

# Connecting Cities, Connecting Services, Connecting People

Case Study - Thurrock





# Easy Networking

## Meeting the Challenge

Networks by Wireless Ltd (NbW), systems specialist in fixed and mobile IP infrastructure solutions, was awarded a project in 2000 to design and implement a fixed broadband network for Thurrock Council to meet its requirements of connecting local education, library and council establishments to each other and the Internet via broadband.

Thurrock Council is one of 11 local authority members of the East of England NGfL Regional Broadband Consortium (E2BN), which aims to help raise standards in teaching and learning using broadband to share educational resources. As well as Thurrock, NbW has provided similar wide area IP communication infrastructures for 6 other E2BN members, including Bedfordshire County Council, Suffolk County Council and Milton Keynes Borough Council.

Initially it was intended that the regional network would serve primary and secondary schools, libraries, adult education centres and council offices in the Essex borough. However, it was quickly decided that it would also support a new borough-wide CCTV project comprising 250 digital cameras – avoiding the additional cost of a separate network.



# The NbW solution



## How it works

Networks by Wireless built a high capacity core IP network using licensed radio technology, enabling network Points of Presence to be established throughout the borough. These network PoPs were chosen specifically for their height, so that line of sight was possible to the maximum number of end user sites requiring connectivity. Line of sight is necessary in order to facilitate connections of end user sites back to this core infrastructure using standards-based unlicensed wireless technology.

The Thurrock network will never be redundant – it can be upgraded, modified or extended as required, all of which is controlled by the authority as it has full ownership of the network.

For a local authority working to annual budgetary requirements, a partnership with NbW offers the perfect solution to its network needs.

To capitalise on the flexibility of NbW's wireless solution, Thurrock Council decided to implement its network in affordable phases, subject to its own annual budget constraints.

- Phase One, March 2001 to January 2002:  
NbW constructed the core network, connecting 6 strategically located tall buildings at speeds of 34Mbps and subsequently provided connections to 12 primary, 3 secondary schools and 7 libraries.
- Phase Two, June 2002 to November 2002:  
A further 50 schools, 3 libraries and the CCTV system were added to the network.

- Phase Three, June 2003 to February 2004:  
The core network was upgraded from 34Mbps to 155Mbps and 3 additional links added to create enhanced network resilience.
- Phase Four, June 2004 to April 2005:  
A further 20 educational sites were added and the network expanded by the development of a new core network node. Technology at the edge of the network was upgraded from 2.4GHz to 5.8GHz, providing greater flexibility and enabling capacities of 2Mbps at every primary school and 8Mbps at every secondary school, library and council office.

"This is an extensive infrastructure project which would have had huge implications on the Council's budget," says Ray Joyce, Head of IT, Thurrock Council. "Initially we were looking for a fast, cost-effective and sustainable broadband network, and felt that wireless technology met these needs.

"Our original expectations have been far exceeded by the bandwidth capacity of wireless broadband enabled by NbW and also the associated cost savings. We are delighted by the relationship and trust we have built up with NbW and will work with them in delivering our regional fixed and mobile IP communications and applications for many years to come."

"The network we have delivered and now support will be able to provide increasingly fast connections to end user sites for years, as well as providing the foundations for the delivery of many wide area mobile IP applications."

He adds: "In Rhondda Cynon Taf, we are upgrading the core network we supplied as part of the Council's WAN from 155Mbps to 311Mbps, in order to support increases to existing site capacities, the addition of new sites and the introduction of exciting applications such as IPCCTV – and it could just as easily support 622Mbps."



## → Who we are

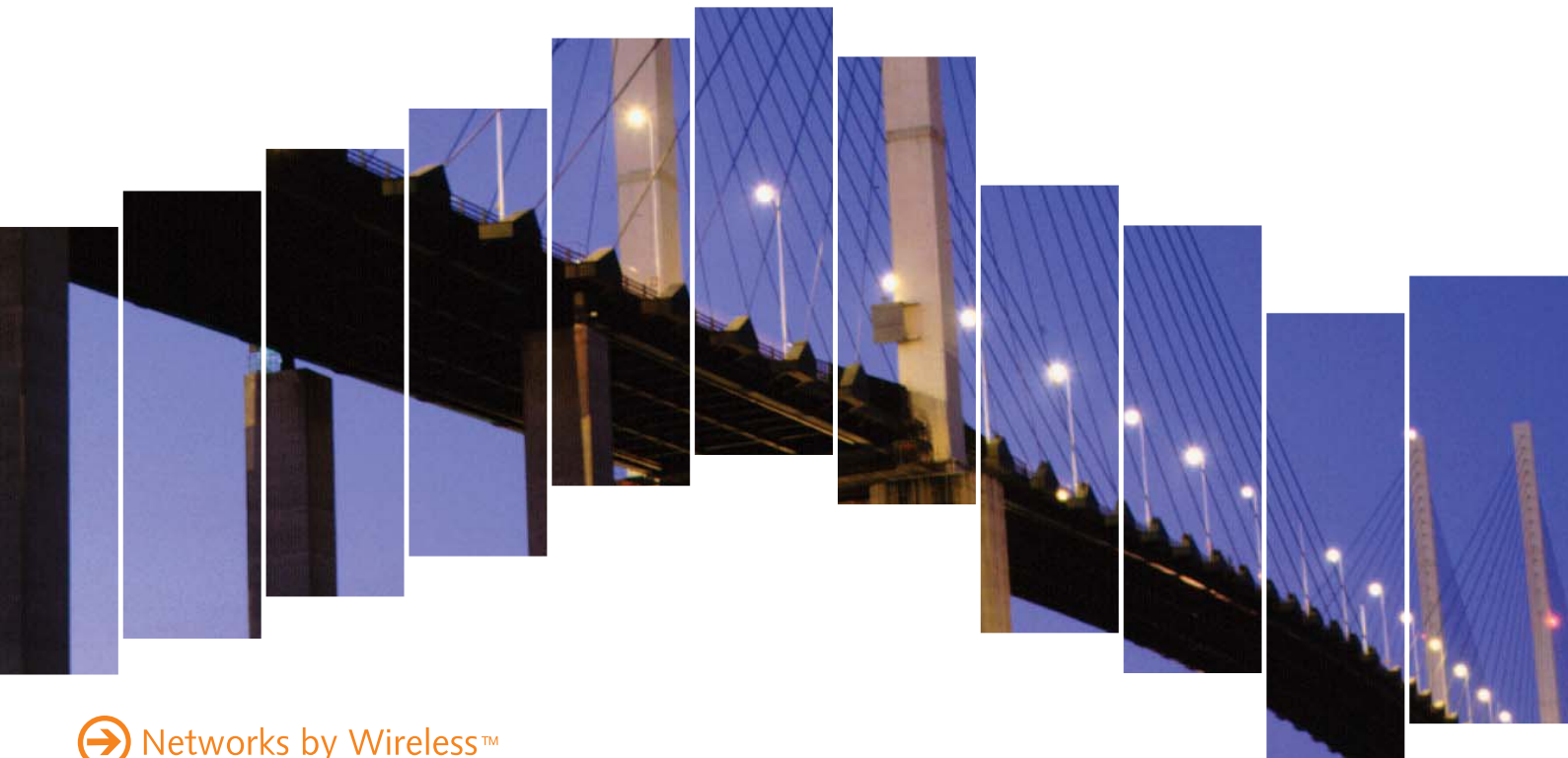
NbW has spent many years developing industry-leading IP solutions and processes in wireless technology and has designed and implemented some of the largest and most complex high-capacity networks in operation in the UK today.

NbW is at the forefront of converged fixed-mobile broadband infrastructure solutions and has access to a unique portfolio of products and services to ensure delivery of converged IP applications such as voice, video, data and CCTV solutions.

The company's track record is also inspiring confidence overseas, where it has been licensed to build a national wireless network in the Ukraine. In a highly-competitive and fast-moving industry, NbW remains on the cutting edge.

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