

Report To:	EXECUTIVE CABINET
Date Of Report:	25 September 2019
Report Of:	Councillor Oliver Ryan - Executive Member (Finance and Economic Growth) Tim Rainey, Assistant Director, Digital Services.
Subject	MICROSOFT OFFICE AND SERVER LICENSING
Report Summary:	<p>Executive Cabinet on 24 April 2019 agreed to the accelerated replacement of all older Windows 7 operated laptops with new higher spec'd Windows 10 devices. The urgency for this replacement programme was because the Windows 7 operating system ceases to be supported by Microsoft in January 2020 and if the Council were still using these older devices thereafter it would leave our systems and data at risk from cyber-attack.</p> <p>The same report alluded to other Microsoft products including Microsoft Office 2010 that are commonly used across the Council and that would also need replacing due to support ceasing in the near future. This report details the software in question and options and costs for their replacement.</p> <p>Greater Manchester Pension Fund is currently investigating options to replace their Microsoft Office and other software that is coming to end of life. This will be done in conjunction with the wider Council solution to avoid any technical issues.</p>
Recommendations:	To purchase second-user on premise perpetual licenses for replacement Microsoft desktop Office 2016 and associated software, server operating systems and SQL databases.
Financial Implications: (Authorised By Section 151 Officer)	<p>The recommended option will cost £1,362,052, this will need to be funded from capital borrowing. This is the most cost effective option.</p> <p>This is likely to be the last time perpetual licences are available, so the revenue implications of subscriptions will need to be built into the medium term financial strategy in future years.</p>
Legal Implications: (Authorised By Borough Solicitor)	<p>Whichever option is required there is a need for a capital outlay. This is no different to the fleet management required for vehicles both are necessary tools for the job. Every organisation sets aside funding to replace its infrastructure on a cyclical basis. We also need to consider how we fund these going forward as most companies would budget year on year rather than leaving as a budget demand. When procuring any option we need to ensure STAR are involved to ensure proper process followed.</p>
Access To Information:	The background papers relating to this report can be inspected by contacting Tim Rainey, Assistant Director, Digital Services by:



Telephone:0161 342 3299



e-mail: tim.rainey@tameside.gov.uk

1 BACKGROUND

- 1.1 ICT is embedded in the everyday operations of services and is a crucial part of their evolution and transformation, providing the technology to support shared services and new delivery mechanisms. A new Digital Strategy is currently being developed which will detail how we will use technology to drive forward this change and support new ways of working across the Council as well as supporting economic development, skills and help to reduce digital exclusion.
- 1.2 The Council's programme of embracing agile and modern working practices, rationalising office accommodation, eliminating unnecessary administration, and sharing information more effectively across the organisation, and with partners, requires that technology is effective, modern and compliant.
- 1.3 Every day we rely on Microsoft Office products to write reports, produce spreadsheets, manage our diary and send emails yet the technology we use is nearly 10 years old and will soon put our systems and data at risk if we do nothing to replace and update it.
- 1.4 To date the Council has followed a policy of buying "perpetual on premise" licenses from Microsoft, which means we own them and can use them for as long as we wish – or until Microsoft stop supporting them which is normally after around 10 years. The "on premise" element means that we run the software using our own servers, store the data on our own discs and perform backup and recovery ourselves.
- 1.5 This approach has pro's and con's – on one hand you can sweat the software "asset" for a long as possible, on the other hand you can't easily or cheaply benefit when new versions of software are released – around every 3 years – and so you can become locked in using to older versions. Tameside currently uses Office 2010 which is almost 10 years old and has been superseded by Office 2013, 2016 and 2019.
- 1.6 It is likely that by 2025 Microsoft will stop selling perpetual licenses for many of their products. Instead they will move to a subscription based licensing model. This means paying annually for the licenses you use, and also benefiting from automatic upgrades to new versions when they are released.
- 1.7 It's also possible, but by no means certain, that they will also stop supplying an "on premise" option at this time meaning all the Office software and associated documents, spread sheets etc, exchange email and other systems such as Skype and their associated data would be hosted by Microsoft in the "cloud".
- 1.8 On the 8 May 2018 the Senior Leadership Team (SLT) considered a report detailing the options and costs associated with replacing Microsoft Windows 7 desktop operating system and Office 2010 licenses, both of which were coming to end of support and therefore had to be replaced. Microsoft Licensing is notoriously complex and expensive. The report detailed a number of options with a recommendation that the Council moved to the new Microsoft 365 subscription licensing model because like for like it was cheaper than buying Office 2019 perpetual licenses outright as we had done before.
- 1.9 Due to the complexity and expense it was decided that the 2 elements (Windows 7 replacement and Microsoft Office 2010 replacement) should be separated and treated as two distinct projects, with the Windows 7 replacement taking the priority due to short period of time before the product support ceased (January 2020) and the additional implications that a move to Windows 10 would have on the Council fleet of ageing laptops.
- 1.10 As a result the Council has since signed a new 3 year licensing agreement with Microsoft for their new Windows 10 operating system. The previous 3 year agreement (for Windows

7) cost £28k per year, whilst the new agreement costs 3 times more (£73k per year). The costs for these licenses are negotiated on a national level for UK Government.

1.11 This new agreement means all the Councils laptops can now utilise this latest version of the software however a large number of existing devices are not capable of running this new operating system which requires more power and memory than its predecessor.

1.12 This meant the Council also had to replace its fleet of ageing laptops with newer higher specification devices which can then use the latest Windows 10 desktop operating system. On top of the annual rolling laptop replacement programme a further £600k of expenditure was approved by Executive Cabinet in April 2019 to ensure that the final 1132 devices could be replaced before the January 2020 deadline.

2 MICROSOFT OFFICE AND SERVER LICENSING.

2.1 Working with TechAlign, an local independent specialist Microsoft Licensing company, the business case and options for the second element of the Microsoft license replacement has now been undertaken. The analysis has been carried out using a 5 year timeframe 2020 to 2025 and covers the upgrading or replacement of licenses for software including:

- Office 2010 that's used across the Council for producing documents and spread sheets (Support ends October 2020)
- Exchange 2010 for email (support ends January 2020)
- SharePoint 2010 for collaborative working, (support ends Sept 2020)
- Skype for Business 2013 for virtual meetings and telephony
- SQL 2008 Database licensing (support ends January 2020)
- Data centre licenses for the server operating systems in our main Data Centre and also in the Councils new Disaster Recovery Data Centre. (support ends January 2020)

2.2 All of these products are very near end of life support and will need to be replaced before Microsoft withdraws support between January 2020 and October 2020.

3 DESKTOP AND SERVER SOFTWARE

3.1 The Council's Microsoft licensing requirements fall roughly in to 2 groups. The first is desktop software which end users access from their laptops and desktop computers and includes functionality including word, excel and PowerPoint. The second is the server infrastructure which runs the back office software such as exchange, provides storage for all our data and files and runs the databases that our 120+ back office systems rely on.

3.2 The table below details the current licenses required for server and desktop devices that we will need to replace as part of this process. The Desktop Operating system highlighted (Desktop OS Windows 10) has already been dealt with as per 1.9 above. Also included in the table are the licenses required for the Council's new Disaster Recovery site located in the Tameside Hospital Data Centre.

3.3 The Microsoft Desktop software is typically upgraded with new versions every 3 years, whilst server side software is less frequent upgraded and is normally based on a 4 year renewal cycle.

Category	Product	Prod Quant	DR Quant	Total	Current Type
Server OS (Virtual)	Windows Server (VM)	80	56	136	Perpetual
Server OS (Physical)	Windows Server (S/A)	18	0	18	Perpetual
Server Product	SQL Server	182	182	364	Perpetual
Server Product	Exchange Server	4	4	8	Perpetual
Server Product	Skype for Business	1	1	2	Perpetual
Server Product	SharePoint Server	2	2	4	Perpetual
Desktop OS	Windows 10	1800	0	1800	Subs
Desktop Office	MS CAL Suite	1800	0	1800	Perpetual
Desktop Office	Skype for Business	250	0	250	Perpetual
Desktop Office	MS Office 2016	1800	0	1800	Perpetual

4 OPTIONS

4.1 As part of the options analysis the 3 solutions listed below were considered. “Do nothing” was not an option as this would leave the Councils systems and data at risk from cyber security breaches and buying Office 2019 perpetual licenses was not included because it had already been considered and discounted on costs basis in the May 2018 SLT report.

1) Microsoft 365 (Cloud) Subscription Licenses & Subscription Server Operating and SQL Licenses.

2) 2nd-user Office 2016 , Server Operating and SQL Perpetual (On-Premise) Licenses

3) Hybrid option: Microsoft 365 (Cloud) Subscription Licenses purchase 2nd user for server operating system and SQL databases

4.2 The conventional approach adopted by the majority of councils across GM is option 1, whilst option 2 and 3 are a more unconventional.

4.3 Table A and B below give a comparison of the options and the financial implications with a more detailed narrative explained in Section 5,6 and 7 of this report.

Table A – Options Comparison

	365 + Cloud Option 1	2 nd User Option 2	Hybrid Option 3
Additional resource needs (financial/personnel)	Medium	Low	Medium
Cost (relative)	Medium/High	Low	High
Innovation / transformation capability	High	Low	High
Management overhead	Low	High	Medium
Potential change from now	High (progressive)	Low	Medium/High
Risk: License compliance	Low	Medium	Low
Risk: Option viability	Low	Medium	Medium
Risk: Stagnation	Low	Medium	Low
Risk: Vendor / Price lock-in	High	Low	Medium

NB: The management overhead is the ongoing management of the product needed in the IT team. Option 2 (2nd User) is reflective of current practice.

Table B – Cost Comparisons

	Inclusions	Exclusions / to consider	1 year	5-year
Option 1 Cloud + Subs (O365 E3 + ECAL)	<ul style="list-style-type: none"> Optimised Server 2019 DC/Std Win 10 Desktop OS SQL Server 2019 Std (Core) Exchange /SfB / SP 2019 O365 E3 + ECALBridge EMS E3 SfB Plus CAL Full DR coverage 	<ul style="list-style-type: none"> O365 backup product / service Third Party <ul style="list-style-type: none"> Message filtering/hygiene Journaling /DLP Prof Services to design, implement and support. 	£556,076	£2,780,380
Option 2 Second User	<ul style="list-style-type: none"> Optimised Server 2019 DC/Std Win 10 Desktop OS (Subs) SQL Server 2016 Std (Core) Exchange /SfB/SP 2016 ECAL Suite Office 2016 ProPlus Full DR Coverage 	<ul style="list-style-type: none"> SfB Plus Cal (No pricing available at present) Any SA / DR / Mobility rights (90 days) 	£1,362,052	£1,362,052
Option 3 Hybrid	<ul style="list-style-type: none"> Second user Server / SQL As per Option 1 for everything else 	<ul style="list-style-type: none"> As above 	£1,287,815	2,835,916

1 year: This refers to the first years cost

5 year: This is the total cost of the implementation over the 5 year project

Note: The cloud based and hybrid options costs have estimate in for years 4 and 5 as the contracts offered are 3 year contracts.

5 OPTION 1 SUBSCRIPTION AND CLOUD SOLUTION

- 5.1 This is the most conventional approach to the Microsoft licensing quandary and one that Microsoft and their re-sellers recommend. Across Greater Manchester 2 authorities are underway with implementing this solution for all staff and another 4 have implemented within their IT services with a further 1 due to begin implementing in the near future. Of the remaining authorities 2 are yet to decide what course they will take and 1 is not going down the Microsoft Office route.
- 5.2 If we take this option we would subscribe to a 3 year agreement for all the necessary Microsoft licences. The subscription costs are fixed for this period of time, however a new 3 year agreement would then be required and at that point prices could change.
- 5.3 This option will also support our ambitions in terms of collaborative working, modern, agile working. Under the terms of this licencing the 365 products are all available in the cloud, meaning that users would access the software even if they did not have access to their Council issued device by using their own or another device. In addition, the software can

also be installed on up to five computers and five mobile phones/tablets for each user licence purchased.

- 5.4 The licences can be purchased as one bundled product called M365, which is the most costs effective way of purchasing all the licences, or as individual components. Purchasing in this way also means that a bundle of other software including the professional version of Yammer, Workflow, One Drive (Cloud Storage) Teams (Collaboration Tool), Powerapps, Planner (Project Management Tool) and Password reset are also included within the cost.
- 5.5 Moving to a 365 solution would have a significant impact on the IT service in terms of managing the transition from on-premise to cloud base computing. There would also be a significant end-user training requirement.
- 5.6 The following are some of Pro's and Con's for this option.

Pro's	Con's
Annual adjustments to the number of licences we need so that we are not overbuying.	There is no physical "asset" that the Council owns.
Reduced cost of Operating System licences after current 3 year agreement expires	License costs for 365 only fixed for 3 years and then could increase. Operating system license costs trebled in price.
Significantly improved ability to transform due to the availability of a wide suite of tools to support agile working, improved processes and communication.	Tied in Microsoft tools for collaboration and agile working and the market offers many other packages which can also provide this functionality. A move to 365 would also mean a significant training programme would be needed for staff as in essence the organisation would be updating its desktop software through 3 releases in one go.
Time spent maintaining existing council owned hardware and software that support "on-premise" working is reduced	Supporting "on-premise" Microsoft products wouldn't significantly reduce workloads – the council still has over 120 other systems that need supporting and moving to the cloud would present a new technical challenge with new skill set required. Implementing 365 across the organisation would also take a significant period of time (up to 18 months) during which time the licenses would need to paid for but not fully used.
No future server infrastructure costs for Microsoft products. Server infrastructure still required for all back office systems.	The infrastructure costs for the current "on-premise" way of working is already in place and will not need replacing until 2025 when future options for delivering Office functionality will need to be reviewed. The council would still need to maintain the Data Centre/DR facility and associated server and disc infrastructure for the other 120+ systems it operates.
Ability for users to reset password themselves.	Other software tools other than Microsoft are available for this functionality and it's likely that in the coming year the government guidance on passwords will change to recommend a single permanent complex password as opposed to a rolling change ever 90 days.
Assuming partners have the	Other collaboration and communication products are

same Microsoft software it could improve collaboration and communication.	available and in many cases they are vendor agnostic meaning they will work whether you use Microsoft products or not.
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6 OPTION 2 SECOND HAND PERPETUAL ON PREMISE SOLUTION

- 6.1 This option involves buying second-user licenses for Microsoft Office and the other related Office products and server licenses. These 'perpetual licences' are a one-off purchase. The software license is 'owned' by the council but unlike option 1 the software is not automatically updated as new versions or features of the software are released other than security updates/patches which ensure the software remain secure, this would be done by our existing team as it currently is.
- 6.2 Whilst the cost of purchasing the latest perpetual versions of Microsoft Office software (2019) is prohibitively expensive, we are able to purchase Office 2016 'second hand' licences at a much reduced cost. This is possible under EU Software Directive 2009. The ruling of the Court of Justice of the European Union (Case C-128/11 – 3rd July 2012) states that software vendors such as Microsoft cannot prohibit any resale of used licences and that companies are free to resell their perpetual licences within the European Economic Area.
- 6.3 If we were to purchase the 2016 version of the software we would continue to receive mainstream support until 13/10/2020 and extended support (Security updates only) until 14/10/2025. This is the same point at which support for the latest version of Office (2019) also expires. It would also mean purchasing "second-hand" versions of other Microsoft software that we require such as SharePoint, Skype for Business and Exchange.
- 6.4 The following are the pro's and con's of this option.

Pro's	Con's
Fixed one off payment for perpetual licenses which can be used for as long as the software is supported at no additional cost.	There is a risk that "sweating" the asset for as long as possible means we don't provide staff with the appropriate up-to-date software which will enable them to work more collaboratively and effectively. In 2025 Office 2016 will be 9 years old. (as indeed Office 2010 is now)
Second-hand licenses option is cheaper the subscription based option.	We would be buying licenses for Office 2016 (and other associated software tools) which is not the latest version.
Simple for IT to implement and support – same underpinning technology and same way of working just newer versions of software for the user.	
Less training implications for end users.	
Ability to look at other software solutions outside of Microsoft range for specific requirements such as Team Sharing, remote meetings and collaboration.	Using all Microsoft products ensures that all the products work seamlessly. Buying 3 rd party software products can mean compromising on integration with other Microsoft products.

7 OPTION 3 HYBRID SUBSCRIPTION AND SECOND HAND SERVER LICENSING SOLUTION

- 7.1 This option would involve subscribing to Microsoft 365 and the associated bundle of desktop software but buying second-user licenses for the server operating system and SQL database licenses. This option was considered because it could provide the organisation with the ability to use and keep up to date with the latest versions of Office software and also use the additional software such as Team and Planner which will support our flexible and collaborative working ambitions, whilst purchasing the server side software and therefore “sweating these assets” which is less dynamic and more stable in terms of updates and new releases.
- 7.2 Implementing this solution as with option 1 would have a significant impact on the IT Service as most of the desktop environment would move in to the Cloud. This would also mean a significant investment in end user training. It would however mean the server side of things was easy to manage as per option 2.
- 7.3 The following are the pro’s and con’s of this option.

Pro’s	Con’s
Annual adjustments to the number of licences we need so that we are not overbuying.	For Desktop software there is no physical “asset” that the Council owns.
Reduced cost of Operating System licences after current 3 year agreement expires	License costs for 365 only fixed for 3 years and then could increase. Operating system license costs trebled in price.
Significantly improved ability to transform due to the availability of a wide suite of tools to support agile working, improved processes and communication.	<p>Tied in Microsoft tools for collaboration and agile working and the market offers many other packages which can also provide this functionality.</p> <p>A move to 365 would also mean a significant training programme would be needed for staff as in essence the organisation would be updating its desktop software through 3 releases in one go.</p>
Time spent maintaining existing council owned hardware and software that support “on-premise” working is reduced	<p>Supporting “on-premise” Microsoft products wouldn’t significantly reduce workloads – the council still has over 120 other systems that need supporting and moving to the cloud would present a new technical challenge with new skill set required.</p> <p>Implementing 365 across the organisation would also take a significant period of time (up to 18 months) during which time the licenses would need to be paid for but not fully used.</p>
No future server infrastructure costs for Microsoft products. Server infrastructure still required for all back office systems.	<p>The infrastructure costs for the current “on-premise” way of working is already in place and will not need replacing until 2025 when future options for delivering Office functionality will need to be reviewed.</p> <p>The council would still need to maintain the Data Centre/DR facility and associated server and disc infrastructure for the other 120+</p>

	systems it operates.
Ability for users to reset password themselves.	Other software tools other than Microsoft are available for this functionality and it's likely that in the coming year the government guidance on passwords will change to recommend a single permanent complex password as opposed to a rolling change ever 90 days.
Assuming partners have the same Microsoft software it could improve collaboration and communication.	Other collaboration and communication products are available and in many cases they are vendor agnostic meaning they will work whether you use Microsoft products or not.
Fixed one off payment for perpetual server related licenses which can be used for as long as the software is supported at no additional cost.	Server infrastructure software is generally less susceptible to significant enhancements of functionality upgrades that desktop software undergoes. This means the risk of being locked in to older versions of the server operating system and SQL databases is less of an issue.

8 5 YEAR COST COMPARISON

- 8.1 There is no existing budget to fund upgrades for Office 2010, Exchange 2010 or SharePoint 2010. These products were purchased via Capital Funding in May 2009.
- 8.2 The 18 physical Server OS licenses and SQL licenses were paid for by individual services and the remaining server OS and SQL were bought in 2013 as part of Data Centre License for VM Infrastructure. (£27,000).
- 8.3 The table below gives the high level cost comparisons for the three options over a 5 year window (2020 to 2025).

Option	Description	Year 1 £	5-Year £
1	Subscription and cloud solution	£ 556,076	£2,780,380
2	Second hand perpetual on premise solution	£1,362,052	£1,362,052
3	Hybrid subscription & second hand server licensing solution	£1,287,815	£2,835,916

9 OPTION APPRAISAL

- 9.1 In the coming years it's clear that Microsoft is going to significantly change the way it operates – what's less clear is how they will do this and what implications it will have for organisations like ours. End-of-life support for many of its current software packages are converging in 2025 so it's likely that at this point these changes will come into effect.
- 9.2 It's likely – but by no means certain that from that point forward Microsoft will only “sell” licenses on a subscription basis. It's also possible that they may only offer a “cloud” based solutions forcing businesses to move from on-premise hosting. Whilst this move to the Cloud is becoming more prevalent in many areas of IT many businesses prefer to hosts their own systems and data on premise, and want to have the licensing asset on their balance sheets.
- 9.3 In view of this uncertainty the Council has the opportunity to “sit on the fence” for a number of years and watch what develops. Adopting option 2 would mean continuing to operate in much the same way as we do now – but with newer and fully supported software. It would

also save in the region of £1.5m over the 5 year period leading up to 2025 and would also minimise the amount of up-skilling and re-training that IT staff and employees would need to undertake.

- 9.4 In mid-2023 when Microsoft's licensing intentions will be clearer, the council can then re-assess its licensing requirements and have time to plan and implement an appropriate solution in-time for the proposed perpetual on-premise licenses reaching end of life in 2025.

10 PROCUREMENT PROCESS

- 10.1 Second hand, perpetual on site licenses can be resold through an agreement with European Electronique, who are an approved supplier on RM3733 Technology Products. This Framework expires in October and the replacement framework is RM3733. A mini-competition may need to be run under the framework in operation at the time of the procurement exercise.

11 GREATER MANCHESTER PENSION FUND

- 11.1 Greater Manchester Pension Fund is currently investigating options to replace their desktop office software and server infrastructure licensing. It's likely that this will be done in conjunction with the wider Council decision and roll-out to avoid any technical issues. The associated license costs will be funded directly by the pension fund.

12 RECOMMENDATIONS

- 12.1 As set out on the front of the report.