# THE EXECUTIVE

## 20 JULY 2004

## REPORT OF THE DIRECTOR OF FINANCE

| INFORMATION COMMUNICATION TECHNOLOGY INFRASTRUCTURE RENEWAL AND ENHANCEMENTS | FOR DECISION |
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This report seeks approval to actions to address ICT infrastructure issues.

## Summary

This report advises the Executive of pressures on the Council's Information Communication Technology (ICT) infrastructure which have come to light in recent months. Given the business-critical nature of these it is appropriate to consider use of corporate underspends from 2003 / 2004 to address them.

## Recommendations

The Executive is asked to agree that:

1. Additional expenditure of £1,100,000 in 2004 / 2005 be approved on areas of ICT infrastructure (as set out in tables 1 and 2 of this report) which provide support for all council services;

2. Use be made of corporate 2003 / 2004 underspends to fund these actions;

3. The ICT infrastructure implications of new projects be evaluated so as to ensure funding of renewal and growth on a sustainable budgeting basis from 2005 / 2006 onwards; and

4. An additional staff resource of 1 full time employee in Information Management and Technology (IM&T) be approved to ensure that the operating software on the council's 3000+ computers are properly updated (as set out in paragraph 2.7 of this report)

## Reason

The council relies on the smooth running of ICT to sustain day-to-day activities and to support the delivery of all services. Without action to address the issues set out in this report there is a high risk of serious disruption to services.

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1. **Background**

1.1 It has come to light in recent months that there are a number of critical ICT growth pressures. Given the critical nature of these it is appropriate to consider the use of corporate 2003/04 underspends to address them.

2. **The Report**

**ICT Infrastructure renewal and enhancements**

2.1 There are several areas of pressure on the ICT infrastructure of LBBD. This pressure arises from a variety of causes, namely:

- to replace software that will shortly become unsupported by the supplier (and hence putting services at high risk through not being able to recover from failures)

- to provide capacity for growth in service demands that are already causing problems and/or are planned to happen within the next two years (enabling improvements in council service delivery e.g. for Customer First, and streamlining administration through roll-out of Oracle Financials/HR)

- to address security weaknesses exposed by software virus attacks (better 'belt' and more 'braces')

- to improve service delivery and quality in line with best practice (better management of desktops, servers and file storage to minimise staffing pressures to cope with increased demand)

- to facilitate the adoption of technology that is new to LBBD but is in growing use elsewhere (the range of hardware, software and networking products that LBBD uses 'churns' constantly as innovations are adopted and outmoded technologies are dropped. When a new technology is adopted, it has to be tested for stable and secure inter-working with existing ICT infrastructure, new skills have to be absorbed and new policies and procedures have to be developed.)

2.2 There are some resources in the base budget of IM&T division for infrastructure refresh, but these are insufficient for the scale of the projects presented here. Wherever possible, use of existing resources is suggested below as the preferred source of funding.

2.3 The proposed renewals/enhancements of the council's ICT infrastructure to address the pressures outlined above are set out in tables 1 and 2 below.

2.4 Table 3 identifies, for information, further infrastructure renewal/growth pressures for 2005 / 2006 which will be submitted in due course to the due process. Further work is ongoing, notably in assessing ICT business continuity requirements, which will probably add to this list.

## 3.    Sustainable Budgets

3.1    Executive is also asked to approve the principle of sustainable budgeting for ICT infrastructure: that is, that in future the estimates and charging mechanisms in respect of ICT should be volume-related so that growth is funded.  For example, the growth in data back-up should be costed (profiled over time if appropriate) into all relevant corporate and departmental projects and budget provision made.

3.2    The application of best practice in respect of desktop management and server management has already suffered through unsustainable growth over the last few years.   In particular, there is no resource available to assess and apply as appropriate the large number of operating system software changes issued (principally by Microsoft) in respect of PCs and servers.

## 4.    Management of desktop PCs and servers

4.1    It is recommended that the equivalent of 1 full time member of staff be added to the IM&T division to improve and sustain management of desktop PCs and servers (in particular, to support the identification, testing and deployment of new software releases and patches).  Cost £45,000 p.a. (to be funded in 2004/05 from savings within IM&T that have arisen due to delays in implementing the restructure).  The workloads will need to be taken into account in the proposed IM&T staff restructure for 2005 / 2006.

## 5    <u>Summary of attached tables</u>

|  | Capital £000 | Revenue £000 | Total £000 | Funded £000 | Unfunded £000 |
|---|---|---|---|---|---|
| Table 1 Immediate priorities | 245 | 34 | 279 | 49 | **230** |
| Table 2 Second priorities | 870 | 20 | 890 | 20 | **870** |
| Table 3 to be considered for 2005 / 2006 | 340 ------ | 0 ------ | 340 ------ | 30 ------ | 310 ------ |
|  | 1454 | 54 | 1509 | 99 | 1410 |

Notes:

(i)    total unfunded in 2004/05 (tables 1 and 2) is £1,100,000, which is the subject of recommendations 1 and 2.

(ii)   Another report to the executive on this agenda gives details of the 2003/04 outturn position.

**Table 1.        Immediate priorities**

| Ref | Project | Background | Justification | Initial Cost | Capital / Revenue | Comment |
|-----|---------|-----------|---------------|-------------|-------------------|---------|
| 1.1 | Air-conditioning Upgrade | The air-conditioning at the Civic Centre is in urgent need of upgrade to cope with this summer. | The computer room overheated last summer and there is even more kit installed now.  Overheating leads to shut-down and can cause widespread damage to computer circuitry. | £30,000 | Capital | This project has already started - tenders being sought. |
| 1.2 | Data Backup | The Tivoli equipment which collects and stores off-line copies of data from around 100 servers is struggling to cope with data volumes growing at a compound rate of around 50% per annum. | Containment of growth is planned as well – see projects at 2.3 and 3.1 below.  However, significant growth in data volumes will arise from Customer First and from expanded use of the Oracle Financials/HR system | £100,000 | Capital | |
| 1.3 | Antivirus | Current products and procedures in place have proved inadequate, causing substantial disruption to services while the virus intrusions are eradicated. | Each day that the ICT services are not available to the 3,000 or so council staff who use ICT substantially as part of their daily routine costs the council around £500,000 in salaries: if loss of ICT reduces productivity by an average of (say) 30% then the opportunity cost is £150,000 per day.  The council lost about three days during May as a result of the Sasser virus. | £125,000<br><br>of which £25,000 can be met from existing budgets | Capital<br><br>Capital<br><br>Capital<br><br>Revenue<br><br>Revenue | Made up of five elements:<br>• replace Sophos with better product £60,000<br>• software patch management software  £15,000 (from existing budgets)<br>• intrusion detection/protection £40,000<br>• Firewall rules review £5,000 (from existing budgets)<br>• Network penetration test £5,000 (from existing budgets) |
| 1.4 | Network upgrades | As the council changes its occupancy and use of buildings (there are currently over 100 buildings attached to the main network), and as ICT usage across the network grows inexorably, changes and additions to the network infrastructure are required. | Wherever appropriate, costs are borne directly by the relevant service (eg occupying a new building).  In other cases costs cannot be directly attributed when incurred. | £24,000<br><br>met from existing budgets | Revenue | As a general rule, current ICT budget mechanisms do not provide for growth in usage. |

**Table 1   total unfunded  £230,000**

Table 2.    **Second priorities**

| Ref | Project | Background | Justification | Cost | Capital/ Revenue | Comment |
|---|---|---|---|---|---|---|
| 2.1 | Desktop management | When a problem is reported on a PC, support staff usually have to attend in order to investigate the problem.  If the problem prevents use of the PC, then disruption to service delivery is at best hours and at worst several days. | To improve the management of the desktop and proactively manage without having to visit machines. This will also help any rollout of new software.  There will be improvements in productivity both for the users and for the desktop support staff. | £80,000 | Capital | The cost includes implementation on existing PCs.  New PCs will be purchased with the appropriate software already installed.  Some (old) existing PCs will not be capable of remote management, and will be recommended for replacement by the relevant service department.. |
| 2.2 | Windows server software upgrade to Windows 2003 | The council has some 50 servers that run the operating software Windows NT, supporting many council service applications and all electronic file storage.  Microsoft are withdrawing support for NT from December 2004, | There is a risk of 'showstopper' problems for which no new patches are issued – eg new viruses.  This would immediately stop the council from using affected applications until replacement software could be installed (i.e. cost is not avoidable, but disruption is avoidable). | a) server upgrade £110,000 b) roll-out up to £50,000 (this allows for it to be done in two months – longer time but lower cost if some or all done in-house) | Capital | Includes the introduction of Active Directory (not available in Windows NT but bundled into Windows 2003) to improve management of users (including hot-desking, sign-on and authentication) and of all ICT assets. b) the cost would be marginally reduced if desktop management project at 2.1 were done first (less travel time/costs but more project management) |
| 2.3 | Email upgrade to Exchange 2003 | a) Current software is Exchange 5.5. Microsoft are withdrawing support for 5.5 from December 2004, which means that thereafter software | a) There is a risk of 'showstopper' problems for which no new patches are issued – eg new viruses.  This would immediately cut the council off from the outside world for a major (and | a) upgrade £230,000 | Capital | a) Includes cost of server replacement and some consultancy.  The range of costs covers differing |

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| | 2003 | means that thereafter software fault(s) could stop service delivery until replacement software was installed, tested and working – which would be a minimum of several weeks.<br><br>b) E-mail files are growing at around 50% per annum compound.<br><br>c) Email search facilities are currently inadequate to support the demands of the Freedom of Information Act from 1st January 2005. | off from the outside world for a major (and growing) communication channel.<br><br>b) E-mail storage and recovery times can be reduced, and growth managed properly, by the introduction of archiving software as part of the configuring of Exchange 2003.<br><br>c) Requests under the FoI Act will include disclosure of emails. Existing methods could be used, in a relatively labour-intensive process, but not with any certainty of finding all the right information. | b,c) e-mail management (archiving and search)<br><br>£100,000 | Capital | costs covers differing requirements (to be investigated) in respect of the degree of resilience required for business continuity/ disaster planning purposes.<br><br>b,c) e-mail management products include both archiving and search facilities |
| 2.4 | Oracle Infrastructure | The Oracle infrastructure runs under NT which is de-supported from December 2004. There is also the need to increase the capacity for the growth in usage and the introduction of Self Service. There are a number of options that are possible and these are under investigation. | Oracle will not be providing support for NT once Microsoft ceases support. The current servers were installed in 2000 and are due for renewal. They are in any case inadequate to cope with the increased usage planned (roll out of 'self-service' facilities to more staff). | £300,000 | Capital | It is recommended that the replacement equipment and software is installed in August to enable time for migration and testing by December 2004 (the software is horrendously complex, data volumes are massive, and financial probity has to be guaranteed.) |
| 2.5 | Server management | Proactively manage servers to minimise downtime and improve service availability. | Handle better the management of the council's large number of servers. Enable better remote management of servers where called for (eg where deliberately dispersed for business continuity/ disaster planning) | £10,000<br><br>from existing budgets | Capital | New servers will have management software specified as part of initial build. |
| 2.6 | Server consolidation | Look for opportunities to reduce the number of servers, to manage staff utilisation better, and speed up the introduction of new software releases/patches. | Improve service availability and quality in line with best practice. | £10,000<br><br>from existing budgets | Revenue | Needs to be sensitive to apparently contradictory requirements to disperse servers for business continuity/disaster planning purposes. |

**Table 2    total unfunded £870,000**

**Table 3.** Third priorities for information only (to be considered as part of the bidding process for 2005 / 2006)

| Ref | Project | Background | Justification | Cost | Capital/ Revenue | Comment |
|-----|---------|------------|---------------|------|------------------|---------|
| 3.1 | File management | A recent file server failure has shown that recovery of the data was delayed partially due to the amount of non-active data that had to be restored | A simple file archiving solution that can separate out active and non-active data will speed up the time to recover the active data in the event of a failure. Better archiving will also reduce the time taken to back-up data each evening/week-end (and hence increase system availability to users) | £50,000 | Capital | Is expected to more than pay for itself in reduced demands for back-up/restore capacity as data volumes continue to grow. |
| 3.2 | wireless networking pilot | DRE are to occupy part of Crown House, where there is no current council network infrastructure, and hence is suitable for a pilot. There is also interest in providing Wireless for the Committee rooms at the Civic Centre and Town Hall | Wireless networking using Internet protocols ('WiFi") is relatively new. Use is growing rapidly in all sectors, as it is flexible to deploy and suits the growth area of mobile working. | £30,000 from DRE budgets | Capital | There are some security concerns and the data transmission speeds are slower than for fixed LANs |
| 3.3 | Stand-by power supplies | Increasing numbers of servers sited at Civic centre means that utilisation of the standby-generator and uninterruptable power supplies (UPS) is currently 90% and growing. | Loss of power at the Civic Centre means loss of service, not just to ICT users in the building but throughout the council. The current facilities allow for continued running on batteries (UPS) for enough time to allow a diesel generator (standby power) to kick in and take over the load. When mains power is restored, the load automatically reverts. | Civic Centre upgrade £60,000 | Capital | As part of disaster planning we are considering recommending more resilience for Barking to problems in Dagenham: this would probably remove the need to upgrade, but instead require the provision of standby power at one of the Barking sites. |
| 3.4 | Telephone switchboard capacity | Telephone traffic patterns will change as the Customer First call centre grows. In particular the use of any remote call centre agents (in offices away from Roycraft House – eg in a future One Stop Shop or working from home) will require additional provision. | Even if there is an overall reduction in internal traffic, it is likely that there will be increases on specific links, and in specific buildings, which will require additional line capacity and equipment upgrades. | £200,000 | Capital | |