.

Z-Net approached Crown-Tech, an integration specialist for wireless systems, who recommended utilising InfiNet Wireless products in an initial trial to provide the regional wireless links to the core network.

Challenges

Given the criticality of using wireless links for high-bandwidth backhaul routes, it was imperative that any technology used for core network traffic be highly reliable with as close to 100% availability as possible, whilst still carrying a significant amount of traffic throughput – all of which needed to be comparable in cost terms to laying leased lines or fibre. This meant that the regional links would need to carry at least 200 Mbps in full duplex and across a fully reliable network to be viable in terms of both operational efficiency and cost.

Previous tests with other vendor equipment – including Proxim's Tsunami MP-8100 series links and Mikrotik's RB/800 series links utilising the NV2 Nstreme protocol - were found to be unsuitable because of the inability of the wireless equipment to provide a high and stable throughput across the varying climatic conditions, which often contributes to reducing overall throughput of the systems.

Finally, one of the most interesting challenges was the slightly higher than usual delay of the TDMA system, even when measured under conditions with no significant live traffic. This meant latency across the wireless backhuls would also be a critical factor – particularly when the links were highly loaded with traffic – in the assessment of wireless technology as the regional backhaul medium.



Customer's Perspective

"Z-Net put all of our "heavy duty" radio equipment through rigorous and extreme testing regimes, and our conclusion with the performance of the InfiNet Wireless equipment is that it is directly comparable to licensed wave radio solutions in terms of throughput, reliability and overall product quality. Overall, we are extremely impressed with the performance and quality of the InfiNet solution."

Gyula Zuber, CEO
Z-Net Kft

Solution

Following a successful trial of InfiNet's Infilink2x2 product, Z-Net took the decision to build the initial phase of its secondary "collector backbone" network around InfiNet's high specification product. The trial highlighted the robustness and reliability of the solution across the difficult geographic and climatic conditions, and 10 InfiLINK 2x2 links – with a throughput of 300Mbps point-to-point per link (utilising InfiNet's latest H08 platform) were ordered and deployed. The InfiLINK's ability to also cope with the TDMA latency issues across the entire network path were also a key decision factor in moving forward with an InfiNet Wireless backbone.

With the introduction of a secondary "collector" chain in the network utilising the 5Ghz frequency range, the InfiNet Wireless links were able to provide a high-throughput, mission critical backbone which offered lower overall operating costs, since Z-Net were able to harness all of the capacity provided from their licensed wave backbone without increasing the costs resulted by the frequency usage. This, coupled with the competitively-priced products from InfiNet, gave Z-Net the overall business case required to offer a highly efficient and reliable secondary regional backbone network based on a purely wireless solution.

About Crown-Tech

Crown-Tech (www.crown-tech.eu) is a specialist in planning, distributing and developing wireless systems for over 20 years. Crown-Tech's portfolio allows our clients to cover every aspect of building their wireless solution, from the simplest client devices to licensed microwave radio portfolios capable of 500 Mbps full duplex data transmission. As a specialist distributor of wireless equipment to the channel and end clients, we ensure we always have available stock on hand, whilst offering competitive prices, fast delivery and build with the expertise in planning and implementation of the wireless solutions for our international and national partners..

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.