



Cutting the Wires
2-Day Education Seminar
7 & 8 March 2007

Summary:
Building a
Wireless Strategy
for Local Government

This document is a summary of the full 'Cutting the Wires' paper that will be issued in electronic format to delegates of the Nomad Wireless 'Cutting the Wires' 2-Day Education Seminar after the event.

1 Introduction

1.1 Overview

The task of local government is becoming increasingly complex as communities become more ethnically diverse and citizens rightly expect greater value for money and demand that their local authority interact with them on their terms. Pervasive broadband Internet access holds the potential to transform the manner in which citizens interact with their local authorities, by:

- Allowing services to be delivered more cheaply and effectively
- Making services more transparent and accessible to citizens
- Helping governments to meet the service and community demands of their citizens

1.2 Aims & Objectives

The aim of Nomad Wireless is to work with local authorities, the third sector and with private enterprise to develop wireless strategies and to increase understanding of the opportunities available through the adoption of wireless technologies.

The complete Cutting the Wires document aims to provide practical information for the public sector that will inform:

- A **common understanding** of wireless technologies as an enabler of transformation
- A framework to help plan and **develop** a wireless infrastructure and solution suite

1.3 Wireless Technology in the Public Sector

Wireless technology in the public sector is a hot topic; over 300 municipalities around the world issued requests for proposals by the end of 2006, with more expected in 2007. The factors that have given rise to this interest include the desire for local authorities to improve service efficiency and effectiveness through providing levels of portability to their applications and the growing commercial interest in municipal wireless networks.

How important is wireless to you? It is essential to identify your applications, your user profiles, your internal requirements and any political drivers. This will allow you to construct a solid business plan that identifies the benefits, the opportunities, the costs and the risks involved, and positions you to choose the right type of partnerships and mix of network technologies. Gartner has many local authority clients around the world; they have different drivers, different aspirations, and different levels of funding and understanding of what they really want. But from this it has become clear that there is a best practice approach to follow if success is to be achieved:

- Don't try to be an Internet Service Provider.
- Carefully assess your application and user needs for the next 5 years.
- Explore opportunities for commercial partnerships and outsourcing – leverage your assets and keep an open mind about solutions.
- Keep to technology standards – don't get locked into proprietary solutions.
- Conduct trials and get independent advice before committing to the full project. Hype rules in the wireless world, you have to cut through it.

2 Wireless Broadband in the Public Sector

2.1 Introduction

The broadband strategies that public sector bodies may undertake are influenced by a combination of economic and social needs. The economic desire might be to drive efficiency in the delivery of government services such as automated meter reading, while the social needs will include digital inclusion, education and public services.

This section considers the environmental influences on a wireless strategy and also the particular influences that public sector bodies will face.

2.2 Considerations for Public Sector Deployment

Physical	Public sector organisations have different physical characteristics that will impact deployments and also historical, regulatory, population and trade differences.
Social	Wireless applications should improve the quality of service delivery and enhance the well being of the community. Challenges exist for urban and rural deployments in terms of PC penetration and computer literacy.
Economic	Modern business depends on instant connectivity across the entire public sector supply chain. Wireless technology enables this connectivity, drives down the cost of business and also inspires new usage or service models.
Technology	There is growing complexity in aligning wireless strategies to the appropriate technology roadmap. Insight is needed into competing standards and technologies to make appropriate decisions.

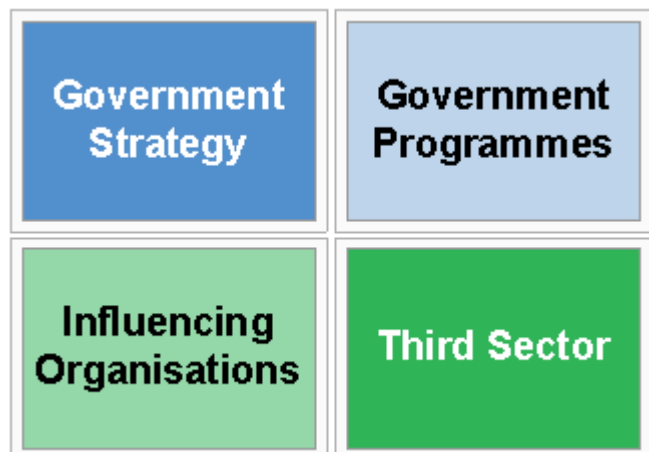
2.3 Political & Regulatory Environment

Local Authorities are under pressure from a variety of sources as they strive to define strategies to meet transformation agendas.

There are pressures to implement central government strategy and programmes as well as third sector organisations as part of a *Shared Services* agenda.

There are a variety of public and private organisations ready and willing to help local authorities make decisions.

The challenge for local authorities is to make sense of this environment in order that the decisions they make are most appropriate for their particular circumstances.



3 Wireless Broadband Technologies

3.1 Introduction

Standardised networking technologies are becoming more commonplace and have major advantages over proprietary equipment such as a regulated and well defined product roadmap. For a number of years, voice, video and data networks have been converging onto one common local area platform as a result of the widespread adoption of IP protocols.

3.2 Standards Analysed

Wi-Fi and WiMAX are based on two of the major wireless standards. Suppliers have been providing built-in Wi-Fi for some years now in laptops and PDAs. WiMAX is a newer standard and devices capable of supporting this standard are fast becoming available. 2007 will see WiMAX peripherals for laptops with microchip-integrated connectivity for laptops to follow. WiMAX handheld devices are earmarked for the 2008/9 timeframe.

Any solution should be capable of supporting the standards-based wireless authentication framework, known as the IEEE 802.1x authentication framework. Encompassed in the framework are a number of mechanisms for securely identifying a user of the wireless service and deciding how their data should be encrypted.

3.3 Regulatory Environment

Networking technologies that operate in licensed spectrum are subject to regulatory constraints, managed in the UK by Ofcom. Local Authorities should make themselves aware of the situation as regards to the regulatory environment by consulting with the communications regulatory body for the UK, Ofcom, and Nomad.

3.4 Wireless CCTV & Telemetry

Local Authorities have seen that CCTV is effective in many of the areas they have to support. Its uses include crime prevention, public safety and traffic management. 'Wired' technologies, due to their point to point nature; do not allow consolidation and convergence of CCTV increasing the cost of implementation. Wireless technology, however, easily supports a networked IP CCTV delivery system that not only offers connectivity for mobile workers but also allows other departments that may not have been considered in developing the business case, access to the CCTV resource.

4 Planning for Wireless

4.1 The Business Value of Technology

Local authorities have worked hard to improve service delivery through information technology (IT) such as systems to process claims and manage citizen information. These changes have helped local authorities to meet productivity targets and new standards of citizen service. Wireless technologies offer the promise of helping local authorities continue along this path of ever-increasing productivity and service efficiency gains. However, it is not clear how a local authority might be able to articulate the potential of the technology into terms that are familiar and that make sense in a local authority context. This section aims to determine the business value of IT and how that can be translated into a successful technology investment for a local authority.

4.2 Choosing a Business Model

To achieve the benefits of technology adoption a business model appropriate to the local authority's environment must be determined and evaluated in terms of the value government and citizens will derive. Wireless infrastructure reduces the need to excavate roads but introduces new costs, such as upgrading backhaul links and street furniture. Whereas many benefits are intangible, most costs are concrete, identifiable and directly attributable to the proposed solution. The scope and type of solution will heavily influence the cost profile and while it is possible to make some general assumptions around the infrastructure, wireless costs are fluctuating rapidly and continually as the market evolves.

4.3 Shared Services

Shared Services were popularised in the early 1990's as a means of reducing the administrative cost of service delivery. More recently shared services are run as Centres of Excellence, aligned with wider public policy goals and demonstrating optimal business processes. The shared services agenda represents a shift towards public bodies consolidating their back-offices and an aggregation of services across sectors such as health, education and police. Within the public sector much of the initial focus has been on finance and human resource functions but there are many other opportunities to consolidate functions and improve efficiency and effectiveness within local authorities. Through the use of new technologies, Shared Service operators have generated significant economic benefits while also delivering process improvements and identifying new opportunities to generate value. Wireless also provides an opportunity for shared infrastructures across different agencies particularly with the move to rationalise accommodation and co-locate operation for separate public sector bodies.

4.4 Mobile Applications

Governments have been deploying elementary mobile applications for years, mainly to support activities such as public safety and field service applications. Mobile applications grow from within departments and over time build linkages into other departments. They provide opportunities to reduce the cost of delivery of public services while also being a foundation stone for maintaining longer-term competitive advantage.

In order to make your applications as effective 'on-the-road' as in the office, consider the differences between the two environments and where necessary re-engineer your application so that it performs effectively wherever it is needed. This exercise is also an opportunity to re-engineer the business rules and processes that underpin the departments operations.

5 Delivering a Wireless Strategy

5.1 Introduction

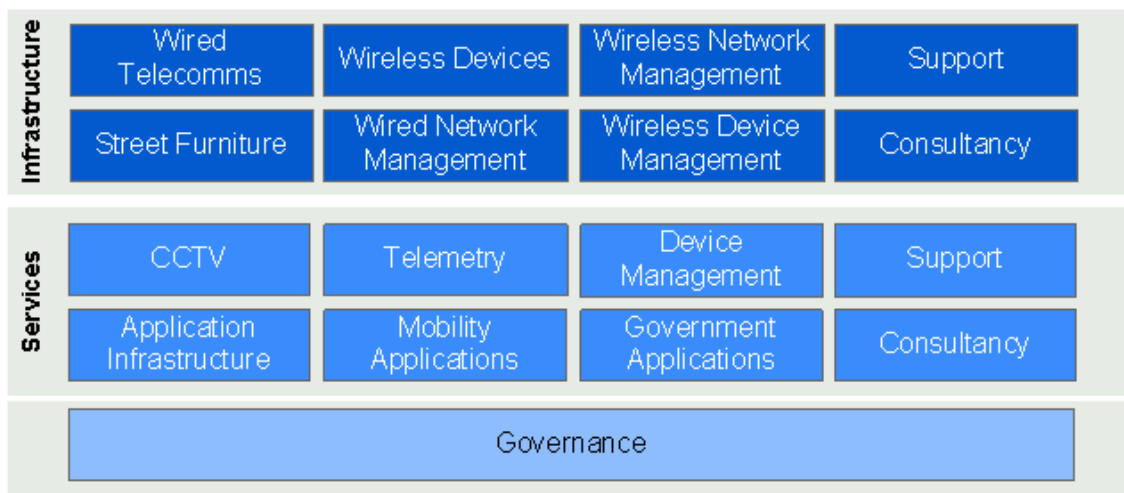
Public Sector initiatives are often based upon technology as an enabler of improved service, efficiencies, productivity and so forth. When compiling a business plan it should be grounded on the same good planning principles as any non-technology initiative.

5.2 Developing an Ecosystem

In order for a local authority to realise its wireless vision, it is necessary to identify the ecosystem of partners, internal and external stakeholders that together have the capability to deliver that vision.

Local authorities are wise to consider carefully investments in an environment with so much uncertainty. Investments where the local authority is aligned with industry best practice and where all partners share the vision of the local authority stand the best chance of success.

The following diagram illustrates the areas of competency that partners must fulfil when building public services on wireless technologies.



5.3 Preparing for Change

Local Authorities must prepare for the changes that wireless technology will bring to the working environment. Preparing and managing change will enable Local Authorities to efficiently transform their organisations.

Inform the business plan by analysing the political landscape surrounding your initiative. Economic forces must be examined to test the financial viability of the proposals. Local authorities will need to perform to their core strengths rather than end up with market players such as telecommunications companies.

The expectations of citizens and enterprises will increasingly be set by service experiences in other councils. Local government needs to compete at these levels and deliver services that match the best available in the marketplace. One challenge to this is that local governments have a social and cultural mandate which requires resources to be diverted towards bridging the digital divide, providing broadband access, education, and support for community groups and training for the socially excluded.

Technology and particularly mobile technology is rapidly evolving, so take the time to consider the standards and devices that are appropriate for you. Wi-Fi and 3G technologies have matured over the past few years while WiMAX is now emerging as a viable option. Choose technologies that are based on standards and have a clearly defined roadmap and most importantly are appropriate for your communities needs.