

Why Are More Local Authorities Building Open Access Broadband Networks?

By R. Jepson

There are many reasons why local authority leaders are often very cautious about undertaking major technology initiatives on their own. Many in the public sector worry that as soon as an information technology project is deployed, it will be superseded by something bigger, smaller, faster or more reliable. The complex equipment that resides in public facilities could become difficult to maintain. There is a risk that, as technology advances, certain services may no longer be supported.

It is this public sector caution over the implementation of new technologies that is making the acceptance of Open Access Broadband Networks (OABN) by local authority leaders in the United Kingdom (UK) all the more unique and exciting for information technology and telecommunications vendors.

Why should local authorities build their own networks?

There are 3 primary drivers for building their own high-speed broadband networks:

- Efficiency of the municipal environment.
- Effectiveness of service delivery to their citizens.
- Economic development of the local areas.

Each has its own issues and specific requirements that contribute to what sort of technology can be implemented. From meeting mandatory conditions set by central government, to local market forces and customer demands, it's acknowledged that OABN can provide an environment that can contain their exposure to risk and create stronger local community relations.

Increasing the Efficiency Of the Local Authority Environment

One of the key objectives for any LA leadership team is the requirement to increase the efficiency of their operational environment. Following the publication of the *Gershon Efficiency Review*, the *Lyons Review* and the *Transformational Government – Enabled by Technology* strategy documents, the delivery of services through enabling technology represents a major opportunity to improve the efficiency of government operations.

These documents, commissioned by the UK Prime Minister's Office (PMO), provide strategic guidance for how the public sector should use technology to deliver more effective public services. The most salient document, the *Gershon Efficiency Review*, discusses how implementing technology would improve both the effectiveness and efficiency of service delivery. The three areas that stand to benefit most from technology improvements are:

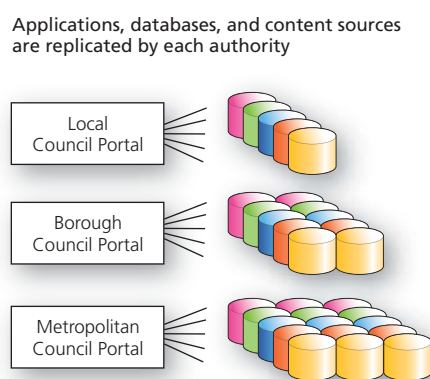
1. Citizen- and business-centered services.
2. Shared services for HR and finance functions.
3. Professionalizing IT in government.

Currently, each local government must manage and support numerous applications and back-office systems that are critical to delivering services. Guidelines and standards for services have resulted

in a degree of commonality and standardization among national government agencies (Figure 1). But it's at the local level that this commonality is missing, and the variations in delivery mechanisms, software packages and the quality and level of information is dependent upon each local government's IT infrastructure.

It's precisely this that Gershon identified as being fundamental to building an efficient government. He suggested that if current technology were utilized to its potential and high levels of commonality were brought into the public sector, then, by default, local government would operate in such a way as to bring greater value to its citizens.

Figure 1: Duplication of applications and software packages in all levels of public sector infrastructure



Delivering Services to Citizens Effectively

Three questions guide public sector IT managers' new technology decisions:

- a) Will the new technology enable transformation of public services for the benefit of citizens, businesses, taxpayers and front-line staff?
- b) Will the new technology increase the efficiency of the corporate services and infrastructure of government organizations to release resources to the front line?
- c) Will the new technology provide them with the steps necessary to achieve the effective delivery of technology for government?

Answers to all of these questions rely on communications infrastructures that can help achieve the efficiency levels that public sector IT management desires.

Currently, advanced communication technologies can easily address highly scalable, efficient and collaborative needs from any customer. The capability to offer services pulling information from multiple data sources and push highly personalized, secure data streams to another, be it a database or a person, enable the LA to meet the citizen-centric demands a service-lead council requires.

The ability to differentiate between users on Next Generation (NG) wireless devices or more traditional legacy devices allows them to customize the information accordingly and deliver only what the terminal supports. No misconceptions over the level of service received are possible; what's expected is delivered, and content is tailored to the users ability to view data streams. An ability to add appropriate levels of security to guarantee the recipient of the message is who they say they are, allows the LA to eliminate another layer of risk, increasing effectiveness of their service delivery environments.

Economic Development of the Local Area

Another driver for local governments thinking about commissioning NG broadband networks is that the development of e-commerce is expected to transform local areas through job creation. Attractive technological environments allow businesses to flourish. Communications infrastructures can stimulate the local economy and enable local governments to create jobs and meet the primary objective of offering citizen- and business-centered services.

Currently, small- to medium-sized enterprises wishing to have 10Mbit/s connectivity must buy expensive leased lines or multiple bonded ADSL lines. With VDSL delivery network services, 10Mbit/s can be offered over a single copper pair. This allows for a significantly cheaper and more reliable connection than other broadband options.

This same delivery paradigm scales down to the consumer level. Consumers benefit from very high-speed (eventually reaching 25Mbit/s+) broadband services. These service speeds are only currently available on cable-based systems, which have a limited market penetration and are difficult to scale with increased demand.

While the main focus of OABN is toward economic growth, local governments can also support economic transformation through improved delivery of public services, specifically in the areas of healthcare in the community and education and training for the low skilled and unemployed.

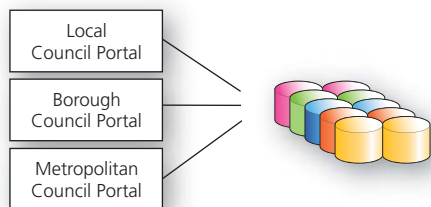
Complete Efficiency and Effectiveness From End-to-End...

It's clear to see how OABN helps local governments achieve citizen-centric services. However, local government can also benefit internally in a number of other ways. Savings from cheaper telecommunications services can be used to fund further development activities. They also make it possible to implement more advanced services, such as home healthcare and telemedicine, teleworking and video learning.

The technology leverages the communications infrastructure to help local authorities meet requirements that are driven internally and/or by national government mandates. Hosted application models, centralized purchasing and greater flexibility can be engineered into the service delivery environment to reduce administration costs (Figure 2). Shared service capabilities could also introduce economies of scale by bringing together neighboring councils for joint service purchases.

Figure 2: Centrally held applications and software packages reduce complexity and costs

Applications, databases, and content sources are held centrally and accessed by each authority, eliminating duplication, license costs and operational running costs



It's the combination of external and internal benefits that is helping the OABN idea propagate through the local-authority IT mindset. With Alcatel-Lucent's expertise in designing, managing and maintaining complex networks, the risk involved in sanctioning such a communications environment decreases. This makes the overall proposition a welcome change from the usual IT dilemmas facing the public sector and throws up new challenges in establishing and deploying innovative services that take full advantage of the network's capability.

Will the Market Not Provide This?

Currently, broadband infrastructure is provided by a small number of fixed line telecommunications providers. In order to achieve the levels of efficiencies outlined above, the supporting infrastructure must be capable of providing ubiquitous access to multiple data sources, securely and quickly. In reality, the government doesn't have the ability to directly control what this infrastructure does and how it performs.

The effect of mandates coming down to local authorities from the PMO is to call into question how they can implement the applications and services that will enable them to meet these significant targets, when they have no direct influence over the basic communications infrastructure that must be in place for them to utilize.

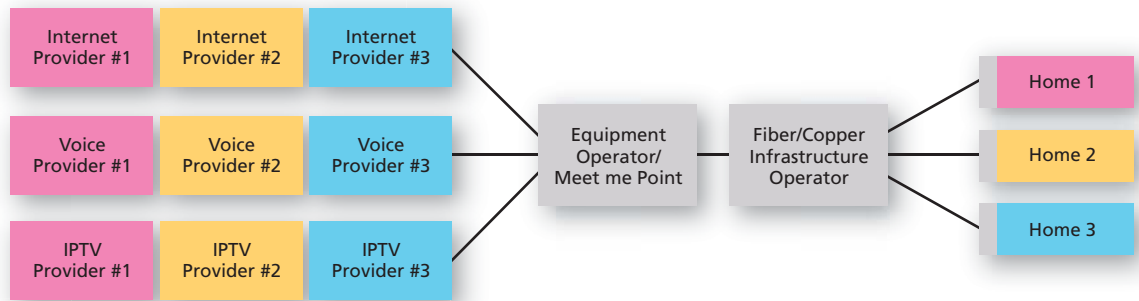
It is this question that, not surprisingly, causes most uncertainty, as the decision must represent the best value for money for the public purse. A "Next-Gen" broadband platform would facilitate this transformation, but would an incumbent carrier, or a local provider, install such a network in the short- to medium-term? Given the likely cost of such a network, it would take a significant level of investment that an incumbent is unlikely to provide, given that they have an existing, albeit less capable, network already in-situ.

This doubt leaves one alternative: for the infrastructure to be commissioned and installed by the local authority directly. There are a number of avenues for local authorities to explore, with public sector intervention funding from both the UK and European Union available should the region need it.

The controls over how public sector funding is allocated are specific and significant. One of the ways in which the public sector builder/operator of the network can meet some of the tightly controlled funding requirements is by not offering products or services to end users directly. This is why the concept of an OABN is so appealing when combined with other drivers for simple high-speed broadband networks.

When designing an open-access wholesale NG network, its capability of supporting multiple Service Providers to the same end-users can be exploited. Offering a full range of products and services across the network on a wholesale basis to an unlimited number of service providers allows the builder or operator of the network the ability to maximize its operating efficiency (Figure 3). It stimulates usage, provides competition with existing operators and ultimately allows the LA to reap the benefits in growing its region's economy.

Figure 3: Open access networks allow multiple service providers to offer customizable services to their customers



Across Alcatel-Lucent's product portfolio, the functionality exists for local authorities to reduce their operational expenditure while bringing their service delivery environments into the 21st Century. Our telecommunications pedigree reduces the public sector's exposure to risk, enabling officials to concentrate on the delivery of top-class services to their citizens. For more information visit www.alcatel-lucent.co.uk and click on Business Critical Solutions. >>

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