

CABINET

27th September 2004

WIDE AREA DATA NETWORK MODERNISATION

Report for the Corporate Director, Resources, Access and Diversity

1. Purpose of Report

The purpose of this report is to seek approval to upgrade the existing Wide Area data network to give a 5 fold increase in performance and at the same time reduce revenue costs for the line rentals. The upgrade will also incorporate a redesign of the network to provide greater resilience.

2. Recommendations

That Cabinet approve an investment of £600,000 to improve the speed of wide area network, increase resilience and reduce revenue costs to be funded by Prudential borrowing under the 'Spend to Save' rules

3. Summary

The existing network utilises relatively slow links which all terminate at New Walk Centre. In the event that New Walk Centre B Block is unavailable and the central computer resources are switched to our disaster recovery sites there can be delays and problems for users attempting to access these relocated services. The proposed network uses a matrix of higher speed links designed so that there is no single point of failure.

4. Headline Financial and legal Implications

4.1 Financial Implications

Currently, the existing data circuits cost an annual rental of £324,546 p.a. whereas the proposal if implemented would replace this with annual maintenance costs of approx £150,000 p.a. making an annual revenue saving of approx £170,000 p.a. excluding capital finance costs.

There is no provision in either the capital or revenue budgets for this proposed expenditure of £600,000 so it is proposed to finance this by prudential borrowing under the spend to save rules. It is proposed that capital financing costs including interest are repaid in the sum of £75,000 in 2005/06, £150,000 for the next 4 years and a final payment of an estimated £72,000 in 2010/11. These payments can be met from the revenue savings generated from the scheme within the IT revenue budget.

Nick Booth, Principle Accountant, ext 7460

4.2 Legal Implications

ADIT, part of the Regional Aggregation Board, will identify a suitable supplier to undertake the modernisation for the Council using the EU Procurement Regime. The procurement will comply with EU and UK national legislation, and also meet the requirements of the Council's Contracts and Financial Procedure Rules.

Ed Smith, IT Contracts & Security Manager, ext 7605

4.3 Risk Assessment Matrix

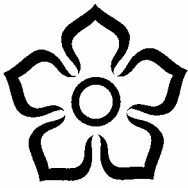
Risk	Likelihood L/M/H	Severity Impact L/M/H	Control Actions (if necessary/or appropriate
1 – Inaccurate capital estimates	L	L	Proposal is based on outline quotations already received
2 – Technology will not work	L	H	Uses established technology already utilised by LCC
3 – Supplier ceases trading	L	M	All potential suppliers have already undergone OJEU tendering process for the ADIT (Regional Aggregation Board) who have been established by central government to promote and facilitate broadband usage
4 – Performance and resilience are not adequate	L	H	Service level agreements will be negotiated to provide guarantees of performance
5 – Review of Centrally Located Administration Buildings changes the connectivity requirements for sites	H	M	ICT are involved in the CLAB's Review and this proposal will provide flexibility for moving circuits and services to new locations and to increase or decrease service provision as required

5. Consultations

Discussions have taken place with Departmental IT sections and principal customers through strategy group and user group meetings and there is a support for this proposal to improved performance and resilience

6. Report Author

Peter Kay
Technical Services Manager
Extn: 7650



Leicester
City Council

**WARDS AFFECTED:
ALL**

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SUPPORTING INFORMATION

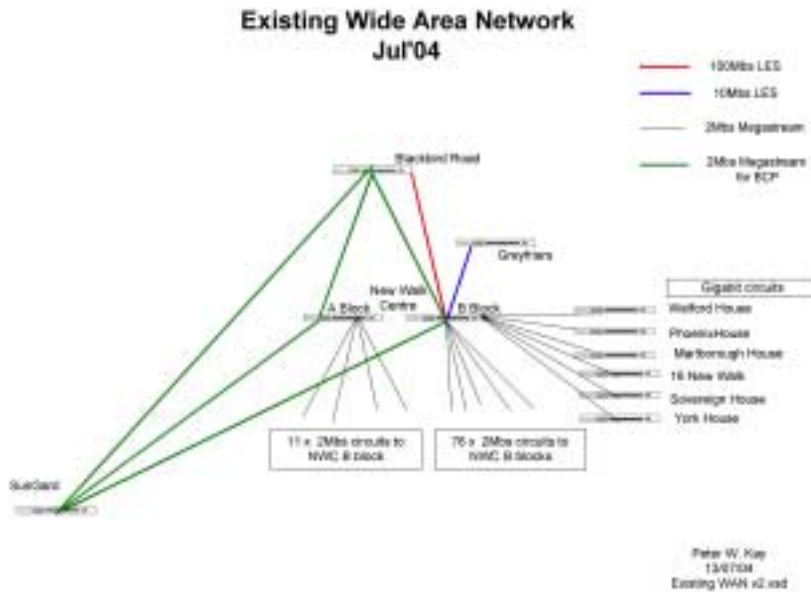
1. Report

ICT&CA currently support 89 data circuits connecting remote sites to New Walk Centre at an annual rental cost of £324,546pa. One circuit is rated at 100Mbps (Megabits per second) and one at 10Mbps but all of the others are rated at 2Mbps. For comparison: single PCs connect to the local area network at 10Mbps and increasingly at 100Mbps. Inter-connections between network segments are at 100Mbps and 1000Mbps (=1Gbs = 1 Gigabit per second).

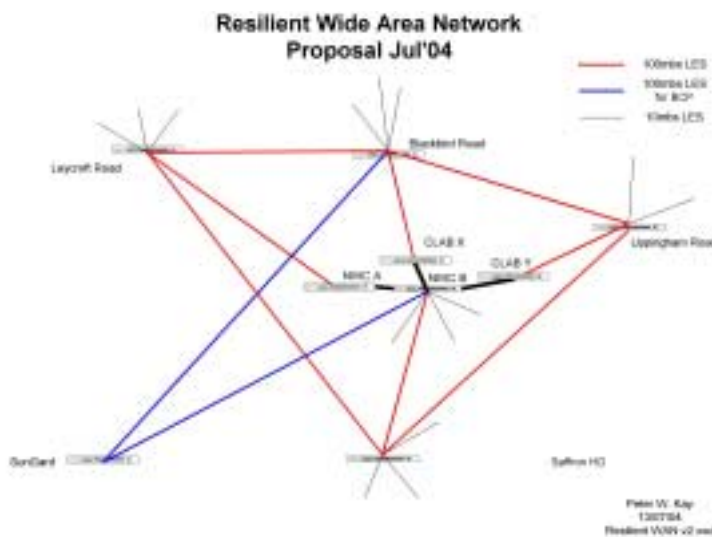
Many sites have local file servers where users can store their data and e-mails and they are used to local access speeds of 10-100Mbps. There is now a great demand for flexibility and mobility so if a user is required to access their files from another site then their access speed is effectively reduced to 2Mbps. To satisfy this demand ICT&CA are investing in larger, more resilient, centralised files and mail servers but there also needs to be an increase in accessibility from remote locations. Our e-agenda, especially our joining with other agencies, is making us rely on our data network. It is therefore important that it is robust and resilient with adequate performance

2Mbps is the maximum speed than can be provided over existing copper wire connections. Higher speeds are provided over fibre optic cables but whilst there is an initial high installation charge, the annual charges for a 10Mbps circuit are significantly cheaper than the current 2Mbps circuits. Once fibre optic services have been provided it is possible to upgrade to faster circuits without significant installation costs.

The current design of the network is that all of the circuits terminate in NWC, mainly B block. Connection to our BCP site outside of the City Centre is also via NWC therefore making NWC a potentially weak point in our business continuity planning.



The proposed design will be a hub and satellite arrangement with 5 geographically spread sites to which most of the remote sites will connect at 10Mbps. Each of these five nodes will connect to two other hub sites and to NWC at 100Mbps. This will provide resilience against the loss of any one of these 100Mbps circuits so that all sites can continue running. Two of the hub sites will be connected to the BCP site at Meridian Park to protect against the loss of any single shared circuit and against the loss of NWC (See diagram)



The three principal telecoms providers for the Leicester area, BT, NTL and Kingston Communications, were provided with a list of sites and the outline design required. Quotes indicate a likely install cost in the order of £600,000 with an annual maintenance cost in the order of £150,000. Against current expenditure we should pay back the installation cost in 4 years.

The rental costs are based on a 5 year rental term for which suppliers offer a discount over single year rental terms. Early termination of a circuit may impose a penalty based on a proportion of the outstanding term but this can be offset if the circuit is reutilised (moved) to another site. Termination penalties will exist for some current circuits but if it is the same supplier who is upgrading the circuits then there are unlikely to be any penalties imposed. Most of our current circuits are ordered on 5 year contracts unless it is known that the site has a limited life.

It is proposed to examine the options and costs for installing our own cabling between sites close to New Walk Centre and for remote sites adjacent to one another. E.g. Bishop Street – Town Hall, Central Reference Library, Housing Office, Education Centre. If the costs will be cheaper than providing rented circuits then that option will be implemented. We are of course monitoring the CLABs review closely and will dovetail our plans with the evolving strategy.

Overall it is anticipated that an investment of around £600,000 will give a five-fold increase in network performance, greater resilience, and reduced annual revenue costs.

The implementation is expected to take around one year and a project team comprising ICT&CA, Departmental IT and Supplier representatives will produce a detailed project plan and report progress on a regular basis.

2 Financial Implications

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4 Other Implications

OTHER IMPLICATIONS	YES/NO	Paragraph References Within Supporting Information
Equal Opportunities	No	
Policy	No	
Sustainable and Environmental	No	
Crime & Disorder	No	
Human Rights Act	No	
Older People on Low Income	No	

Author:

Peter Kay,
 Technical Services Manager,
 Ext: 7650

DECISION STATUS

Key Decision	No
Reason	N/A
Appeared in Forward Plan	No
Executive or Council Decision	Executive (Cabinet)