

**From:** Gary Cooke, Cabinet Member for Corporate and Democratic Services  
David Cockburn, Corporate Director of Business Strategy & Support

**To:** Policy and Resources Cabinet Committee

**Subject:** New Ways of Working – Thin Client

**Classification:** Unrestricted

**Past Pathway of Paper:** N/A

**Future Pathway of Paper:** N/A

**Electoral Division:** All divisions

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**Summary.** *The report outlines the technology required to support the future operations of the council and progress on implementing a change in technical solution to meet this demand, improve security and reduce total cost.*

*Recommendation: The Policy and Resources Cabinet Committee is asked to consider and NOTE the progress in planning and implementing a revised technical architecture to support New Ways of Working.*

## **1. Introduction**

- 1.1 This report considers the improvements being planned and delivered in operational activity, how this is supported by technical infrastructure and the changes being implemented through the existing programme of technical refresh and renewal.
- 1.2 The objective of the report is to identify the links between service delivery and technology, how these need to be constantly reviewed and assessed to ensure that they remain relevant and the process undertaken to ensure that investment in technology continues to provide an optimum return on investment.

## **2. Background**

- 2.1 The council has a successful record of applying a programme of continuous improvement to service delivery, with efficiency improvements and cost reduction being key themes. Investment in technology has been made where business cases have identified that this could contribute to improved service and or reduced cost. As is the case for all support functions solution design also attempts to keep overheads as low as possible.
- 2.2 In common with many similar size organisations the current business profile of the council reflects these earlier initiatives, with cost effective services delivered through incremental improvements applied in a conventional operating environment with extensive but orthodox use of technology. To sustain the cycle of cost efficiency it becomes necessary to challenge the model of delivery and consider if alternatives might offer greater benefit.
- 2.3 Based on operating models developed within the telecommunications sector, private companies have increasingly adopted more mobile work styles to drive down overheads and increase the return from fixed assets. Finding a means of introducing these now proven techniques within public service, at an affordable cost, is an element of the council's programme of change.
- 2.4 The council's 'doing things differently' programme captures this within the 'new ways of working' initiative which is encouraging a new approach. To support a change in how and where we work, our provision, use and application of technology has also had to be reassessed. A number of factors and trends have combined to drive this agenda.
- Increasing opportunity for delivery through multi agency teams, social care and health being the most prominent example, where information sharing and the ability to collaborate across mixed locations and organisations is essential
  - Access to physical records has previously been a constraint that tied professional staff to a fixed base with the associated overheads of storage and travel
  - Best practice around mobile working is now well established with extensive information on realisable benefits available from case studies
  - The potential to achieve significant additional benefits through productivity improvements over and above the efficiencies already incorporated within the council's financial planning
  - There has been considerable investment in mobile, wireless and broadband infrastructure over the past 4 years. While this is still incomplete and will remain so until broadband delivery and the mobile industry's '4G' solutions are fully deployed, the productivity benefits of mobile work styles now outweigh the remaining technical limitations
  - The council is reaching the end of a technology investment cycle. Our principal PC operating system is Microsoft Windows XP which Microsoft

will stop supporting in April 2014. No further return on investment can be achieved and support costs will start increasing if we do not migrate from this technology

- User computing devices have matured. Mobile phone and handheld computers are merging in the 'smartphone'. Mobile computing devices and the applications available have moved into the mainstream since the introduction of the Apple iPad 3 years ago.

2.5 In responding to this challenge three simple criteria were established for assessing future technology direction:

- What approach would best support the capability of staff to work anywhere at anytime
- What is the best way to securely hold and maintain personal and sensitive data
- How can the total cost of technology ownership be reduced for the council

### **3. Future Technical Architecture**

3.1 The architecture to be adopted comprises a number of major components, some of which were already being implemented:

- Unified Communications
- Managed Print Service

3.2 Extension of existing solutions to enable changes in how we work:

- Electronic Document Management

3.3 Replacement technologies for solutions due for renewal or upgrade

- Wireless Networks
- Thin Client (End user computing)

### **4. Unified Communications**

4.1 This project is replacing analogue telephony, still deployed in many council sites, with a modern digital platform. The solution being implemented will enable the integration of data such as email and voice communications, it will also provide voicemail; 'follow me' numbers which will allow numbers assigned to individuals to be registered at any location they are working from; instant messaging; access to voice and video conferencing; conference white boards and collaboration tools. Unified communications makes use of data networks allowing contracts for the redundant voice network to be cancelled

reducing revenue costs by £800k per annum, a saving factored into medium term financial planning (MTFP).

## **5. Managed Print Service**

- 5.1 Our existing printer estate will be migrated to a single unified solution. Use of a consistent printer range with a smaller number of larger multi-functional devices will reduce running costs and allow the council to start managing downwards the total quantity of printed material through the software to be deployed as part of this solution. The net reduction in print costs before management action on total amount of printing is estimated to reduce costs by £700K pa across all directorates and is reflected in MTFP assumptions.

## **6. Electronic Document Management**

- 6.1 To reduce our reliance on paper, which incurs cost to both produce and subsequently store, we have to significantly improve our electronic filing capability. We already have sufficient electronic storage capacity through an earlier investment programme. This was an 'invest to save' initiative designed to reduce hardware overheads by providing common storage to replace the dedicated storage of individual systems. The additional capability required to support both improved mobility and service transformation is: easy online access to all relevant data; the ability to cross reference information input to different systems e.g. email or Word documents and case management records; a level of workflow management to prompt timely action. Our existing technology has the capacity to deliver the majority of the functionality described, although an extensive implementation programme will be required to realise this outcome.

## **7. Wireless Networks**

- 7.1 All buildings need to be equipped with high grade wireless networks. These will be used to provide connectivity to the internet and also KCC systems. An efficient mechanism to allow non KCC devices access to the network will be required. The current GUEST and MEMBERNET authentication mechanisms are too cumbersome to be used by potentially large numbers of staff and members and a new means to enable this connectivity will be provided. The existing mechanism supporting wireless networks cannot easily be expanded to handle the likely numbers of access points required in this usage model. Property and ICT divisions have worked on a specification to ensure that the appropriate upgrades have been incorporated into future office design within the doing things differently programme, having identified this requirement within the business case.

## 8. Thin Client Technology

- 8.1 The most cost effective solution to support the way we have traditionally worked has been to put computing power on the desk to reduce the amount of data that is sent backwards and forwards over the network. The computing industry labels this approach 'Thick Client'. This describes the requirement for the personal computer (PC) allocated to the user to be able to store and run lots of large software programs. To do this effectively a relatively powerful PC is required.
- 8.2 While it is possible to support more mobile work styles with current technologies this would **increase technology costs** by up to £1M pa. The alternative solution identified was to move to a 'Thin Client' architecture. This is not a new technology but an approach that has been kept under review, along with other technologies, when assessing the optimum balance of technology for the council. What has changed and prompted the shift is how the council intends to deliver services combined with technology improvements and the opportunity to reduce technology overheads.
- 8.3 'Thin Client' works by locating the computing, data storage and security in our data centres. By doing this the user's PC (the client) no longer requires lots of software, all that is needed on the users device is an internet browser and the ability to connect to the internet so that it becomes a so called 'Thin Client'. Adopting this solution reduces the high number of expensive mobile devices that would otherwise be required.
- 8.4 As no data is held on the local device the high cost of data encryption on the device is avoided and the worry of the loss of sensitive data should the device be stolen is removed. This same consideration also allows review of the policy that mandates that only council owned devices can be used to access council data, improving the capability for multi-agency, mobile and home working. As suppliers in this market also support applications (apps) for tablet devices based on Apple, Microsoft and Android operating systems, it also removes the constraint of only being able to use devices running Microsoft Windows which have all of the associated software such as email, Word Excel etc. fully installed.

## 9. Thin Client Business Case

- 9.1 Within the council's current operating model the single largest technology cost is network capacity. To adopt more mobile work styles with current technologies would increase out of office connection charges, demand ever

higher numbers of relatively expensive mobile PC's and increase the support overhead without any comparable reduction in network costs.

- 9.2 To implement a 'Thin Client' solution investment is required in the hardware and software held in the council's data centres. This is then offset against the reduced revenue cost of the equipment deployed to users. Part of the change to be implemented will be to move away from the 3 year refresh cycle required to keep pace with software upgrades. As 'Thin Client' only requires a device to be capable of running an internet browser we can realistically move to a break-replace cycle for user equipment further reducing the unit cost.
- 9.3 Support costs will also be reduced through the focus of work being concentrated on the data centre from both a security and processing perspective. Looking after one large environment is intrinsically more cost effective than managing many small installations. A further benefit will be the pace of implementing further change at marginal cost. The current environment is both expensive and time consuming to upgrade, which acts as a constraint on service development. What can be a six month task within a distributed 'Thick Client' environment can be achieved in weeks in a central 'Thin Client' data centre environment.

## **10. Funding**

- 10.1 Funding for ICT comprises a base budget to support existing infrastructure and an Asset Maintenance Reserve for management of the on-going renewal and replacement of technology infrastructure. Almost all elements of technology reach end of life over a ten year cycle. To avoid ad hoc and unanticipated capital bids the reserve was structured to ensure that known pressures could be met and upgrades planned and scheduled without conflict with service priorities. The reserve also provides an effective means of managing the uneven profile of technology investment which peaks in years where major upgrades are required.
- 10.2 The business case for thin client looked at the total cost of the technology to implement and sustain the 'Thin Client' solution. This was compared with the baseline profile of the cost of current technologies over the same period. Any associated productivity potential was ignored so the assessment by finance staff was entirely objective and only considered existing commitments and savings achievable from direct costs. Figures from the business case anticipated a net saving over current planned commitments of £2.9M over ten years. With current technology commitments already reflected in the council's medium term financial plan, this change in technology is a significant opportunity to reduce the council's overheads. It also provides an effective means of avoiding the pressure to increase total spend on

technology required to support new work styles, will improve data security and create the opportunity for the ICT to reduce support costs in line with the efficiency targets set for the division.

- 10.3 The business case has been able to be updated following evaluation of tender responses. This indicates a further reduction in total expenditure will be able to be achieved with the total saving against planned expenditure now standing at £5.3M.
- 10.4 The award of contract for 'Thin Client' software was subject to key decision 13/00064. A report on the commercial bids that informed this decision is included in the exempt section of the agenda.

## 11. Recommendation(s)

### **Recommendation(s):**

*The Policy and Resources Cabinet Committee is asked to consider and NOTE the progress in planning and implementing a revised technical architecture to support New Ways of Working.*

## 12. Background Documents

- Record of Key Decision 13/00064
- Information and Communication Technology Business Plan 2013/14

### **Contact details**

Report Author

- Peter Bole, Director of Information and Communication Technology
- 01622 696714
- peter.bole@kent.gov.uk