

Requirements

- Local loop deployment for wireless broadband services to local customers, delivering consistent 10-100Mb/s services;
- Point-to-multipoint MAN (Metropolitan Access Network) capability;
- Low latency and high reliability connections for delivery of voice, video, data, TV services;
- Frequency band stability and accuracy;
- Lower cost of ownership in terms of support, deployment and management compared to xDSL and other wired solutions

Solution

- InfiMAN 2x2 point-to-multipoint base station sectors;
- InfiMAN 2x2 subscriber terminals operating at full capacity.

Saxony, Germany: Breitbandnetz-Sachsen uses InfiNet Wireless to Deliver World - Class Wireless Local Loop

Breitbandnetz-Sachsen GmbH plans, builds and operates high-speed broadband connectivity networks across Saxony, Germany, for both consumer and business customers. Unlike many networks around Germany, Breitbandnetz-Sachsen's network is built completely independently from the conventional telephony network, allowing their customers to benefit from high-speed broadband communications and triple-play (voice, video/TV and data) services without legacy infrastructure restrictions.



Breitbandnetz-Sachsen also specialises in delivering the 'unconventional': where other operators would find difficulty in financing and deploying connectivity options to customers, Breitbandnetz-Sachsen will take up the challenge to deliver those services through partnerships and innovative approaches. Some of these challenges include geography or geology, difficulties in planning or construction and can be met through its support of non-mainstream technology requirements.

Breitbandnetz-Sachsen was found in 2010 as a spin-off of the NGN (Next-Generation Networks) division of NU GmbH and still works closely with NU across numerous infrastructure projects, including most recently the planning and development of local loop access across its network.

In 2013, NU GmbH began planning and conducting trials on wireless broadband communications for the Breitbandnetz-Sachsen local loop build-out, using three leading wireless broadband manufacturers in various locations across the network. NU and Breitbandnetz-Sachsen identified a "sweet spot" in the market that broadband wireless technology could be the ideal solution to address: This gap in the market came from the delivery of communications services to small and medium sized businesses in the 10..100 Mbps capacity range, which was too complex a segment to address with traditional DSL delivery, but could not justify the cost or complexity of deploying high-bandwidth "super-wideband" connectivity for those businesses.

Benefits

- Stable broadband wireless platform with consistent and reliable throughput across all types of terrain and through variable weather conditions;
- Improved capacity and services that can be upgraded/switched on remotely without need to visit base station sites;
- Over-the-air Frequency selection for base station units with minimal self-interference and vast radio optimization toolkit;
- Reasonable total cost of ownership and maintenance, perfect price-performance ratio;
- Immediate turn-up of service and capacity.

The assessment of wireless broadband technology for local loop delivery to this critical business segment was not just a matter of product unit cost. The overall cost of ownership of supporting a new wireless infrastructure would play a major part, as would the technical performance of the solution in terms of not only quantity but also precision. In this part of Germany, the wireless spectrum made publicly available can often be quite saturated and so any wireless deployment would need to not only offer significant throughput and minimal latency for the services being delivered, but how respectful it is to the co-located radio operating in the same frequency band. This starts to become a major factor, since there are some low-grade and low-cost radios fitted with high-power antennas and cheap antennas causing interference to the neighbouring units and thus degradation to the efficiency and throughput of all the wireless connections.

Following a set of successful trials, NU and Breitbandnetz-Sachsen decided on the InfiNet Wireless range of point-to-multipoint products as the solution of choice for its local loop wireless MAN (Metropolitan Access Network) deployments.

Dr. Thomas Witt, the Project leader and Design Authority at NU, explains: "InfiNet Wireless's MAN range of solutions provided us with the opportunity to address this market segment without the need for any technical compromise at all in our designed solution. Speed, throughput,

latency and deployment cost targets were easily reached and maintained throughout the trial by InfiNet Wireless. While the point cost of individual units may not have been the cheapest of the products tested, the overall cost of ownership and deployment of the InfiNet network solution as a whole made it the most financially attractive and technically reliable of all of the solutions assessed."

Dr. Thomas Witt continues, *"The wireless equipment itself offered the best price to performance ratio of any of the equipment on offer. The ability of the InfiNet Wireless solution to reliably and consistently maintain its wireless connections and frequency bands through all sorts of challenges such as long distance and bad weather made it the optimal choice for us. In addition, the functionality of the solution – through features such as remote provisioning and bandwidth upgrades, as well as over-the-air frequency switching and monitoring capability – makes the solution both easily manageable and highly controllable. This allows us to minimise the support and deployment costs overall and continues to help us to reach our financial target for the pricing of the solution to customers in a price-sensitive market segment."*