

STUDY

April 2005

PUBLIC INTERVENTION in BROADBAND MARKETS

UNITED KINGDOM Cambridgeshire Community Network

*Study conducted by the research firm Cabinet Analysys
on behalf of l'Autorité de régulation des télécommunications
and Caisse des Dépôts et Consignations*



NOTICE

Autorité de régulation des télécommunications (ART) and *Caisse des Dépôts et Consignations* (CDC) have called on the firm Cabinet Analysys to conduct a study on the Cambridgeshire Community Network.

The study will be made public in a concern for transparency and information.

The study's conclusions are the sole responsibility of the firm and do reflect in any way the opinions of ART or of CDC

Cambridgeshire Community Network

The Cambridgeshire Community Network is a project to develop a public sector broadband network in Cambridgeshire that links 400 council buildings, including offices, schools and libraries, as well as public access points in places such as pubs, post offices and community halls. The project is part-funded by PFI credits from the government.

Background information

► *Strategic rationale*

The main objective of the project was to develop a county-wide telecoms network for the public sector in addition to a community network. It was intended that the development of this network would help to address inequalities between the wealthy population centres and the isolated and socially deprived rural areas. Population in the county is approximately 0.5 million, with a very diverse demography. Cambridge city with the university and high tech industry is contrasted with a very agricultural and deprived area in the surrounding fenland. Wealth in the city is contrasted with rural isolation and social exclusion.

Fibre networks in Cambridgeshire were mainly restricted to the city of Cambridge.

The original plan was to focus on delivering services only to the County Council but the project then expanded to support other local government needs in addition to developing the community network. The intention to support e-government initiatives by building the underlying infrastructure was also important.

► *Strategic objectives*

In addition to the idea of developing a community network for the deprived areas of the county, this project also focused on aggregating demand for the public sector. Previously, funding for different services provided by the county came from different government departments (school connectivity, for example, was funded by the Department of Education and Skills, and library connectivity from the Department of Culture).

► *Project framework*

The project was designed as a tender for services for the private sector to build the necessary network infrastructure and provide the specified services to the council under an eight year contract.

Description of selected solution

► *Private sector role*

The project was advertised as an open tender in OJEC following all public sector procurement regulations. There was substantial interest from the private sector including companies like BT, Cable & Wireless (C&W) and ntl. Ntl has been retained as the Project Company.

► *Business model*

Total budget for the project was GBP29 million of which GBP12 million was funded through PFI credits. Monthly payment of the PFI credits to ntl commenced once the network became operational, therefore the capital for infrastructure investment had to be provided by ntl.

► *Role of government agencies*

This project was designed and implemented by the Cambridgeshire County Council and no other government administration was involved.

► *Financial requirements*

Part of the funds required for this project was raised through PFI credits from central government (Office of the Deputy Prime Minister). The remaining funds were from the council's own telecoms budget.

The council decided to use the PFI credits for this project for the following reasons:

- from the start it was decided this project would be contracted as a managed service, so it would inevitably be a public-private partnership
- it was a good way to ensure a performance related contract

- the application for PFI credits was successful.

The principle of PFI credits is that payment to the private contractor is performance-related and commences only with the start of the service provision. If the public sector organisation is satisfied with service performance, it can draw an amount from the fund to pay the private contractor, which decreases with time and usually lasts for 25–30 years. The CCN, however, only runs for eight years, and therefore the full pot of PFI credits will not get drawn for this project. PFI credits do not have to be repaid.

Regulations concerning PFI credits also stipulate that there should be open book accounting between the private contractor and the public sector organisation. The county council gets access to ntl's financial model. There are annual reviews when tariffs can be renegotiated according to a number of key performance indicators (KPIs). ntl has to demonstrate acceptable levels of profitability from this project, although the meaning of acceptable levels is not clearly defined.

► *Economic and technical specifications*

The original plan for this project envisaged the connection of 400 (out of approximately 700) council sites and approximately 100 community outlets. The 300 sites that were not included in this project, were left out for budgetary constraints. Any new funding that becomes available from government departments such as the DfES to connect schools will be used to connect new sites. However, as schools are independent from the council they do not have to join the CCN. Any new business represents an upside for ntl.

Under this project, the average cost for the installation of a 2Mbit/s circuit is GBP5000 with an additional GBP6000 per annum for the service provision.

► *Project design*

The backbone network is based on fibre and it consists of a mixture of new build and existing ducting infrastructure from ntl. Routers are all supplied by Cisco and were specifically procured for this project.

The backbone network connects Cambridge, Huntingdon, March and Ely with a resilient fibre network providing a 1Gbit/s capacity between the four sites (the wireless link between Ely and March is for resilience). A star network topology extends the network to other locations from the

four main nodes. When there is a requirement to provide 8Mbit/s circuits or above, ntl provides fibre links. For the provision of 2Mbit/s circuits, ntl connects the site with copper and if more bandwidth is required it increases the capacity using copper up to 8Mbit/s at which point it migrates to a fibre link. Approximately 60% of the edge infrastructure is owned by ntl, the rest is leased from BT. If infrastructure is leased from BT, prices for the council are higher.

The network interconnects in Cambridge with other regional and national links. The next figure shows a diagram of the network architecture.

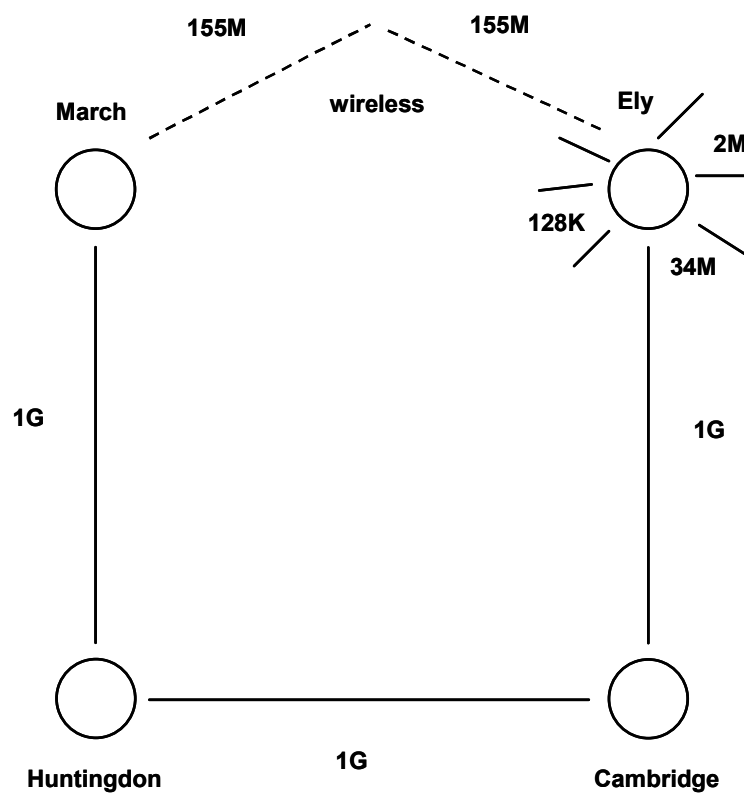


Exhibit Erreur ! Il n'y a pas de texte répondant à ce style dans ce document..1:Cambridgeshire Community Network network architecture [Source: Cambridgeshire County Council and ntl]

There are two ISPs using the network to deliver services. ntl's own ISP and E2B (owned by C&W) which provides services to schools. C&W connects to the CCN with a 34Mbit/s circuit provided by ntl.

Deployment and implementation of the network took 18 months.

► *Regulatory and legal issues*

Local authorities in the UK cannot normally sell services to businesses. The provision of services under this project, therefore, must remain focused on public sector organisations only.

Impacts and feedback on implementation

The council is already thinking about the next phase for the project. It is looking to extend the network to other public sector bodies such as the police or fire brigade. No private contractor has been selected for this.

The council believes that the CCN has had a positive impact in a few areas such as:

- social inclusion through the provision of community outlets
- the provision of broadband to schools that hitherto did not have access to the fast Internet.