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| By: | Alex King – Deputy Leader of the Council<br>Peter Bole – Head of ICT Commissioning |
| To: | Policy Overview Committee – 14/11/08 |
| Subject: | Information and Communications Technology (ICT) |
| Classification: | Unrestricted |

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Summary: A report on the status of current ICT operation, contribution of technology in delivery of the council's strategic objectives, and an update on the ICT medium term investment programme.

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## 1. Operational Status

### 1.1 Background

1.1.1 Corporate Policy Overview Committee were presented with a comprehensive overview of the development, performance and delivery of ICT services in January 2008. Progress towards the targets and objectives highlighted at that time are identified in this report, alongside an assessment of operational performance and draft proposals outlining the next steps in exploiting technology in support of service outcomes.

### 1.2 Operational Performance

1.2.1 Two major interruptions to ICT service availability have been experienced over the past year. Following failure of cooling systems at a third party computer hosting facility, in March 2008 there was a major breakdown of the hardware running the SWIFT social care systems used by adult services. In October 2008 a software failure in one of the council's two Exchange email systems, required a full rebuild to restore service, leaving 50% of users without email or electronic calendar services for two and a half days working days.

1.2.2 In response to the SWIFT hardware issues, the backup system located at Kroner House, was instigated. Technically this was successful, with essential service data only being unavailable for a short period. The subsequent requirement to operate from the backup provision for a sustained period, while the primary system hardware was replaced, proved unsatisfactory. The 30% capacity of the backup system was sufficient to maintain access to data, but not to support normal operation of direct service.

1.2.3 On the failure of one of the two 'clusters' of email servers on 29 October 2008, the initial software fault with the email system was quickly rectified. In the email environment such faults are not necessarily that unusual or an unexpected occurrence. What was different on this occasion was the inability to resume service quickly due to the corruption of the log files which exist to support recovery in just these circumstances. In effect to restore service, technical teams had to resort to a full system recovery from backup tape, which while effective, was time consuming due to the size of the email environments managed by the council.

1.2.4 The loss of service in both cases was as a consequence of the electronic equivalent of mechanical breakdown, hardware in one case, software in the other and not indicative of systemic, planning or implementation failures sometimes highlighted within public services. In both cases the backup and recovery provisions worked as planned and the response from the in-house team and third party support was commendable, requiring teams to work around the clock over a number of days. The fact remains that despite the success of the business continuity actions considerable disruption to service was experienced.

1.2.5 As the probability of breakdown is an ever present constant when managing systems, planning for this eventuality is at the heart of the council's approach to systems management. The cross directorate resource directors group constantly reviews and assesses the balance between cost and potential service disruption. For most ICT services the target availability is set in excess of 99%. In the case of email for example the service had been running continuously without interruption for just under 5 years, prior to the downtime in October 2008.

1.2.6 An assessment of the impact on directorates and direct service is being carried out as part of a review included in the management actions initiated following these two incidents. This will inform decisions on any change in what is assessed as an acceptable level of risk arising from possible systems failure. The cost of further reducing current level of risk, of less than 1% downtime per annum is disproportionately expensive when compared to the cost of delivery of existing service levels. A detailed business case will be required before any change to the risk/investment profile is considered.

Other actions include:

- Implementing increased capacity for SWIFT backup systems
- Longer out of hours maintenance windows for systems
- Confirmation of suitability of technical architecture by both IBM and Microsoft
- Procurement of offline email facilities to reduce the size (and restore times) of online data

1.2.7 While it is entirely appropriate to highlight service exceptions and the successful response, these should be assessed in the context of the full range of services provided by the ICT function. Performance throughout the year as

regularly monitored by the resource directors group is reflected in the following table:

1.2.8 Availability for the year to date:

| Service | Target Availability | Year to Date | Forecast Outturn | Measured Period |
|---|---|---|---|---|
| | | | | |
| Desktop | 99.4% | 99.2%[1] | 99.6% | 8 - 17:30 Mon to Fri |
| Networks[2] | 99.0% | 99.7% | 99.8% | 8 – 18:00 Mon to Sat |
| Data Centre | 99.5% | 100% | 100% | 24/7 |
| Corporate Applications | 99.0% | 99.8% | 99.8% | 8 - 17:30 Mon to Fri |
| Directorate Applications[2] | 99.0% | 98.4%[3] | 98.9% | 8 - 17:30 Mon to Fri |

[1] Includes email downtime [2] Service Credits Paid [3] Includes SWIFT downtime

1.2.9 Financial management. In summary the 3% savings identified in the medium term financial plan, to be delivered by the unit within the 2008/9 financial year are being achieved through:

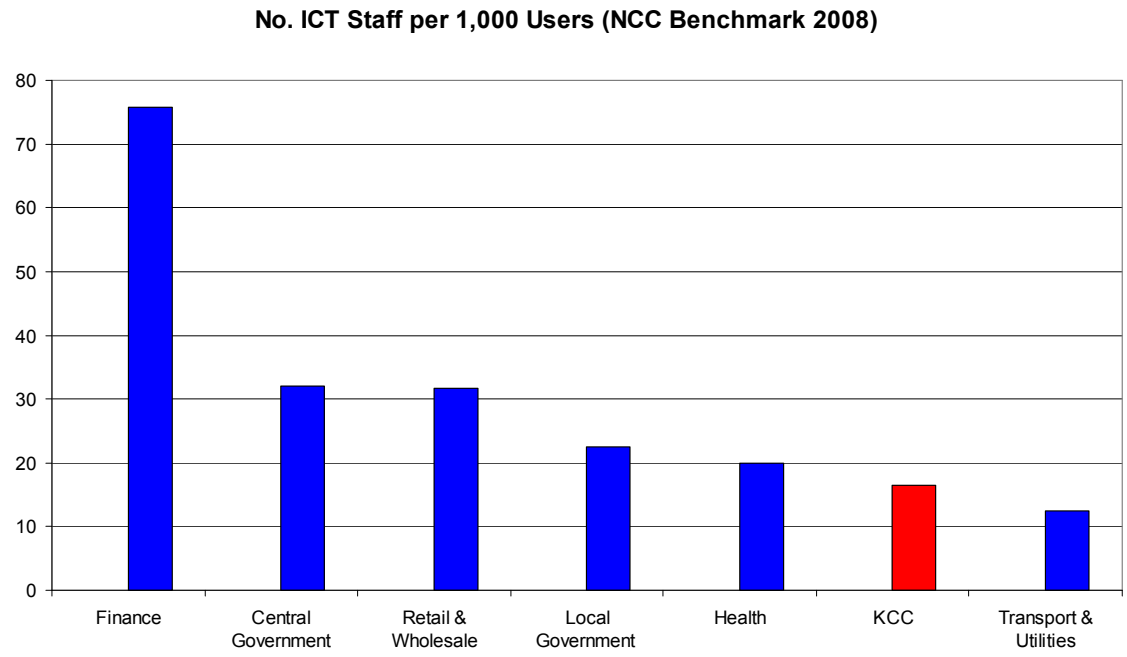
- Agreed reductions in service
- Management action by service directorates to reduce demand/increase funding
- Alternative provision for print services to reduce print overheads and carbon emissions

At the present time the unit is forecasting and outturn of £164K, reflecting the additional pressures and cost arising from response to the failure of SWIFT hardware earlier in the year. Management actions to close this gap have still to be identified.

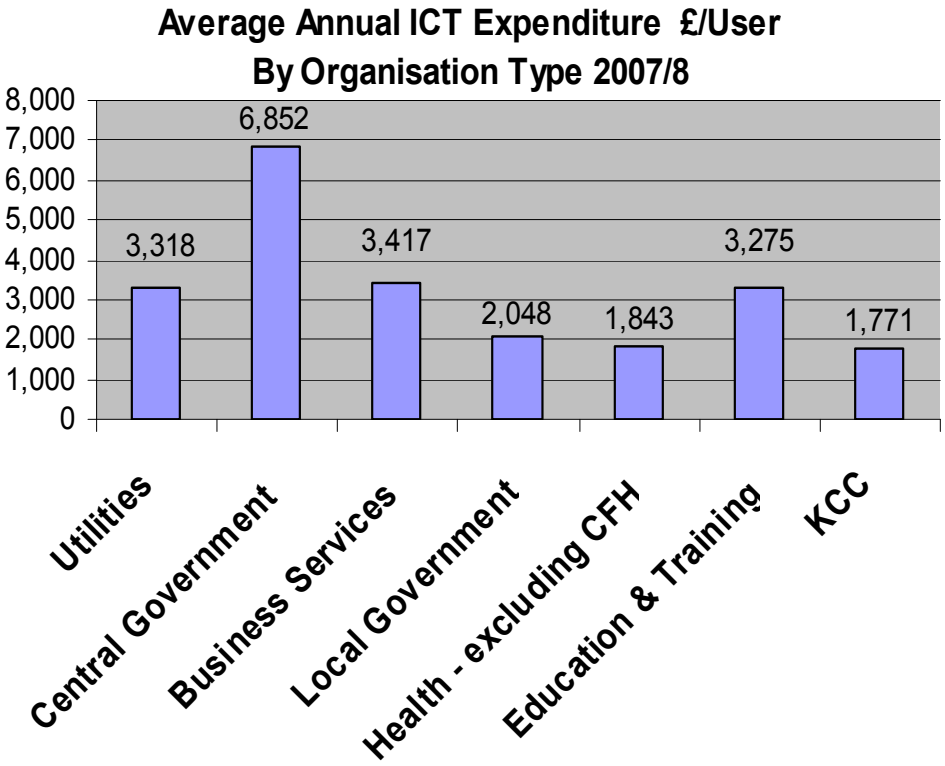
1.2.10 The approach and commitment of information services has continued to be recognised. The unit achieved accreditation against the Customer Services Excellent Standard which has recently superseded the Charter Mark.

1.2.11 Performance in benchmarks against both public and private sector ICT also remains strong as illustrated in the following 2008 National Computing Centre benchmarks.

1.2.12


No. ICT Staff per 1,000 Users (NCC Benchmark 2008)
80
70
60
50
40
30
20
10
0
Finance
Central Government
Retail & Wholesale
Local Government
Health
KCC
Transport & Utilities

1.2.13


Average Annual ICT Expenditure £/User
By Organisation Type 2007/8
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
3,318
6,852
3,417
2,048
1,843
3,275
1,771
Utilities
Central Government
Business Services
Local Government
Health - excluding CFH
Education & Training
KCC

## 2 ICT Programmes and Projects

2.1 The major programme of work reported in January was progress towards establishing a Kent Public Services Network. The contract with UNISYS was signed in July of this year and the implementation of the network; due to be completed in March 2009 is well underway.

- The KPSN network core has been operational since 29th September. The switch-over from the schools network was achieved without any service disruption.
- The remaining KPSN network hubs will be delivered by mid-December except for Sevenoaks and Tonbridge which are expected in January 2009.
- Of 1090 sites, orders for 1000 have been placed with Unisys. 90 clusters remain, which are complex but should be ordered by mid November.

2.2 The benefits and savings to public service as a consequence of this partnership are already delivering tangible returns. Through aggregating demand Kent and Medway local authorities have been able to avoid over £350K of additional cost that would have been incurred had each authority progressed a discrete link to the mandatory cross government secure network.

2.3 KPSN provides connectivity to over 1000 sites and includes links to all Kent Local Authorities, Police and Fire and Rescue services. Thanet DC and Canterbury CC both committed from the outset to migrating their internal sites to the network in additional to using KPSN for inter agency links. In the past two weeks both Tonbridge and Malling DC and Shepway DC have entered into a Memorandum of Understanding to adopt a similar strategy as their current provision reaches end of contract.

2.4 Dialogue with other councils continues with Medway Council assessing the economic benefits of the KPSN approach for corporate sites as well as Medway schools. The expansion of the partnership is an extremely positive outcome and a reflection of the effort of ICT teams across Kent's public services to make a significant contribution to the Kent Commitment.

2.5 Progress on the directorate projects highlighted in January report:

- Connection of KCC Network to new NHS N3 national network – **Implemented**
- Integrated Children's Services (ICS) System - **Implemented**
- CFE Billing System for Contracted Services - **Implemented**
- Technology element of Kent Highways Programme – **Final stage**
- ICT infrastructure for Children's centres - **Underway**
- Upgrade of call management systems (Telephony) - **Underway**

- Library Systems Renewal - **Underway**
- KASS Mobile Working Project – **Underway**

There are currently 32 medium to large ICT projects on the projects register, with a further 29 subject to pre project, feasibility, business case or other analysis activity.

## 3. ICT Strategy

3.1 Since January of 2008 the ICT strategy has been revised and updated to consider how further benefit might be derived from the deployment of technology. Until now the emphasis for ICT Strategy has been on the common areas of infrastructure that supports and underpins the council's strategic objectives.

Of the critical areas of ICT service delivery:

- Desktop Services
- Network Access
- Data Centres
- Application Systems

Long term sustainable solutions have been put in place for two of the four through the technology refresh programme (TRP) and the Kent Public Services Network (KPSN).

3.2. The system failures already referenced in this report, has served to underline the dependence of direct service on technology and also reflects the ICT related risks listed in the council's strategic risk register. In specific response to the potential risk to vulnerable clients following SWIFT hardware failures, changes have been proposed to the strategy for application systems and data centre provision to mitigate the risk to service of potential under investment in ICT or any lack of recognition of interdependencies.

3.3 Hosting (Data Centre) Strategy

3.3.1 The current strategy to use an outsourced hosting service was informed by the short term avoidance of capital investment in internal facilities that were at capacity. The benefits of reconsidering this approach are:

(i) Reduction in overheads. Revenue costs of the current solution are higher than the previous internal arrangement and offer little opportunity to reduce in-house overheads, due to the requirement to maintain 'nodes' within county and the monitoring of third party provision. (It was KCC staff who identified and flagged the failure at the third party site).

(ii) External provision reduces our flexibility and level of control in the event of a failure. The risk of potential delays in restoring service following failure is clearly influenced by the number of third party providers involved in the delivery of a service. The commitment of

council staff to "do whatever it takes" was again demonstrated in the two incidents this year.

(iii) The flexibility to respond to changes in economic and environment demands would be increased by adopting a public sector solution. The success of the KPSN approach has increased cross agency enthusiasm for multi agency ICT solutions. Medway Unitary Council and 5 district councils have expressed interest in progressing a joint solution with the county council.

(iv) The ability to exploit infrastructure in support of strategic objectives e.g. economic regeneration, support for SME's, multi agency working, income generation opportunities. Two commercial companies involved in delivering ICT services to the public sector have approached the council requesting that we host computers delivering out of county services on their behalf.

(i) Despite the use of professional third party hosting, the level of service failure has been higher than was the case with in-house provision. Financial compensation has been provided, which would not be the case with internal services, but best value would ideally be reflected by continuity of service not through receipt of compensation following failure.

3.4 Application Systems Strategy

3.4.1 Investment in software is driven entirely by the requirement for line of business systems in support of direct service. The importance of enabling service directorates to determine direction is recognised in the ICT strategy which specifies recommended technical architectures not the individual solutions to be adopted.

3.4.2 Opportunities for improving current strategy are targeted at addressing and avoiding the potential disadvantages of an approach that might otherwise give rise to system 'silos' and inefficiency.

3.4.3 Strategy for achieving sustainable systems. Application life cycles currently comprise capital investment in infrastructure and implementation plus subsequent revenue stream. Unlike the approach now taken with the TRP and Networks delivery, this does not deliver a sustainable solution as it fails to address the finite and predictable life of the hardware and software. The successful strategies behind TRP and KPSN were facilitated by a corporate investment programme.

3.4.4 Reduced overheads and improved resilience through use of common infrastructure. Service driven projects deliver maximum functionality in support of business requirement. The benefits can be less clear when the solution incorporates dedicated infrastructure. This reduces opportunity for aggregation, leads to potential increased cost and possible compromise on ICT service levels. E.g. many of our systems lack formal disaster recovery

(DR) provision as a consequence of decisions based on system specific risk/cost assessment. Were all our systems based on a common hardware platform, rather than a dedicated solution for each application, this would allow a single affordable DR solution to be considered.

3.4.5 Revenue streams for post implementation support of systems form part of gross budgets subject to efficiency savings. The resource directors group continue to work to find methods to ring fence funding for support of systems considered critical to direct service. This work has highlighted the contradiction of savings targeted at the technology essential to improve service efficiency.

3.4.6 Procurement is key to many council services. ISG make full use of the specialist procurement services available through the strategic procurement unit and KCS. In addition ICT supplier and procurement experts are retained within the function to ensure that business requirements are reflected in technology aspects of contracts. It is important that these skills be applied throughout the procurement process and in subsequent contract management and not simply as an advisory service.

3.4.7 Governance and evaluation to reduce risk. The approach adopted by the Procurement Board which both mandates and monitors adherence to agreed standards has been adopted by the ICT Board. This will ensure that we retain the benefits of the service driven application strategy, while achieving best value from aggregation of common components across systems.

3.4.8 The changes to strategy outlined have formed the basis of medium term financial plan proposal. By extending the successful 'sustainable ICT' strategy, already applied to desktop and network technologies, there is an opportunity to both reduce the total cost ownership (TCO) of systems and achieve a marked reduction in risk to services dependant on technology.

3.4.9 The capital investment initiatives proposed will establish:

- a common infrastructure platform for line of business systems
- multi agency public sector hosting facilities (data centre)
- integration of voice and data infrastructure

## 4. Medium Term Investment

4.1 The 'Towards 2010' priorities are fully reflected within the principle areas for ICT infrastructure investment and the momentum of strategic initiatives reported in January has continued.

### 4.2 Connecting Kent.

4.2.1 This programme has supports the implementation and expansion of broadband and other ICT infrastructure in Kent. The last three telephone exchanges in Kent were broadband-enabled via Connecting Kent grants in

April 2007. However, significant areas remain across Kent where broadband is not available, due to factors such as distance from the exchange.

4.2.2 The Connecting Kent programme has approached the broadband market on behalf of four of the most significant "not spot" areas (Barham, Sutton-by-Dover, Tilmanstone and Ulcombe - covering over 1,500 properties in total) seeking proposals to provide a broadband service in each area. The cut-off date for submissions is 21st November 2008. Indications are that we will receive a number of proposals for each area, covering wireless, broadband over powerline, and wire-based services.

4.2.3 We are actively engaged with the parish council and broadband activists in each affected community, and will be passing the proposals received for each community to them to evaluate and choose their preferred option. They will then apply for a capital grant from Connecting Kent to cover the set-up costs – leaving the on-going service as self-funding.

4.2.4 Connecting Kent plans to engage with suppliers regarding Kings Hill to look at the potential of funding a "fibre to the cabinet" deployment there, with the dual aims of improving the existing poor broadband coverage of the area and providing data on the viability of retrofitting other communities in Kent with fibre. This will help communities and businesses to maintain the advantage derived from the county's early investment in broadband infrastructure.

4.2.5 With the development of the of successful partnership approach to KPSN, opportunities to exploit other areas of shared infrastructure have been investigated by Kent's public agencies. The move of Medway Unitary Council into their new strategic headquarters at Gun Wharf, Chatham has introduced a significant opportunity to extend the technology partnership across Kent public services and provide a route to delivery of the updated strategy for data centres referenced above.

4.2.6 Gun Wharf is the former site of Lloyds of London's data centre operation, with a significant part of the premises being high quality computer machine space. As the county council's current external provision, located in Manchester and docklands, is fully utilised, there is an opportunity to work with Medway and other Kent authorities to develop capacity within Kent and Medway, reducing the overall cost of ownership and investing in systems infrastructure able to be deployed in support of the regional macro economy.

4.2.7 A memorandum of understanding has been reached with Medway regarding shared use of county wide data centre facilities. This will provide second site resilience for both Kent and Medway. The basis of the understanding is for participating authorities to achieve mutual benefit through reduced revenue costs and is not structured as an income generation exercise for public sector partners.

## 4.3 Improving Service Accessibility - Connecting with Kent

4.3.1 Council officers have participated in a second 'Web Jam' an extensive online dialogue over the internet around a structured series of questions. This event was organised and hosted by IBM who invited leading organisations from both private and public sector from across the globe to participate in their internal debate on the "Enterprise of the Future". This was a valuable learning opportunity prior to our progressing a council web jam with Kent residents in 2009.

4.3.2 As the strategic authority the council has taken on direct support for public agencies with insufficient capacity to develop and sustain their own services, including website development and support for parish council's and voluntary agencies, which continues to well used service.

4.3.3 From the original proof of concept implemented in support of the Whole System Demonstrator programme, there are now 30 online secure collaboration portals supporting communications across multiple agencies being provided through the Kent Connects partnership..

4.3.4 The video conferencing facility extensively tested by the same project, is now in frequent use. This has substantiated the financial and carbon savings achievable through the use of this technology and a programme to install similar capability in major meeting rooms in the office estate to reduce in county travel costs is being planned.

4.3.5 Following the council's success in winning the joint Microsoft, Local Government Chronicle and SOCITM Innovate08 concept award, the project to deliver self help online tools to community groups is now being planned. This project demonstrates the use of so called 'Web 2.0' technologies in helping deliver personalisation of services.

4.3.6 Analysis is being undertaken to identify opportunities for using ICT capacity across Kent's public services to deliver direct support into the community. As both the KPSN and data centre projects evolve any potential to use this infrastructure in supporting SME's response to the more demanding financial climate, should be exploited.

## 4.4 Technology Refresh

4.4.1 The programme is nearing the end of the first full cycle of replacement. Under former strategies the council would at this stage be starting to prepare MTFP bids for a future capital replacement of desktop devices. With the arrangements instigated through TRP, replacement of the earliest TRP machines installed will now proceed as part of the continuous programme of renewal funded by the asset maintenance reserve.

4.4.2 This allows directorates to develop business change around a known technology refresh cycle where appropriate devices can be selected in support of business requirements. TRP is already making a major

contribution to the Better Work Places (BWP) programme by allowing appropriate technology to be deployed in support of the change in working profiles identified by the BWP programme.

4.4.3 Outside of the initial scope of technology refresh rationalisation of print provision is also being progressed. The council has published a specification for a printing service to replace existing capacity. Evidence from a study undertaken at Kroner House and proof of concept in Invicta House indicates that between a 15 to 20% reduction in print overheads and carbon emissions will be achieved as part of this initiative.

## 5. Conclusion

5.1 There has been an effective response to the demands on ICT support as a consequence of the increasing dependence on technology. ICT strategy is constantly reviewed and updated in line with the changing profile of our ICT use.

5.2 Strategic initiatives remain closely aligned with the objectives and targets outlined within the 'Vision for Kent'. Projects and initiatives with technical work streams continue to be delivered to time and budget.

## 6. Recommendation

6.1 The Policy Overview Committee Members are asked to note the report.

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