Tri-Borough Executive Decision Report

Decision maker(s) at each authority and date of Cabinet meeting, Cabinet Member meeting or (in the case of individual Cabinet Member decisions) the earliest date the decision will be taken	**Cabinet** Leader of the Council :- Councillor Nicholas Botterill Date of Decision: 10 December 2012	h&f hammersmith & fulham
		THE ROYAL BOROUGH OF KENSINGTON AND CHELSEA
		City of Westminster
Report title (decision subject)	**WORKING FROM ANYWHERE TECHNICAL IMPLEMENTATION**	
Reporting officer	Jackie Hudson - Director of Procurement and IT Strategy, Tri-Borough ICT Lead Advisor.	
Key decision	Yes	
Access to information classification	A separate report on the exempt Cabinet agenda provides exempt information in connection with report.	

1. EXECUTIVE SUMMARY

1.1 A broad programme of property rationalisation is underway in each of the three councils alongside the Space programme in RBKC, the SmartWorking programme in H&F and Work Smart in WCC. The Tri-borough Property Board has been tasked with identifying strategic property options for the three Councils which might enable more accommodation savings to be made than would be the case if each council continued along their own separate paths.

1.2 The tri-borough strategic property options work being undertaken will produce a range of potential office accommodation changes, some more radical than others. Senior managers and Members will be able to understand the choices to be made and the relationship between the degree of change required to deliver varying levels of financial savings.

1.3 What is clear already to the Property Board is that optimising accommodation savings will be dependent on the development and implementation of more flexible working, i.e. more desk sharing, working from home or remotely so as to minimise physical space requirements and their associated costs.

1.4 A paper recommending a new or coordinated programme of flexible, smart working across tri-borough is under preparation and a costed business case will be made. This is being called the "Working from Anywhere" programme. The programme would be critically dependent on further convergence of IT systems allowing more flexible location and relocation of staff.

1.5 It is expected that these programmes will be presented to the three councils' Cabinets for authorisation to proceed in the new year.

1.6 Meantime the Tri-borough ICT programme had already commissioned a project to design and cost a solution to enable working from anywhere in terms of the provision of access to ICT network resources (applications and files). This was driven by the needs of the business especially tri-borough services such as ASC and Children's to work more efficiently.

1.7 This Working from Anywhere ICT technical solution would allow access to staff's employing borough ICT service from any location across the three Councils' estate. The project to devise this solution was originally intended to answer the questions:

- How can the councils allow staff to connect their Council computers (PCs, laptops) anywhere on the three boroughs' networks, log on to their employing borough, and work exactly as if they were physically in their employing borough? How can the

Councils reduce the ICT cost of accommodation moves and ensure staff are located where they can work most efficiently?

- How can the Councils allow staff to use another borough's computer to log on to their employing borough and access a limited range of services (email, MS Office, the Internet and the Intranets)?

1.8 This report sets out the options considered and reaches some conclusions which are set out in section 2 and 3, at a total cost of £958,000, of which the H&F funding requirement is £346,000.

2. RECOMMENDATIONS

2.1 The recommendation is to commission option 2 to implement a tri-borough network which will set the three Councils on a strategically aligned path and make them ready for the longer term, while simultaneously deploying option 4 tactical solution which will see wireless and wired access deployed at key sites which would not otherwise allow staff to work anywhere within them.

3. REASONS FOR DECISION

3.1 The reason for the recommendation is that the tri-borough working across the three Councils is currently constrained by the technology such that staff can only work at specific desktops and at specific offices across the three boroughs' estates, reducing flexibility of deployment and impairing the ability of tri-borough services to operate as a single team. Without this technical solution these constraints will continue and the savings that the Accommodation board are anticipating from optimisation of office space will not be achieved.

4. BACKGROUND, INCLUDING POLICY CONTEXT, AND ANALYSIS OF OPTIONS

4.1 It is estimated that well over 1,000 staff are employed across the three boroughs in H&F Children's, Adult Social Care and bi-borough in the Environment family. These staff can only work in specified locations based on the current arrangements, mostly within their employing borough

4.2 Of these staff, around 375 are required to work from different locations in a mobile way. Currently these staff need a dedicated bespoke network configuration which reduces flexibility in accommodation and requires more desks than would otherwise be achievable.

4.3 Each accommodation move tri-borough to date has averaged £50k in ICT costs alone. The proposed solution would not wholly eliminate ICT accommodation costs but would substantially reduce them and minimise the time taken to relocate staff, and enabling flexible

deployment in line with business needs and the changing co-location requirements with other teams.

4.4 The proposed solution would see a spend of £958,000 spread across the 1,000 staff working tri-borough giving an extra £1k per person investment. With far fewer staff employed tri-borough it makes sense to invest more heavily in the supporting ICT infrastructure, a minimal sum compared with the productivity gains anticipated.

4.5 Previous good practice meant that the boroughs had individually achieved around 10:7 staff to desk ratios. With tri-borough the ratio has had to revert to close to 1:1. This solution would facilitate a ratio of 10:7 and more across the three boroughs over time.

4.6 The result of this work will be that staff can be located wherever it makes sense from an efficiency point of view and that their work locations can be changed quickly and with minimum cost in response to the gathering pace of change in relation to business need.

4.7 While the solution is intended to address the key constraints that limit where staff can work, the following areas are out of scope for this project:

- Accessing other boroughs' specific applications and data, though this proposal simplifies the technical aspects of this. A separate project is already underway for a small number of prioritised applications.
- Mobile, remote, or smart working, as this is already provided as part of each borough's own strategy.
- Bring your own device (BYOD), which is the subject of separate project initiatives.

4.8 Working from Anywhere will make increased demands on the existing tri-borough interconnections. The increased usage will demand greater bandwidth, in fact already some service areas are experiencing poor response times as a result of overload on the network.

4.9 Increased reliance on these interconnections for normal service delivery will demand resilience to avoid service disruption. Investment in the interconnections is therefore a prerequisite for Working from Anywhere. The total indicative costs including third party supplier costs of upgrade to provide a minimum 100Mb resilience between boroughs are around £85k, detailed at paragraph 10.1. The proposal is that H&F should do this anyway, separately as there is already a problem with current volumes of network traffic, as evidenced by complaints from service users of slow response times. This will be the subject of a separate Cabinet Member Decision.

4.10 Tri-borough ICT programme board asked the ICT services to research four options costed round £1m, £750k, £500k and £250k.

Option	Maximum cost
Option 1: Full working from anywhere	**£1M**
Option 2: Own Council's computer from anywhere	**£750k**
Option 3: Key sites and resources	**£500k**
Option 4: 3B wireless and "co-location ready" key sites	**£250k**

Option 1: Full working from anywhere

4.11 This involves redesigning the corporate network to operate as a single network, bearing in mind the needs of potential future partners such as the NHS, City West Homes, police, suppliers and others. This will enable staff to connect their council computer anywhere on the three councils' estate.

4.12 The key benefits of this approach include:

- One wire serves all three boroughs so staff can use any desk at any site, optimising the use of space
- Quick and thus cheaper to rearrange the use of space
- Users can work as if they were physically in their employing borough, accessing their applications and data, but are also able to access the local managed print solution
- ICT service support can manage the connected devices remotely, thus more cost effectively
- Simplifies the future sharing of applications and data
- Staff will be able to use another borough's computer to connect to their employing borough and
  - access a limited range of services – MS Office, email, internet, intranet - directly
  - print using the local managed print solution
  - run a remote access session as provided by their employing borough for additional functionality

4.13 However, there are some limitations with this solution. These include

- Functionality is limited due to the dependency on the locally installed software
- Accessing remotely will provide the same experience as working from employing borough
- Requires the "Connect Your Council Computer Anywhere" work as a prerequisite.

4.14 This option also carries a number of risks

- There may be service disruption during implementation due to the large scale of the address changes
- Costs associated with service disruption and remedial action

4.15 The costs involved with this work are substantial, likely to be of the order of £1m. The work is labour intensive and not dependent on hardware. It involves the three ICT services network teams, their systems and application support teams, their architecture and security experts and project management to deliver. The work is to make unique the network addresses (IP addresses) across the three boroughs, readdressing, vacating duplicate IP ranges aligning network services and enable the use of local devices.

Option 2: Use your own council's computer from anywhere

4.16 This involves redesigning the corporate network to operate as a single network, but focusing only on the currently known set of addresses to be supported.

4.17 It excludes future expansion to enable other partners in significant numbers who would potentially join the Council's tri-borough network but will still permit broader partnership working. It would still accommodate for example the 38 Public Health ex-PCT staff joining WCC.

4.18 Broader partnership working like ASC's with CLCH or INWL will be possible as they already have dedicated machines and network access points in existing co-location arrangements. These would not benefit from this programme, regardless of the option selected. These staff would always require dedicated connections to their own networks. CLCH staff, as long as their requirement is to connect to their own systems from council premises, would still have co-location type arrangements, as they do now.

4.19 Compared to option 1, this reduces the flexibility to accommodate new partners and services, essentially deferring implementation costs, as the free address space needed will be designed but not implemented.

4.20 This offers the same key benefits are the same as option one, except that staff will not be able to use another borough's computer.

4.21 The limitations and risks are essential the same as Option 1, with one minor difference in that it could be delivered in a slightly shorter timescale.

Option 3: Key sites and resources

4.22 This involves redesigning the corporate network to operate as a single network, but focusing only on key sites. These sites would have to be notified in advance by the business or Accommodation board – which is not always possible for either to do in sufficient time.

4.23 The key benefits of this approach include:

- One wire serves all three boroughs – use any desk
- Quick and thus cheaper to rearrange the use of space within specified buildings
- Users at enabled sites can work as if they were physically in their employing borough, but can access only **selected applications and data**
- Users can access the local managed print solution
- Support teams can manage the connected devices remotely
- Medium cost option prioritising "single-wire" flexibility over the ability to access all employing resources

4.24 However, there are some limitations with this solution. These include

- Only key sites will be covered
- Only key resources will be accessible from those sites
- Users can only use their own borough's machines, requiring them to bring their own laptop if they want to logon at another council building
- Increased operating costs, as the resulting network will be more complex
- Reduced responsiveness to changes in requirements arising from the emerging accommodation strategy or changes in the wider environment

4.25 This option also carries a number of risks

- Highest technical risk of all the options due to the "pick and mix" approach
- Increased risk of service disruption during and after implementation
- Costs associated with service disruption and remedial action
- Difficulty in defining and agreeing which sites and resources are required
- User dissatisfaction with scope
- Cost of provisioning "missed" sites and resources on an on-going basis

Option 4: 3B wireless and "co-location ready" key sites

4.26 This option would expand the current wireless solutions from being available in parts of a small number of key buildings to cover the significant parts of most key buildings. This would also redesign core parts of the network to facilitate the easy set-up of a co-location site, reducing the lead time involved to a matter of hours.

4.27 The key benefits of this approach include:

- Laptop users can work anywhere within the key sites using wireless, and work as though they were physically located in their employing borough
- For network-intensive requirements and for other devices (desktop PCs, VOIP handsets), wired access points in the key locations can be configured on request for a particular borough
- Users can access the local managed print solution
- Support teams can manage the connected devices remotely
- Low cost option prioritising access to all employing resources over Option 3's "single-wire" benefit
- Should be possible to fully deliver in six months

4.28 WCC do not currently have wireless infrastructure on which tri-borough wireless can be built, although installing this is part of a network upgrade proposal within the capital programme. While this is planned, the expenditure is in the process of being approved.

4.29 However, there are some limitations with this solution. These include:

- This does not provide a tri-borough network, and does not, therefore, simplify and reduce the future cost of sharing applications and data. Although it is low cost, it does not have a great business case in terms of the accommodation flexibility that is the core requirement, except in the short term.
- Computers without WiFi capability would rely on wired connections
- Wired connections are not tri-borough – they are all configured for a particular borough, like the three-colour cables currently in co-location sites.
- Changes to wired connections needs some ICT services work each time, increasing the operating cost.
- Users can only use their own borough's machines, requiring them to bring their own laptop if they want to logon at another council building.
- At this price, the WiFi capacity (in terms of coverage, if not usage) would not scale up any further without substantial additional investment.

4.30 This option also carries a number of risks

- If WCC do not gain approval for their wireless plan the wireless element of the solution may only cover key sites in H&F and RBKC
- Detailed design work could identify additional investment needed at particular sites or in the corporate infrastructure.

- Network-intensive requirements could arise unexpectedly (e.g. Windows updates), leading to reduced WiFi performance
- Users will not necessarily realise that they have network-intensive requirements, and could as a result suffer poor performance by using WiFi rather than a wired connection
- This option will use some of the room for expansion within the existing WiFi infrastructure. If there is a requirement to preserve the existing scalability, additional costs will be incurred, either as part of this project or deferred until demand arises.

4.31 The options are summarised in the tables below in terms of their ability to achieve the objectives of Working from Anywhere.

Option	1	2	3	4
	Full working from anywhere	Own Council's computer from anywhere	Key sites and resources	3B wireless and co-lo ready key sites
Site Coverage	☆☆☆	☆☆☆	☆☆	☆☆[1]
Services Available	☆☆☆	☆☆☆	☆☆	☆☆☆
Flexible Working	☆☆☆	☆☆	☆☆	☆☆[1]
Tri-Borough Network	☆☆☆	☆☆☆	☆☆	
Risk During Implementation	High	High	Highest	Low
% Complete in 6 months	0.4	0.5	0.5	1
Cost	ca. £1M	ca. £750k	ca. £500k	ca. £250k[2]

Option 1: Full working from anywhere	Best for site coverage, services available and fit with flexible working. A true tri-borough network, simplifying the future sharing of applications and data as well as providing immediate connectivity "employing". Lowest on-going support overhead. Degree of change involves high risk and a lengthy implementation.
Option 2: Own Council's computer from anywhere	Compromise on Option 1, having removed the "Use Another Borough's Computer" requirement and deferred some non-essential changes. Hence the lower score on flexible working, and slightly quicker timeline.
Option 3: Key sites and resources	Deeper compromise, producing a limited tri-borough network. Highest risk because of the "pick and mix" nature of the solution. Timescale not improved over Option 2 because of the need to prioritize and design workarounds rather than simply re-addressing all conflicting devices.

[1] If WCC implements corporate WiFi
[2] WCC £250k separately funded

Option 4: 3B wireless and co-lo ready key sites	This is not a tri-borough network, but an evolution of co-location sites. A limited option, delivering reasonable flexibility to connect "employing" only. However, this delivers nothing to simplify the future sharing of applications and data, or towards the future management of tri-borough networking as a shared service. Costs are subject to detailed design.

5. RISKS

5.1 The business impact of not adopting option 2 is as follows;

- Space cannot be used flexibly, as users need a desk specifically equipped for their borough
- Any requirements for touch-down, pop-up teams or more permanent co-location need to be planned well in advance and funded and executed as ICT projects in their own right
- Co-location of teams will remain inefficient both in terms of expenditure to enable new sites and in the quality (response times, resilience) of service
- Co-located colleagues from different boroughs remain on separate networks, and providing access to common resources remains complex and inefficient
- Teams need to be fully bonded and efficient (able to cover for each other, for example) so separate setups for each borough's staff continue to militate against that.

5.2 All these lead inevitably to higher point costs for each solution and lower efficiency levels for staff whose workload has increased. It is also incurring higher ICT support costs on an ongoing basis estimated to be round an FTE per borough currently

5.3 If the work is not done now, then it will inevitably have to be done by the suppliers of the new services in the ICT provision procurement, thereby leading to a higher transition cost for the procurement.

6. SAVINGS

6.1 The savings anticipated are in three areas – cost avoidance in future co-locations; reduced cost in accommodation moves which a previous paper estimated to be in the region of an average of 25k per move; enabling the savings from the property rationalisation of over £1m pa.

6.2 Currently the infrastructure set up is a major barrier to the full delivery of staffing efficiencies. These proposals would see considerable productivity benefits which are non-cashable. These include cost and effort avoidance in travel and extra productivity from staff able to work anywhere.

6.3 Savings table

Description of saving	£'000 p.a.	total three years
Accommodation moves for each co-location site assume 5 per annum	25	375
Property rationalisation savings enabled	1,000*	3,000

* savings calculated by the accommodation property board tri-borough

7. EQUALITY IMPLICATIONS

7.1 There are no direct equality implications arising as a result of the recommendations of this report, but it will mean greater flexibility for staff and will support tri-borough working, which aims to protect front line services. As such the recommendations will have an indirect positive impact on residents.

8. COMMENTS OF THE DIRECTOR FOR PROCUREMENT AND IT STRATEGY

8.1 There are no procurement related issues as the recommendations contained in this report relate to an order to be placed under the contract with H&F's strategic ICT provider, H&F Bridge Partnership. partner. Each council will commission its own ICT provider for its own element of the work.

9. COMMENTS OF THE DIRECTOR OF LAW

9.1 There are no direct legal implications for the purposes of this report.

10. FINANCIAL AND RESOURCES IMPLICATIONS

10.1 Implementing the ICT technical solution in support of Working from Anywhere requires an initial investment to improve the interconnection, as set out in the table below:

	All options - 5 year TCO £k			
Interconnections via	H&F	RBC	WCC	Total
LPSN	5	8	91	**104**
NGN (Virgin Media EPVN)	68	5	5	**78**

10.2 These costs are however the subject of a separate Cabinet Member Decision for H&F and the usual authorisation at RBKC and WCC.

10.3 Further funding is required to implement the internal network changes. These depend on the option chosen, as set out in the table below:

Option	Implementation Costs £k			
	H&F	RBKC	WCC	Total
1: Full working from anywhere	342	107	551	**1,000**
2: Own Council's computer from anywhere	311	88	351	**750**
3: Key sites and resources	167	167	167	**500**
4: 3B wireless and "co-location ready" key sites	125	125	0[3]	**250**

A cost of up to £958,000 can be anticipated in total. This is based on the recommended options, option 2 as the strategic solution and some short term critical specific sites only (i.e. not the full option 4 solution).

The cost apportionment deals with all the costs that will be incurred.

Cost apportionment

Option	Apportionment £k			
	H&F	RBKC	WCC	Total
NGN (Virgin Media EPVN)	68	5	5	**78**
2: Own Council's computer from anywhere	281	188	281	**750**
Short term critical tri-borough wireless and "co-location ready" key sites	65	65		**an estimated 130 k plus 250[4] WCC separately funded**
Totals	**414**	**258**	**286**	**958**

11. COMMENTS OF THE DIRECTOR OF FINANCE AND CORPORATE GOVERNANCE

11.1 The H&F costs of £346,000 (for options 2 and 4 column 1 above) will be funded from the Efficiency Projects Reserve. The Interconnections (NGN Virgin Media work can be progressed and funded separately and ahead of the main work as urgently required for capacity increase right now.

12. CONSULTATION

12.1 H&F Business Board, WCC SEB, RBKC board will see this report.

If you have any queries about this Report or wish to inspect any of the Background Papers please contact:

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[3] WCC £250k separately funded
[4] WCC £250k separately funded in the capital programme, therefore not counted in the apportionment

Local Government Act 1972 (as amended) – Background papers used in the preparation of this report

Background Papers (all published)	Held At	Contact
Tri borough ICT integration - collaboration Phase 2	www.lbhf.gov.uk	Jackie Hudson ext 2946
Tri-borough proposals	www.lbhf.gov.uk	
Tri-borough plans	www.lbhf.gov.uk	