

ABERDEEN CITY COUNCIL

COMMITTEE	Enterprise, Planning and Infrastructure
DATE	9 November 2010
DIRECTOR	Gordon McIntosh
TITLE OF REPORT	Digital Network Development
REPORT NUMBER:	EPI/10/263

1. PURPOSE OF REPORT

The report seeks advises Committee on current work being undertaken to develop opportunities and infrastructure based on Next Generation Access (NGA) communications technologies.

The report advises on early discussions with Alcatel-Lucent on the opportunities for infrastructure and service developments in Aberdeen City (and potentially beyond) and proposed delivery models to deliver on these. Initial focus will be on delivering business and public realm enhancements within the City Centre

2. RECOMMENDATION(S)

It is recommended that Committee:

1. Approve ongoing engagement with Alcatel-Lucent in the development of technical and cost options for Next Generation Access and models for delivery, subject to further discussion with Legal and Democratic Services to ensure that Alcatel-Lucent's have no subsequent role to play in the delivery of these models, which might breach Council procurement rules.
2. Develop a prospectus for internal consideration on delivery options and potential tendering options, subject to this being developed at no financial cost to the council, other than officer time.
3. Instruct officers to report back on preferred options to Enterprise, Planning and Infrastructure Committee on 15th March 2011.

3. FINANCIAL IMPLICATIONS

There are no current financial implications of undertaking these studies.

Potential funding models for delivery of Next Generation Access technologies will be assessed as part of the ongoing research work. Costs and funding models will be reported back to Committee of 15th March 2011.

4. SERVICE & COMMUNITY IMPACT

Community: The contents of the report relate directly to delivering on key National Outcomes of the **Single Outcome Agreement**:

National Outcome 1 – We live in a Scotland that is the most attractive place for doing business in Europe

National Outcome 2 – We realise our full economic potential with more and better employment opportunities for our people.

National Outcome 3 - We are better educated, more skilled and more successful, renowned for our research and innovation

In addition the delivery of NGA with associated affordability levels for disadvantaged (geographically and societally) can support and enable community engagement to improve life chances and opportunities.

The contents of the report also relate directly to delivering the economic development aspects of the Administration's Policy Statement **Vibrant, Dynamic and Forward-looking**:

"The future prosperity of our city depends on ensuring that Aberdeen becomes an even more attractive place in which to do business and so ensure that high quality employment opportunities exist for citizens."

ACSEF has also identified a number of areas within the Economic Action Plan where NGA can play a critical role in transport, global connectivity, attracting and developing skilled people and company headquarters.

Specifically, within the Economic Content of the **Energetica Strategic Framework**, the partners note:

"At strategic level there are 5 key elements;

ii) Connectivity, both within the Corridor and externally, needs to be radically improved in order to enhance its competitiveness

For this part of Britain, seeking to compete in the global energy industry, this is a 'no-brainer'. It is an absolutely core consideration. Proposals include;...

• Seeking to secure 'digital advantage' through installing world class digital connectivity 5 to 10 years ahead of competition"

Service: The ability of the economic and business development service to deliver this plan is dependent on the budget and resources allocated to this area of work following the Priority Based Budgeting exercise currently ongoing, and on the Council's 2011/2012 budget decisions.

5. OTHER IMPLICATIONS

Health and Safety:

There are no Health and Safety implications related to the conduct of this research project.

Risk Management:

Officers will work with Legal Services to ensure an appropriate Minute of Understanding is agreed between Aberdeen City Council and Alcatel Lucent. This Minute of Understanding to provide for the research and outcomes of the programme are measured in such a way as to ensure the neutrality of the internal prospectus and subsequent report on preferred options.

To achieve this participation and input will be encourage from a wide cross section of the business sector including seeking the views of a range of technology provider companies.

It will also be necessary to temper public expectations ahead of the outcomes from such research.

6. REPORT

National Context

The Economic and Societal case for NGA technologies is considered in:

A Framework for Evaluating the Value of Next Generation Broadband, Broadband Stakeholder Group (June 2008):

Overall the BSG report makes clear that future NGA technology will deliver added economic and social value.

“Having developed a cost benefit framework and looked at some early indicators of value, it is apparent there is likely to be significant social and economic value from the deployment of next generation broadband.”

“It is possible to identify a range of wider economic benefits that would accrue in the long term, including reducing costs of transport congestion; enabling virtual agglomeration, by which we mean achieving the productivity benefits of cities and clusters without the need for people to be physically located in such places; improved economic adaptability and resilience, based upon the increased substitution possibilities opened up by improved communications services. In terms of social value, there may be real benefits in terms of improved access to lifelong learning; social inclusion; more flexible working and enhanced social Capital.”

On the issue of timescales for deployment the report notes that making the correct technical choices will be key and that for this reason (from the date of the report) consideration must be undertaken of these choices.

“...it should be noted that waiting does not imply doing nothing and there could be significant costs if deployment was delayed in the long-term (5-10 years)...”

The report further cautions on the potential of an uneven deployment of NGA with negative impacts for those locations who may be missed in any rollout.

“Since next generation broadband access requires significant investment it is likely to only become available progressively, leading to an uneven distribution of broadband capability across the country. Given our conclusions on benefits, this uneven distribution could have a negative impact if it became persistent.”

Taking current provision of 2Mb service as a guide in 2009 Point Topic produced the following data to show broadband penetration across regions:

Figure 1: Reproduced from **Broadband - Steps for an Incoming Government, FSB 2010**

Local Context

Figure 1 above when taken in tandem with the preceding quote from the Broadband Stakeholder Group, regards uneven distribution of NGA, identifies a critical challenge for Aberdeen City and Shire region. Being distant from large centres of population, will present challenges in attracting the correct support and investment at the right time to deliver those technologies that support business growth and enhanced public services.

ACSEF has identified a number of areas within their published Economic Action Plan¹ where NGA can play a critical role in transport, global connectivity, attracting and developing skilled people and company headquarters.

Specifically within the Economic Content of the **Energetica Strategic Framework**² the partners note:

“At strategic level there are 5 key elements;

ii) Connectivity, both within the Corridor and externally, needs to be radically improved in order to enhance its competitiveness

For this part of Britain, seeking to compete in the global energy industry, this is a ‘no-brainer’. It is an absolutely core consideration. Proposals include...

- Seeking to secure ‘digital advantage’ through installing world class digital connectivity 5 to 10 years ahead of competition”

In addition, the Administration’s Policy Statement **Vibrant, Dynamic and Forward-Looking** has since 2007 identified the importance of connectivity for citizens and business in the city.

“The future prosperity of our city depends on ensuring that Aberdeen becomes an even more attractive place in which to do business and so ensure that high quality employment opportunities exist for citizens.”

“Ensure that a Wi-Fi facility covers the city centre, and continue support for the Connected Middlefield project”

Background

Aberdeen City Council, through the City Growth Fund, established a “Connected City” programme to look at delivering public realm network connectivity. During the period of funding (primarily the 2004/05 and 2005/06 financial years) this project delivered infrastructure, devices and applications into Union Street, Oldmachar Academy, Middlefield and The Victorian Trail along with test projects including web cameras at traffic hot spots and temporary CCTV coverage for the Free at The Dee event in Duthie Park.

Further development at the time was halted as a result of budget restrictions and a concern over the impacts of early stage European rulings on public realm (wireless) internet access programmes. All programmes remain operative in some form other than the public WiFi provision on Union Street. The Middlefield project was upgraded in financial year 2008/09 to include more robust connectivity and enhanced backhaul. While partners in the community at

¹ Acsef Economic Action Plan, <http://www.acsef.co.uk/infoPage.cfm?pageID=2>

² Energetica Strategic Framework <http://www.acsef.co.uk/infoPage.cfm?pageID=31>

Middlefield continue to develop a focused portal access model backhaul and maintenance programmes are unfunded and the future of the programme is in doubt beyond this financial year. Discussions have been held with the ICT service to identify any assistance that may be available on the provision of publically accessible backhaul through the School estate network.

Access Issues

The Middlefield programme has highlighted issues around mobile broadband within this area of deprivation. Contact was established by the Citizens Advice Bureau who were attempting to deliver financial planning advice to clients in the area but had found the 3g network in the location unable to support their software.

In April 2010 Point Topic published research on “Digital Deprivation” by UK Parliamentary Constituency identifying “Family Deprivation” (households with children not accessing broadband). The findings show that in Aberdeen South 38.34% of families have no (fixed) broadband access with the figure in Aberdeen North 39.09% and Gordon 31.11% (extract attached as appendix 1). These figures raise concern over the ability of these households to utilise the web for educational and social development and access to support, eGovernment services and lower priced goods through eCommerce.

The Federation of Small Business (FSB) issued a manifesto “Broadband - Steps for an Incoming Government”³ ahead of national elections in May 2010. This publication noted:

“...half of small businesses rely[ing] on the internet for up to 50 per cent of their annual turnover⁴”

“Recent analysis commissioned by the FSB from Robert Gordon University... found that businesses throughout the UK, with greater reliance on e-commerce, recorded more stable profits or increasing profits.”

“A lack of broadband speed and acceptable IP throughput reduces productivity for a third of small businesses. Other areas of difficulty due to speed restrictions are: the use of email (49%) information back-up (23%), the processing of payments (27%) and online marketing (20%). Furthermore, 60 per cent of members said a lack of broadband speed seriously impacted upon their use of new technologies, such as video conferencing, webcasts and podcasts.”

The publication called for:

A guaranteed universal minimum download speed of 8 Mbps for all users. A universal minimum asymmetric or preferably symmetric (when necessary) upload speed must also be guaranteed, which is essential for the use of new technologies.”

Market

Reforms to the regulatory framework applying to telecoms within the EU were agreed by the Council of Ministers on 4 November 2009 and must be transposed into national laws of the member states by May 2011⁵. These reforms introduce a European Telecoms Body (BEREC) to ensure more competition and consistency of regulation across Europe. The reforms have as key aims “Accelerating broadband access for all Europeans” and “Encouraging competition and investment in next generation access networks” including provision for the shared use of existing ducting.

³ Broadband Steps for an Incoming Government, FSB
http://www.fsb.org.uk/policy/images/0932fsb%20broadband%20report_web.pdf

⁴ <http://news.bbc.co.uk/1/hi/technology/8282839.stm>

⁵ The Telecomms Reform, EIS http://ec.europa.eu/information_society/policy/ecommm/tomorrow/index_en.htm

Competition in the delivery of faster speed broadband in large urban areas is emerging where Cable companies present a competitive challenge to incumbent telecoms operators through their installed fibre networks. Aberdeen has no such cable incumbent reducing the commercial pressures on national network operators to upgrade their provision.

BT have announced roll out of their fibre to street cabinet network (Infinity) capable of delivering up to 40 Mbit/sec. The service is already available at the following exchanges: Dean and Corstorphine in Edinburgh. Craiglockhart, Bridgeton, Giffnock, Halfway, Newton Mearn and Western in Glasgow and Bothwell, Dalgety Bay, Dunfermline and Livingston Station. There is no current fibre provision through the BT network to Aberdeen and the City is currently only due to be included in the 4th Phase of deployment (completion due by 30/12/2012).

In addition to fixed line internet access new technologies are emerging in the wireless field with next generation 4g/LTE (long term evolution) mobile phone and data network trials underway in the UK and commercial deployments in Scandanavia and Baltic states delivering up to 100 Mbit/sec.

Outwith these technologies there are also a range of maturing "WiFi style" technologies that can provide solutions in niche geographies and markets.

Approaches

In May 2010 ACC received an approach from FibreCity (part of the i3 Group) with a proposal to install a fibre network across the City at "no cost" to Council or other public sector bodies. The fibre would also be delivered to business and domestic premises at no (installation) cost with charges only being incurred on the uptake of services.

The company's proposal did however assume that the Council was able to enter directly into a contract which would have displaced existing contracts, and would have given the company a selective benefit (a waiver of wayleave fees and extensive officer engagement). Legal advice indicated that the preconditions for such a contract are an EU procurement and compliance with European Commission guidelines on State Aid for NGA Broadband. As a result it was decided that this approach would not be pursued as a first option for Aberdeen City Council, although officers remain in contact with the firm regarding possible future developments.

Council Activity

Officers in E&BD undertook a search for potential consultancy groups who would be in a position to assist in the development of a prospectus for the delivery of "World Class digital connectivity", as defined by ACSEF, within the context of Aberdeen business and community requirements and to draw up cost estimates and financing models for such a deployment.

Initial work is underway with consultants from the Strategic Markets group within Alcatel-Lucent, who have offered to assist the development of such a prospectus at no charge to ACC. In addition Alcatel-Lucent has agreed to identify potential assessment and trial schemes where ACC might wish to lobby for inclusion. Early opportunities have emerged to include Aberdeen in theoretical studies on LTE deployment at City level and also in the development of City management services deployed across and benefitting from enhanced connectivity. In both incidences Aberdeen will be required to make a case for inclusion in such studies and research activities.

Alcatel-Lucent has an R&D investment of Euro 2.4 billion with core research conducted at Bell Labs. In addition to the provision of hardware Alcatel-Lucent undertake research into areas

such as multimedia and convergent services and applications covering both fixed and wireless technologies.

Initial focus of such work will seek to identify those key (existing and emergent) services that would best benefit the businesses and citizens of Aberdeen. Aligned to this work, officers in E&BD are also in regular contact with the EGovernment team looking at the potential of their Open data programme to stimulate collaborative relationships with the wider business ICT sector in the city. This work is key to ensure that both sectors benefit from opportunities in fixed and mobile communications and that maximum benefit is drawn from the data held by ACC.

Council officers will be working with ACSEF and Alcatel-Lucent to identify options for delivery of enhanced services and NGA within the City (and potentially across the ACSEF area) and to report back on these to committee on 18th January 2011. Following this and dependant on committee approval a prospectus for such delivery will be developed in order to stimulate activity and potential tender delivery in this area.

REPORT AUTHOR DETAILS

Gordon Wright
Project development Executive
Enterprise, Planning and Infrastructure
Tel 01224 522405
Email gwright@aberdeencity.gov.uk

BACKGROUND PAPERS

Scottish Government Economic Strategy and Recovery Plan/Update
The Economic Action Plan (2008) for Aberdeen City and Shire – ACSEF
Aberdeen City Council Single Outcome Agreement
Vibrant, Dynamic and Forward-Looking