London Borough of Hammersmith & Fulham **CABINET** **5 MARCH 2018**		*h&f* hammersmith & fulham

IT TRANSITION PHASE 4 ASSURING SERVICE CONTINUITY – DESKTOP STRATEGY AND SOLUTION OPTIONS

Report of the Cabinet Member for Finance - Councillor Max Schmid

Open report A separate report on the exempt part of the Cabinet agenda provides financial information.

Classification - For Decision **Key Decision: Yes**

Wards Affected: (All Wards); All

Accountable Director: Veronica Barella, interim Chief Information Officer

Report Author: Adam Nyman, Transition Manager, IT services	Contact Details: Tel: 020 8753 4833

1. EXECUTIVE SUMMARY

1.1. The council needs a new desktop service to improve performance and to replace its current solution which expires in October 2018. The desktop service provides access to the council's applications and data.

1.2. The current desktop service supports thin clients (aka virtual desktops, white boxes); thick clients (desktops and laptops capable of working offline); and Bring Your Own Devices (BYOD). It is also end of life and performance is below what is needed by users.

1.3. This paper evaluates three strategic options for the desktop service, and three procurement options should the virtual desktop infrastructure (VDI) strategic options be selected.

2. RECOMMENDATIONS

2.1. To approve the strategy of one mobile device and a smartphone per member of staff.

2.2. To approve the strategy for desktop service provision based on a solution of non VDI thick clients (option 2) which will support the council's strategy to have a mobile workforce while delivering the greatest reduction in annual running costs.

2.3. To note the projected annual saving up to £1.4m for option 2 thick client solution from 2019/20.

2.4. To approve business change resource required for 12 months to undertake change management relating to the new desktop service including Windows 10, exploiting Office 365, increasing the use of mobile telephony, migrating file shares to SharePoint, and migrating Outlook public folders to O365.

2.5. To delegate to the Strategic Finance Director, in consultation with the Cabinet Member for Finance and the interim CIO, the decision on the extension of current desktop support contract for up to 12 months to enable the safe transition from the current service. This extension is still under negotiation and will be confirmed by 31st March 2018.

2.6. To delegate to the Strategic Finance Director, in consultation with the Cabinet Member for Finance and the interim CIO, the extension of current foundation services provided by Agilisys IaaS for up to 6 months.

2.7. To delegate to the Strategic Finance Director, in consultation with the Cabinet Member for Finance and the interim CIO, the selection of the end point device catalogue and the desktop support costs.

3.   REASONS FOR DECISION

3.1. The council needs a desktop strategy which supports its ambition for better performance, agile working (particularly during renovations to the Town Hall), delivers savings and replaces its current end of life desktop solution.

3.2. A decision is needed in March 2018 in order to develop and implement the new desktop service by January 2019 to support the Town Hall decant. Any implementation is likely to take 9 to 12 months from decision so the timeline is tight.

3.3. Notice on the current desktop contract needs to be given by 31st March 2018 in order to exit by 31st October 2018 or renew for a further year.

3.4. To ensure continuity and minimise risk to the council's services, the IT service is recommending that the council continues its contracts with BT and Agilisys for up to another 12 months to allow parallel running while the new service is implemented and staff migrated across.

4.   PROPOSAL AND ISSUES

Background

4.1.   In May 2017 a Leader's Urgency paper entitled "IT transition phase 4 assuring service continuity – adoption of a desktop strategy, a procurement strategy, and the supporting business case" was approved. This paper set out the desktop strategy, the outline business case for one-off investment in 2017 for the new infrastructure with a further one-off investment in 2020/21, and the procurement approach. Cabinet also agreed to a delegated report for information relating to the award of the design of desktop contract in July 2017 to the Strategic Director of Finance, in consultation with the Cabinet Member for Finance. This investment was calculated on the assumption the council would still use a thin client solution, based on a virtual desktop.

4.2.   However, analysis by IT services has identified potential additional cost-saving opportunities through the development of a desktop service based on physical PCs rather than the current virtual desktop implementation, and therefore consideration by Cabinet is needed to fund the investment to make these further annual savings possible. Two key factors have resulted in the change in recommendation from virtual to physical desktops:

- The assumptions for the original estimates for the replacement virtual desktop infrastructure was based on virtual servers. Following the design phase, the third-party supplier advised that physical servers are required in order to deliver the required improvements in performance for staff. Moving to physical servers significantly increases the initial investment required, but it leads to annual savings and improved performance.

- The original assumption for the device costs was based on Chromebooks which at the time were a relatively immature product. As these devices have evolved to become enterprise ready, they have increased in price to be comparable with physical laptops/desktops.

4.3.   The council in option 2 has considered moving to physical desktops alone. While this would improve performance and agility, it has the limitation of not providing support provided for BYOD, for instance when staff are working from home. However, this is the lowest cost solution.

4.4.   In option 3, IT services has included an additional solution called Workspace One, together with Horizon Cloud services. This would allow the council to use primarily thick client solutions (individual laptops) while retaining the flexibility of BYOD. This combination enables secure remote access to a range of desktop applications from any device. Workspace One is a new technology from VMWare, the providers of VDI. It provides a cloud-based solution for delivering applications to devices which is agnostic of the device or the originating network. It supports BYOD and is a good solution for the council's ambition to work flexibly.

4.5.   Gartner has an industry recognised "magic quadrant" which categorises the different types of technology which can deliver this capability. Workspace One is seen as a leader in this field as it is innovative and feature rich. The other technology we would consider is Microsoft's InTune with Azure Active Directory Premium but that currently can only handle the small subset of the council's applications which do not need a client installation on the desktop.

4.6.   The new desktop strategy will deliver:

- Improved desktop performance in speed and stability

- Contribution of £1.4m from 2019/20 to IT savings

- Support for the council's strategic direction of travel to deliver more services within the community by changing our desktop strategy to provide a mobile device for each member of staff

- Support for modern ways of working including flexible working for all from any location and at any time using corporate devices

- Support collaborative working by building on capabilities of Office 365 which can be accessed from both corporate and BYOD devices

- De-risk the Town Hall decant by providing capability to work from anywhere

- New desktop support service after April 2019

- Reduced need to print for majority of users, making other savings and environmental benefits possible

4.7.   IT services has worked with SmartWorking II and consulted business services in developing the following desktop and end user requirements "Desktop Consultation Report 20170602":

- Light laptop provided - weight under 1.5kg

- Device battery will last for approximately 8 hours

- Maximum two devices per person policy, where approved. Lightweight laptop and a phone are standard offer

- Guest Wi-Fi will be provided and upgraded Corporate Wi-Fi provision

- IT services to provide a solution to ensure authenticated, secured, and encrypted data

- BYOD is possible or a pool of laptops will be available for business priority

- 24'' monitor, large enough to display two screens, mouse & keyboard

4.8.   IT services has undertaken analysis on how staff access business applications via the desktop and device. The top 15 business applications are all accessed from the corporate network. In fact, only Office 365, PAWS (Pertemps) and Agresso (but not via iPADs) can be accessed directly over the internet without requiring the user to log on to the corporate network first. For further detail see table in Appendix 3 (contained in the exempt agenda).

4.9.   The longer-term strategy is to move away from on-premise hosted applications but we are dependent on the vendors offering a hosted solution and delivering the application via a web browser over the internet. The vendor will also be required to deliver a secure solution to access via the web and internet to meet the Council's security requirements and policies.

4.10. The Council's procurement strategy is for applications to be externally hosted, but with over 150 business applications this will take 4 years or more to implement. There will be a tipping point at which a different desktop solution can be considered, and in 4 years' time the council may be able to consider Desktop as a Service with reduced dependence on corporate infrastructure.

4.11. An externally hosted application is not a guarantee that the application has been designed to work directly over the Internet. In most cases, security policy dictates access is from the corporate network via an encrypted link, i.e. Mosaic which is used by Children's and Adults'.

4.12. In summary, most staff need their desktop to access business applications from the corporate network or via a secure remote access route to the corporate network when access is required remotely.

4.13. Additionally, the new desktop strategy will support staff to do home visits and deliver outreach, employment and welfare advice and tutoring as portable devices help council staff to better access communities; integrate them, settle new residents and build cohesive and prosperous communities. The council will investigate how S106 funding can help support this initiative.


5. OPTIONS AND ANALYSIS OF OPTIONS

5.1. The council is considering the following options in evaluating its strategic approach to the provision of desktop services:

- **Option 1:** Maintain a VDI desktop through which staff can access their files and business applications from a flexible variety of devices, including H&F-issued hardware and BYOD. There will be a small subset of staff, up to 300, who will need a thick client desktop for reasons of specific application requirements

- **Option 2:** Change to a thick client estate, in which staff are issued with specific hardware through which the desktop will be accessed. There will be a catalogue of council devices available which is likely to include a laptop, a convertible tablet (a device capable of operating as either laptop or tablet), and iPADs. The device catalogue is to be confirmed.

5.2. **Option 3:** Change to a thick client estate with Workspace One (or similar technology), in which staff are issued with corporately-supported devices through which the desktop will be accessed and will also deliver access to their files and business applications from a flexible variety of devices, including BYOD. The following table identifies the key differences between the options.

1: VDI mobile devices	2: Laptop/mobile devices	3: Laptop/mobile devices with WS1
More flexibility – fully supports BYOD, staff can access their common full	Staff can access only Office 365 from BYOD	More flexibility – mostly supports BYOD, staff can access a wide range of

1: VDI mobile devices	2: Laptop/mobile devices	3: Laptop/mobile devices with WS1
desktop from any device		applications from any device
BYOD enables access to Office 365 AND other software that can be used through browsers, which is increasingly the trend with applications.	BYOD enables access to Office 365 AND other software that can be used through browsers, which is increasingly the trend with applications.	BYOD enables access to Office 365 AND other software that can be used through browsers, which is increasingly the trend with applications.
Work remotely with full user experience across council owned and personal devices	Work remotely with full user experience across council device only	Work remotely with full user experience from council owned devices and access a wide range of applications from personal devices
No or limited offline working, requires internet access on the device.	Can work offline if no internet access available, can be used to take any notes and save on the device, i.e. Office 365 products. Most business apps are not capable of offline working	Can work offline if no internet access available, can be used to take any notes and save on the device, i.e. Office 365 products. Most business apps are not capable of offline working
VDI uses a central back end that hosts virtual machines. Easier to maintain and manage.	Traditional laptops are comprised of more components compared to a VDI desktop. Requires more management than VDI.	Traditional laptops are comprised of more components compared to a VDI desktop. Requires more management than VDI, and additional management of application delivery via WS1
Security - easier to provide robust protection for corporate network for mobile access	Security - requires additional work and more complex on-going management	Security - requires additional work and more complex on-going management, with increased complexity of WS1
Support requires procurement via Crown Commercial Services (CCS) - more complex and longer timescales to deliver	Straight-forward procurement from BT under the existing LOT 1 framework.	Straight-forward procurement from BT under the existing LOT 1 framework.

1: VDI mobile devices	2: Laptop/mobile devices	3: Laptop/mobile devices with WS1
Contracting arrangements for this option could be more complex with multiple suppliers. Phoenix delivering service design, BT hosting infrastructure in existing data centres and support may be delivered by third supplier depending on outcome of procurement	One supplier responsible for the end-to-end desktop service and design	One supplier responsible for the end-to-end desktop service and design, with some increased complexity around responsibilities for application delivery.
Supports Office 365 collaboration tools	Supports Office 365 collaboration tools	Supports Office 365 collaboration tools
Supports access for third party suppliers	Third party suppliers such as Ethical Debt team, will require a H&F device to provide their service	Third party suppliers such as Ethical Debt team, will require a H&F device to provide their service

5.3. The following diagram summarises the end user device experience.

Hybrid end user device experience
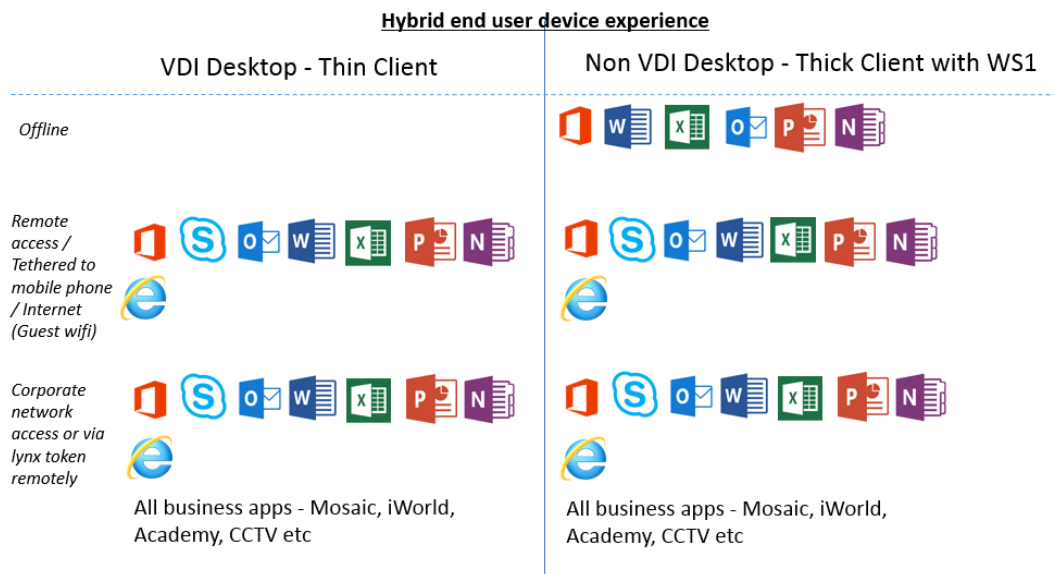
5.4. The following table compares high level requirements for VDI, non VDI thick client and non VDI thick client with WS1.

	High Level Requirements	Option 1 VDI	Option 2 Non-VDI Thick client	Option 3 Non-VDI Thick client with Workspace One
1	Performance	5	6	6

2	Flexibility – BYOD	7	2	6.5
3	Ability to work offline	1	7	7
4	Network security	7	6	6.5
5	Data Security	7	6	6
6	Supplier management chain	4	6	6
7	Cost of solution	3	7	5
8	Ability to support third party suppliers	7	5	5
9	Video conferencing	5	6	6
	Total Score	**46**	**51**	**54**

5.5. **Option 1 (VDI)** has advantages in terms of flexibility. A VDI desktop estate will have greater scope for users to bring their own devices, work remotely with a uniform user experience.

5.6. **Option 2 (non-VDI; thick client)** has the advantage of being significantly cheaper as well as having lower capital expenditure requirements. It will also require less complex contract management and supply chain to deliver the service.

5.7. **Option 3 (non-VDI; thick client with Workspace One)** has the advantage of being significantly cheaper than option 1 in terms of lower capital expenditure requirements. It will deliver additional savings, depending on the number of concurrent users needed on the system. It will also require less complex contract management and supply chain to deliver the service.

5.8. Workspace One with Horizon Cloud Services, or equivalent technology, will deliver the applications to the devices and create the greatest flexibility as it will support BYOD; allow off-line working if there is no internet connection; deliver better security than traditional option 2 laptops; and support the decant period and therefore de-risk the move from HTH and the extension.

5.9. In the case of a denial of service to an office building it will provide business continuity as the number of concurrent users can be flexed on a monthly basis.

5.10. Taking into account the overall functionality and the context of the financial pressures being experienced by all local authorities, the recommendation is to implement the laptop/mobile device solution (option 2- non VDI/thick client).

5.11. A detailed breakdown of the costs and benefits of each option can be found as Appendix 1 to this report (contained in the exempt agenda).

Non VDI / Thick client Procurement Route

5.12. Should Cabinet approve Option 2 or 3 above, it will follow the previously approved Cabinet paper entitled "IT Transition phase 4 assuring service continuity – Desktop support procurement options" as the procurement route for the support of its non VDI service:

5.13. **Procurement Route:** IT let a contract with BT under current Framework Agreement "ICT Services" procured by Westminster City Council in 2014, under Lot 1: Distributed Computing, Contract Notice: 2013/S 066-110653 for a desktop support service.

Recommended – **solution delivers value for money, required savings and most compressed timetable for migrating to the new service.**

5.14. **Procurement Route 2:** IT undertake a mini competition using the Crown Commercial Services (CCS) framework, Technology Services 2, Contract ID: RM3804, Lot 3: Operational Services. CCS has extensive IT framework agreements and public bodies are encouraged to call-off from them. Procuring using these frameworks is a recognised method for achieving a swift outcome and a good solution and is fully compliant with EU procurement regulations.

Not Recommended – **mini-procurement required, additional time and delay to project timeline and exiting the current desktop solution; incurs additional costs and delays the achievement of annual savings.**

VDI Procurement Routes

5.15. Should Cabinet decide upon Option 1 above, it will follow the previously approved Cabinet paper entitled "IT Transition phase 4 assuring service continuity – Desktop support procurement options" as the procurement route for the support of its VDI service:

5.16. **Procurement Route 1:** IT let a contract with BT under current Framework Agreement "ICT Services" procured by Westminster City Council in 2014, under Lot 1: Distributed Computing, Contract Notice: 2013/S 066-110653 for a desktop support service.

Not recommended – **does not deliver value for money.**

5.17. **Procurement Route 2:** IT undertake a mini competition using the Crown Commercial Services (CCS) framework, Technology Services 2, Contract ID: RM3804, Lot 3: Operational Services. CCS has extensive IT framework agreements and public bodies are encouraged to call-off from them. Procuring using these frameworks is a recognised method for achieving a swift outcome and a good solution and is fully compliant with EU procurement regulations.

*Recommended* – **solution delivers value for money and required savings.**

5.18. **Procurement Route 3:** The in-house IT team deliver the desktop support service, with recruitment needed for specialist desktop knowledge as the current IT team do not have the required skill set to support a desktop platform.

Not recommended – **does not deliver value for money and carries additional risk in terms of developing an in-house team capable of supporting the solution within the timescales.**

5.19. Following soft market testing for Desktop hosting and support services, IT services has compared the high level rough order of magnitude costs. A

summary of costs can be found in Appendix 1 (contained in the exempt agenda).

5.20. The draft high-level timeline options below is based on 5 March cabinet decision.
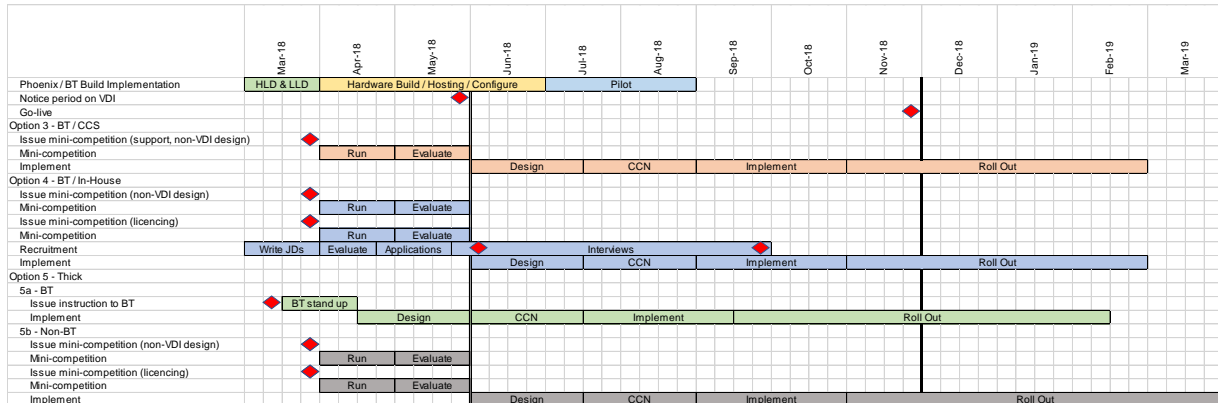
6. CONSULTATION

6.1. IT Services has discussed the requirements for the desktop strategy with the CEO, the council's property team, Director for HR, SLT, and the IT change management lead.

6.2. The desktop strategy and selection of appropriate mobile devices has been tested with Gartner at various points of its development.

6.3. Phoenix were engaged through a mini procurement to design the VDI solution.

6.4. The Phoenix design was then used in soft market testing to inform the costs for VDI.

6.5. The internal support solution was tested against other local authorities, specifically Wandsworth.

6.6. Verified by: Veronica Barella, interim Chief Information Officer, IT services, tel. 0208 753 2927.

7. EQUALITY IMPLICATIONS

7.1. The proof of concept or pilot stage and subsequent testing would elicit any issues with any solution proposed.

7.2. Staff who require specialist software will continue to be supported on the recommended solution.

7.3. Verified by: Peter Smith, Head of Policy & Strategy, tel. 020 8753 2206.

8.   LEGAL IMPLICATIONS

8.1.   There are no specific legal implications for the recommendations related to the proposed IT strategy, the funding and delegation.

8.2.   Any procurement for the desktop services hosting and support services would need to be in compliance with the Public Contracts Regulations 2015 as amended. The use of CCS RM 3084 Lot 3 and WCC ICT Lot 1 frameworks, depending on the option preferred for such procurement, would, comply with the Council's obligations under the Public Contracts Regulations 2015 as amended.

8.3.   Implications completed by: Babul Mukherjee, Senior Solicitor (Contracts), Shared Legal Services, tel. 02073603410.

9.   FINANCIAL IMPLICATIONS

9.1.   These are set out in the exempt part of the Cabinet agenda

10.   IMPLICATIONS FOR BUSINESS

10.1.   There are no implications for business.

11.   COMMERCIAL IMPLICATIONS

11.1.   The contracts quoted in VDI Procurement Routes 1 and 2 are existing procurement frameworks.

11.2.   VDI Procurement Route 1: Framework Agreement "ICT Services" procured by Westminster City Council in 2014, under Lot 1: Distributed Computing, Contract Notice: 2013/S 066-110653.

11.3.   VDI Procurement Route 2 would call off from: Crown Commercial Services (CCS) framework, Technology Services 2, Contract ID: RM3804, Lot 3: Operational Services.

11.4.   The value of the contract is estimated to be above the threshold for services (currently £181,302). Both framework agreements have been let in accordance with statutory requirements. The call off complies with the Public Regulations 2015 and the Council's Contracts Standing Orders. Consequently, no further Contract Notice will be published in either OJEU/Tenders Electronics Daily (TED) nor in the UK's Contracts Finder as only the suppliers on the framework/lot will be invited to bid for this contract, according to the frameworks' rules.

11.5.   The Council will ensure the process is fully compliant with the principles of openness and transparency. A Contract Award notice will be published in Contracts Finder once the contract is awarded and an entry made in the Council's Contracts Register.

11.6. There are no procurement implications for Option 2.

11.7. Verified by: Alan Parry, Procurement Consultant, tel. 020 8753 2581.

12. IT STRATEGY IMPLICATIONS

12.1. The new desktop strategy of a mobile device and a smartphone will unfetter staff from office buildings and will deliver the council's vision to enable its staff to work from any location at any time as required by the service.

12.2. The strategy exploits the benefits of Office 365 by allowing staff to connect to Office 365 applications without having to log into the council's network. Office 365 will be accessible through Wi-Fi or by tethering to the user's mobile phone.

12.3. The new mobile phone solution goes live in March 2018 and will deliver a combined data allowance for the council allowing the use of corporate smartphones to provide data hot spots for the mobile devices.

12.4. The VDI solution delivers the best security model because the device is locked down, desktop security patching is done centrally and no data sits locally on the device. However, the VDI solution does not deliver the best user experience because it always requires the member of staff to log into the network before they can do anything. The risk of data on the device can be managed through local encryption.

12.5. The VDI model will necessitate a more complex supplier chain management, and given current experience in a similar model, the issues of accountability and ownership are more challenging than in a single supplier environment

12.6. Implementing the new desktop strategy will need a change management programme to move people to the new, more mobile way of working, where the expectation is that staff will carry a phone and a mobile device wherever they are working.

12.7. Gartner advice has been sought to verify the findings of the IT service. They have confirmed that the council has understood the different advantages and disadvantages of the solutions and that where an organisation has already invested in VDI it would continue to derive value from this strategy. However, on a pound for pound comparison, a thick client solution generally delivers value for money and a better user experience.

12.8. The recommended mobile devices will be Windows devices and this recommendation has been substantiated by Gartner.

12.9. Gartner has also provided a strategic forward view of which devices are used in the enterprise to best support mobile working, and a small catalogue of devices will be selected through pilots with users.

12.10. A mixed environment of VDI desktops and VDI mobile devices has not been proposed as it does not fit the Council's strategy to promote mobile working

and the principles of Smarter Working II. This approach could save up to £400k in one-off expenditure on the VDI option but there would be hidden costs in the form of less flexibility in use of office space; and a mixed message given to staff about the importance of mobile working.

12.11. As part of the desktop strategy 24" monitors and keyboards will be installed on desks so that staff can work more efficiently. Up until now the assumption has been that the larger screens would be implemented as part of the Town Hall regeneration decant, but given that those timescales may not tie in with the desktop strategy it is recommended that the screens are delivered through this proposal. Until now the assumption has been that SWII will fund the cost

12.12. Verified by: Veronica Barella, interim Chief Information Officer, tel. 0208 753 2927.

13.   RISK MANAGEMENT

13.1. Information Management and Digital Continuity is a risk identified on the Council's Corporate Risk Register. A timely decision is essential or legal and procurement impact, staffing impact and service failure are all more likely. These would impact negatively, if realised, on the following risks; managing in year and medium-term budgets; market testing and achieving the best possible services at lowest possible cost to the local taxpayer; Service Resilience; decision making and the consequential impact on the reputation of services.

13.2. A further risk is that of the complexity and risk in the programme generally. If the council is unable to identify and implement a new solution and services before the end of the current VDI contract (31 October 2018), given there is an associated risk that this contract cannot be extended beyond this end date, then there are commercial, procurement and service continuity risks to the council that it may be forced into a position whereby it has to try and extend the current contract or implement a rushed alternative solution that doesn't fully meet the council's needs

13.3. If the solution offered by BT and/or other suppliers from the CCS framework, including the council's IT services, cannot meet the council's key criteria of a referenceable solution, then there is a risk that the procurement process becomes extended until providers meet such criteria or the number of providers who can meet this becomes limited.

13.4. If the council cannot determine the strategy for the desktop support service by February 2018, then there is risk that the desktop service solution will need to be either extended which means strategy by default or the council will have no service after October 2018, a high risk to the council. The decision on strategy must be made now to allow a project which will take a minimum of 9 months to be implemented. If any proposed desktop support service does not include a clear accountable party for the end to end service any solution with multiple suppliers/components will have a significant risk of failure as a lack of clear

accountabilities and responsibilities potentially leading to gaps in service provision, incident, and problem management, etc.

13.5. As the current wireless provision is not suitable for the new desktop service, it must be upgraded in line with desktop timescales.

13.6. If any proposed desktop solution does not include a clear accountable party for the end to end service any solution with multiple suppliers/components will have a significant risk of failure as a lack of clear accountabilities and responsibilities potentially leading to gaps in service provision, incident, and problem management, etc.

13.7. If IT cannot replace temporary IT staff in key project positions quickly enough with permanent staff or if the council loses key staff, then there would be no IT staff with the right experience to share and knowledge transfer.

13.8. Overall the risk is that if the council cannot deliver the new desktop on time, the desktop service solution will need to be either extended which means strategy by default or the council will have no service after October 2018, a high resilience risk to the council. The timely award of the contract will facilitate successful delivery of a project which will take a minimum period of a year to be successfully implemented.

Verified by: Michael Sloniowski, Shared Services Risk Manager, tel. 0208 753 2587.

14. OTHER IMPLICATION PARAGRAPHS

14.1. Property, business intelligence, health and wellbeing, Section 106 and PREVENT implications have been considered and are not relevant.

LOCAL GOVERNMENT ACT 2000
LIST OF BACKGROUND PAPERS USED IN PREPARING THIS REPORT

No.	Description of Background Papers	Name/Ext of holder of file/copy	Department/ Location
	None.		

LIST OF APPENDICES – contained in the exempt agenda:

Appendix 1 – Options Analysis
Appendix 2 – Cost Estimates
Appendix 3 – Top 15 Applications – Staff Usage