

Enabling Wireless Health Systems

Objectives

- Provide a stable and highly reliable link between main hospital building and satellite clinical centre;
- Required 24x7 operation because of the nature of hospital business;
- Required a minimum of 100Mbps full-duplex bandwidth;
- Needed to be deployed quickly (could not wait for a leased line provision) and cost-effectively (less expense than Free Space Optics).

Solution Technology

- InfiLINK 2x2 300Mbps point-to-point solution operating in the 5GHz spectrum.

Customer Benefits

- High bandwidth, high throughput link;
- Highly reliable for a 24x7 operation even across non-line-of-sight paths;
- Low latency for support of voice and video traffic;
- Attractive price levels compared to traditional leased lines and free-space optic solutions.

Introduction

The Toldy Ferenc Hospital at Cegléd in Hungary provides medical and hospital facilities to nearly 170,000 in- and out-patients across the region. It has grown rapidly in recent years, and the expansion of its facilities has included the acquisition and development of a number of satellite buildings around the city to house many of its specialist departments, although the overall administration of the hospital still resides at the main central facility.

In 2010, the hospital needed to provision a high-throughput and highly reliable link between their main location and one of their satellite clinics some 2km distance from the main hospital, with the ability to support a minimum of a 100Mbps full-duplex capacity and offering 24x7 availability. The customer approached ICT Systems, based on their previous experience in working with them on previous successful projects, initially proposing to procure a Free Space Optics link because of FSO's renowned high interference protection.

ICT Systems has a long history in providing full-service networking solutions for office infrastructure, security solutions and telecommunication. In addition, they have undertaken many public sector projects for a variety of customers looking for innovative or state-of-the-art performance and support.

Challenges

ICT Systems discussed the requirements with the IT department at the Toldy Ferenc Hospital, and understood that the technical requirements of the project would be the transmission of both voice and data traffic across a high-capacity link of around 2km in distance. Since the link would be carrying voice traffic, it would be imperative that the link have minimal latency, and also that it would have 24x7 reliability in order that the satellite clinic have uninterrupted access to the main hospital facilities and staff.

The 2km link would need to traverse an urban area – with the difficulties that brings in terms of high buildings preventing direct line-of-sight connection – and maintain a minimum of 100Mbps, in order to satisfy the needs for the VoIP traffic profile and the transmission of high-bandwidth medical traffic across the link.

Finally, there would be a cost consideration attached to the project – although the provision of the link was relatively urgent, it was found that the provision of an FSO link between the two facilities would pose a cost challenge to the budget available to the hospital project.



Customer's Perspective

"I would like to thank for ICT Systems and InfiNet Wireless for their enthusiastic support and overall performance in supporting this project. The InfiLink 2x2 link offers the same robustness as a Free Space Optic link for a much more reasonable price level."

Maria Kecskes, Head of IT department

Toldy Ferenc Hospital at Cegled

Solution

Since an FSO solution was found to be too cost prohibitive for this type of link, ICT systems proposed the idea of a point-to-point, non-line-of-sight (NLOS) high capacity wireless solution from InfiNet Wireless, through their distribution partner Crown-Tech. A field test of the InfiLINK 2x2 300 Mbps NLOS product, using "free spectrum" in the 5GHz band, was offered by InfiNet & its partners to the hospital, which was InfiNet's first public sector project in Hungary.

Upon establishment of the wireless link, testing progressed as planned and the link performed highly favourably against the stringent requirements laid down by the customer. The link provided uninterrupted service and exceeded the bandwidth requirement specified, and with the low latency of the InfiNet product provided an ideal platform for VoIP traffic transmission.

The main benefits of the solutions were the constant, uninterrupted line of communication at a much lower price level than an FSO link, and the fact that the customer now has a reliable radio system working in the 5GHz band, with no data throughput bottleneck. In addition, the customer also expressed their appreciation of the level of expertise and pre-and post-sales support of InfiNet Wireless and its partners, which also formed a major factor in the customer's decision to progress with an InfiNet Wireless solution.



About ICT Systems

ICT Systems (www.ict.hu) is a new brand name on the Hungarian telecommunication market, however its mother-company looks back to a decade-long tradition. It has been present on the Hungarian market for almost twenty years and has been providing full scope services on the field of office infrastructure, security solutions and telecommunication. ICT Systems was born from two decades of dynamic growth. The company has more than 500 clients and provides them with integrated services from design to implementation and operation of office infrastructures. Our suppliers and partners include leading multinational companies and the most important companies of the Hungarian info-communication market.

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.