

POLICY PROPOSALS FROM POLICY DEVELOPMENT PANEL (SERVICE DELIVERY)

A Local Government Network Infrastructure – Options for Delivery

Agenda Item: 4b

Summary: **Outlining the options for the development and delivery of a network infrastructure to support the delivery of effective citizen centred services by district councils.**

Action: **For consideration and endorsement**

Introduction

1. The Executive's decisions on the future shape of local government provide the foundations for the development of a strong effective sector. The vision is one of a strong, dynamic local government, creating communities that are vibrant, healthy, prosperous, safe, sustainable and have the needs of the whole community at their core.
2. The delivery of effective services that meet the needs of the local community, and continuously improve over time will be best supported by the development of new ways of working within individual councils, on a collaborative basis (as appropriate) across a number of councils, and in partnership with central government departments and other statutory agencies. This applies equally to the services that are currently delivered by councils and those functions that will be transferred from central government.

A Network Infrastructure

3. While each of the existing council's has its own Wide Area Network (WAN) and telecoms system linking its various offices and depots, these are independent and have no interconnectivity outside the council's area, other than through the open

internet. Although these arrangements have been effective in supporting the operation of the individual councils, they have not been designed with a wider local government perspective in mind.

4. In the context of the reorganisation of local government, and the transfer of functions from central government, members recognise that this approach would not be sustainable post 2011. At the basic level the new councils will require interconnectivity between the existing local networks to provide for effective data transfer and communications between all the offices and depots within the enlarged district. This would not however support the effective sharing of information, collaboration and potentially the sharing of the delivery of services across a number of councils. Furthermore it would not provide the necessary effective, secure, dependable on-line linkages for the centrally based planning application ePIC following the transfer of planning to councils.
5. The new planning application system, ePIC, will contain details of all current applications, as well as all historical planning information going back to 1 August 1973. It will enable applicants to apply for, pay for, and track the progress of Planning Applications online. They will be able to access spatial information and upload plans online. Currently Planning Service has over 300 organisations with whom they may have to consult on applications. These organisations will be able to 'write' to the ePIC databases, as well as view and download information. The development of this system is well advanced with a scheduled operational date of June 2010.
6. Members acknowledge that if the new district councils are to deliver on the shared vision for the role of local government a more strategic approach to a managed sector-wide telecommunications network is required. This would provide the required connectivity within the council area, across councils and to centrally maintained databases. The development of a network would also provide benefits that include:
 - increased flexibility to build in additional services as they become available, or are required;

- maximisation of network uptime and availability through real-time end-to-end proactive management;
- lower operational costs over time;
- increased productivity through the use of applications based on converged networks;
- the achievement of value for money; and,
- an opportunity to address ownership and charging in a flexible and cost effective manner.

Delivering a Network Infrastructure

7. The Panel was presented with a number of options for the delivery of a strategic network infrastructure for local government. These are examined in the paragraphs that follow. Taking account of the above the Panel discounted the 'Do Nothing' option for the purposes of the options appraisal.

Procure bespoke Local Government Network

8. The first main option is procure, through a competitive tender process, a system to satisfy a specification developed to meet the requirements of councils and local government as a sector. The advantage of such an approach is that the system would be designed by the sector with its requirements clearly to the forefront, and would be managed to meet its operational needs.
9. There are, however, a number of disadvantages associated with this option. First, a dedicated team with the necessary relevant expertise and experience would need to be established within the sector to deliver the project. The tasks for such a team would include development of the specification, management of the procurement process and management of the implementation including the necessary testing. Second, earlier preliminary discussions with some of the major network providers suggested that issues might arise in relation to effective coverage across the region. Third, secure communications protocols would need to be developed and

implemented to enable councils to access electronically centrally based systems such as ePIC. Fourth, experience of other major IS projects would suggest that it is likely to take a number of years to successfully implement an operational system – it would not be in place for 2011. Fifth, experience of other projects would also suggest that the costs associated with the development, procurement, implementation and operation of a local government specific network are likely to be in excess of £5m.

Procure and develop NIRAN

10. The Northern Ireland Regional Area Network (NIRAN) was developed as a broadband computer network for the tertiary education and public sector in Northern Ireland. It is operated by NIRAN Limited, a “not-for-profit” company limited by guarantee and jointly owned by its core members, three Higher Education Institutions and six Further Education Colleges. The NIRAN network is one of some eighteen regional computer networks in the UK which, together, comprise the Joint Academic Network (JANET), the UK’s national education network. The network connects its members to each other, through a number of connection points, and the Internet.

11. The NIRAN network delivers high-speed bandwidths to some thirty education and public sector institutions across the region. Whilst its core membership lies in higher and further education, NIRAN can also provide Internet connectivity to a broader range of customer including libraries, local authorities, and lifelong learning organisations. Queens University and the North West Regional College both serve as connection points, Points of Presence (PoPs) for the NIRAN member sites. Each site is connected via a 10Mb, 34Mb or 100Mb connection to Queens or the North West College. NIRAN also has two external links to the Internet providing automatic failover: the primary path for all NIRAN Internet traffic is via the link to Glasgow and the second is via Dublin and Warrington – both of which have bandwidth capacity of 2.5Gbits.

12. NIRAN was introduced as a pilot operation in the Armagh, Banbridge and Craigavon council cluster to test its suitability for a local government network at a stage when advice indicated that the sector would not be able to access the NICS Network NI infrastructure. At that time it was recognised that further development work would be required for it to provide a fully functional network to meet the sector's requirements.
13. The advantages of pursuing the NIRAN approach are that it is, to a certain extent, a tested platform, elements of the network are already in place, and it is in use in a number of councils.
14. NIRAN is, however, primarily a means of providing affordable high speed Internet access for its core membership and significant development work is likely to be required to enable it to meet local government's strategic requirements of interconnectivity at all levels across the region. This would, as in Option 1 require the establishment of a dedicated team to take forward the development of the specification of requirements and manage the implementation of the project. Also protocols would need to be developed to ensure access to centrally based systems.
15. While the timescale for implementing a NIRAN-based infrastructure will be shorter than that for procuring a bespoke system, it is still likely to take a number of years before it would be operational. There is no guarantee that it would be in place to coincide with the reorganisation of local government in May 2011, and it is highly unlikely that it could be in place during the transition phase. As NIRAN is internet-based, the costs associated with pursuing this option would also be lower than those for a local government based system. The costs for each council accessing NIRAN are dependent on the distance the operational buildings are from a regional connection point, for example, the cost for Derry City Council to have access could be around £10k (because of its proximity to Magee College) while Enniskillen could cost around £150k. It is estimated that implementing this option could cost in the region of £2m.

Utilise Network NI Infrastructure

16. Network NI is a managed common network service carrying critical communications in a fast, reliable, consistent and secure way between various parts of the civil service, regardless of location. It is the technological foundation and key enabler of the change programme across the NICS to deliver more efficient effective services. Over 300 NICS sites are now connected to Network NI and an On-boarding Process is being developed to provide a structured means of bringing additional public sector bodies on to the service.
17. The infrastructure uses the latest Multi-Protocol Label Switching (MPLS) technology to provide a multi-gigabit/sec broadband network. Based on eircom Northern Ireland's Saturn Ring – a resilient fibre-optic ring connecting Belfast and distributed PoPs in Armagh, Omagh, Londonderry, Coleraine and Ballymena – the service enables government departments and agencies to connect to the service via their nearest PoP at the same cost regardless of their location. Sites can be connected to Network NI at a range of speeds to suit individual site requirements from 2Mb up to 1Gbps.
18. The Network NI Service has been designed from a Technology and Managed Service perspective to support the needs of a Shared Services environment and new Multimedia rich applications such as Unified Communications. Under the Contract each site can break it's traffic down into 6 different classes of service as follows:-
 - i. Voice Traffic – Telephone Calls over the Network
 - ii. Video Traffic – Desktop and Room Based Video Conferencing
 - iii. Business Critical Applications
 - iv. File and Print Activity
 - v. E-Mail Traffic
 - vi. Internet Traffic

19. Where there is a high utilization at a particular site MPLS enables the prioritization of the traffic in the above order so that time sensitive applications such as Voice and Video and Business Critical Applications get the bandwidth required to deliver a consistent end user experience. This is critical in a Shared Services environment where a large number of users are accessing Key applications, which are in some cases supporting citizen facing services, across a Wide Area Network across the region.
20. Utilising Network NI would minimise the technical resource required to develop a specification for a network, and significantly reduce the timescale for implementation. It would also provide a tried and tested operational network infrastructure that would enable staff transferring from central government to local government to have continued secure dependable access to key centrally based systems. A smooth transition would be facilitated in the event of further functions transferring to local government in the future.
21. The flexibility of the Network NI technology would enable local government to set-up its own Virtual Networks on Network NI for all its connected sites to enable the sharing of business applications such as finance or using Unified Communications. These virtual networks could be set-up within the council clusters to support the transition process to the new structure.
22. Unlike NIRAN, the cost of the Network NI service is not dependent upon distance. All councils would pay the same cost for the service whether their site is located in Enniskillen, Cookstown, Moyle or Belfast. The total initial cost to roll-out the system is estimated at around £500k with annual maintenance and service charges of around £13k per council. These costs relate to the provision of network links from councils to the NICS network. The ongoing annual costs are not dissimilar to current cost to councils for internet connectivity.
23. The main disadvantage of pursuing this approach is that the network would not be directly 'owned by' and managed for the sole benefit of local government.

Way Forward

24. Taking account of the above factors the Panel members support, in principle, the recommendation that 'On-Boarding' to the Network NI infrastructure provides the most viable, efficient and cost-effective option for the provision of a secure, dependable local government network infrastructure. The Strategic Leadership Board is asked to endorse this approach as the appropriate way forward for the provision of a local government network infrastructure.

25. It is further recommended that the Joint Secretariat work with the NILGA e-Government Working Group and DID to develop a programme for implementing this option.

**DOE/NILGA Joint Secretariat
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