

Committees:	Dates:
Corporate Projects Board <i>[for decision]</i> Digital Services Sub Committee <i>[for decision]</i> Projects Subcommittee <i>[for decision]</i> Resource Allocation Subcommittee <i>[for decision]</i>	30 September 2020 16 November 2020 17 December 2020 10 December 2020
Subject: Computer Equipment Rooms (CER) Uninterrupted Power supplies (UPS) Upgrades. Unique Project Identifier:	Gateway 1-4 Project Proposal & Options Appraisal Light
Report of: Chamberlain Report Author: Matt Gosden, Deputy IT Director	For Decision
<h1>PUBLIC</h1>	

Recommendations

<p>1. Approval track, next steps and requested decisions</p>	<p>Project Description:</p> <ol style="list-style-type: none"> 1.1 To provide power resilience to core Computer Equipment Room (CER) facilities across the CoL estate. 1.2 Power supply to these rooms remains a vulnerability and is on the corporate risk register. 1.3 This project will remove the old, unreliable Uninterruptible Power Supply devices (backup batteries and surge protection for servers and essential networking equipment.) 1.4 This is critical work - if there was a failure of power or a power surge to critical computer equipment, systems could be damaged with weeks of disruption and consequential financial and reputational loss - This project helps mitigate CR1. 1.5 The funding for this scheme was approved as an essential item in the 2020 capital programme. 1.6 Next Gateway: 5 1.7 Next Steps - Develop and plan a costed project to replace older UPS devices in Tier1 Computer Equipment Rooms. <p>Requested Decisions:</p>
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	<p><i>Please populate the financial information as structured below. Set out any decisions needed for this paper, if the paper is going to multiple committees note which decisions apply to which committee. Town Clerks Committee Clerks can assist you with committee terms of reference. CRP is not mandatory but can be requested if deemed necessary for projects where the G2 was approved post April 2019.</i></p> <p>1.8 Note no budget is required to get to the next gateway. 1.9 Note the total estimated cost of the project at £50k (excluding risk) 1.10 Approve Option 3 (12.3) Deliver a Re-focussed UPS project, delivering a prioritised UPS estate to priority areas only 1.11 Note no CRP is requested for this project.</p>
<p>2. Resource requirements to reach next Gateway</p>	<p>None.</p>
<p>3. Governance arrangements</p>	<p>3.1 Service Committee: Digital Services Subcommittee 3.2 Senior Responsible Officer: Matt Gosden, Deputy IT Director. 3.3 A Project Board will be created to oversee this project and ensure joined up working with other projects. This will consist of the Project Sponsor, the Project Manager, one of the COL Architects and the IT Business Manager.</p>

Project Summary

<p>4. Context</p>	<p>4.1 There are historic issues with unreliable power supply and/or power equipment in Guildhall Computer Equipment Rooms (CER) and has been described within Corporate risk, CR01 and IT Division Risk Registers. 4.2 Our strategy remains to remove as many physical devices as possible and to make the best use of cloud services which offer high levels of availability and resilience. 4.3 This is a combined report due to the scope and simplicity of the proposed project/option. COL IT have recently carried out identical work in one of the existing Computer Equipment Rooms, so the devices, costs and implementation costs are understood. This has also enabled the reduction in requested funds for this project.</p>
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	<p>4.4 However, a residual footprint of devices will inevitably remain on-premise and consequently will need suitable levels of protection in terms of power, environmental management and resilience</p> <p>4.5 Following a review of all CERs in 2019, CERs have been categorised into Critical and Non-Critical, depending on the equipment and services each CER contains.</p> <p>4.6 This project seeks to address the Critical CERs only;</p> <p>4.7 Since the Capital bid was approved, further activities, have started to move more services into the cloud and will complete by September 2020.</p> <p>4.8 The new Architecture Roadmap includes the replacement of the on-premise remote access service and connectivity (Direct Access and BT MPLS) with Azure hosted services (Azure Virtual WAN.) This will reduce costs overall, will deliver faster, more flexible connectivity to technology services from anywhere, including homes, on the street and COL sites. Thereby reducing the reliance on Guildhall as a Technology Hub.</p> <p>4.9 Covid has changed the business focus and behaviours from one where it is very Guildhall-centric, with a heavy reliance on fixed desks with desktop PCs and phones to one where the business now understands that flexible working and cloud-hosted technologies offer greater flexibility and resilience.</p> <p>4.10 Coupled with this change is the need to look at how we provide secure and resilient connections in a Cloud environment.</p> <p>4.11 Specifically the Microsoft the suite becomes more and more important to delivering a resilient environment,</p> <p>4.12 Consequently, we can reduce the spend anticipated on physical UPS assets.</p>
<p>5. Brief description of project</p>	<p>The project scope has been reduced based on the above.</p> <p><i>NB: An Uninterruptable Power Supply (UPS) of the type we plan to install is a device that contains 4 back up batteries, electrical surge protection and an interface that allows for remote monitoring by our network monitoring tool. They are installed into a network equipment cabinet.</i></p> <p>The new proposed scope will:</p> <p>5.1 Remove and replace all old UPS devices and dispose of them from all Tier 1 CERs.</p> <p>5.2 Purchase and install new, monitored and managed UPS devices in the (now re-scoped) Tier 1 (Critical) CERs and transition them into live support with a) Our network support 3rd party for monitoring and b) the UPS supplier for ongoing maintenance and support.</p> <p>5.3 Provide further moves to cloud technologies.</p>

	5.4 Implement and deploy critical resilience features from the MS licencing agreement.
6. Consequences if project not approved	6.1 If not approved, the current Division-level risk of unsuitable power supply resilience would remain as Amber (12) with a possible likelihood and a Major impact. If the new proposed approach for the funding and Project scope are not approved, COL technology services would not be as flexible, resilient or secure as the business now requires.
7. SMART project objectives	<p>What is the project required to achieve?</p> <p>7.1 The Project will ensure that the Tier 1 (Critical) CERs has suitable power protection for the critical infrastructure components. Ensuring they are protected against unexpected power supply issues which would otherwise impact a significant number of COL users.</p> <p>7.2 The removal of circa 10 old, unreliable UPS devices and dispose of them through our existing equipment disposal contract.</p> <p>7.3 This will reduce the need for the spend of physical assets to enable the release of capital funds.</p>
8. Key benefits	<p>The new, proposed approach will deliver:</p> <p>8.1 Improved protection for CERs that will remain Tier 1, after the Azure migration and other activities to re-site technology services into the cloud.</p> <p>8.2 Reduced risk of a power outage affecting Critical applications and services or large numbers of COL end users.</p> <p>8.3 Improved monitoring and management of the Tier 1 hosted services, reducing downtime and the time to troubleshoot and restore services in the event of an outage or power failure.</p> <p>8.4 Greater flexibility, resilience and security for the organisation, to meet the new business need that Covid-19 has brought to focus.</p>
9. Project category	6. Improvements in productivity/efficiency
10. Project priority	A. Essential
11. Notable exclusions	<p>Numbered points</p> <p>CERs rated below classification of Tier 1 (Critical).</p> <p>These are non-critical CERs which are CERs which <i>don't</i> contain critical site connectivity equipment (usually BT equipment) or critical servers and network switches.</p>

Options Appraisal

12. Overview of options	<p>There are three project options:</p> <ul style="list-style-type: none">12.1 Do nothing: This would leave the COL exposed to the same risks as before, which are widely understood to be unacceptable.12.2 Continue with the original scope, using the full Capital budget to replace and/or install new monitored UPS devices where previously there were either no UPS protection or UPS devices in place which are end of life, not supported and prone to frequent failure.12.3 Deliver a Re-focussed UPS project, delivering a prioritised UPS estate to priority areas only. Recommended.
13. Risk	<p>Overall project risk: Low</p> <ul style="list-style-type: none">13.1 The project itself is low risk as it is focused on replacing some old UPS devices with new ones with the additional requirement of network monitoring and the ensuring the devices are covered by a warranty, maintenance agreement and support wrap. This type of work has been carried out in the past as a BAU change. As such a separate Risk register has not been produced for this paper.13.2 The make and model of the preferred UPS devices is known and IT have carried out this work in some CERs recently, so the low complexity is understood.13.3 Older, faulty UPS devices will be removed as they are the cause of most networking power issues.13.4 The IT Division already have an existing supplier for the supply and the install of UPS devices and the cost of these is below the £50k single tender threshold.13.5 Once installed, the UPS devices will be monitored remotely by the existing network support partner.13.6 The UPS removal and replacement works will take place out of hours and will follow the Change Management process to reduce risk and business impact.13.7 Most of the risk sits with non-approval – either the original scope and approach, or the new, proposed approach to implement greater flexibility through the use of cloud-based services.

Resource Implications

14. Total estimated cost	<p>14.1 For recommended option 3 above, the costs for removal of old UPS devices and the delivery of a new, more focused UPS estate are:</p> <p>14.2 Total estimated cost (excluding risk): Anticipated lifetime cost to deliver this project (excluding risk). £50k Physical UPS assets and implementation/installation.</p>																	
15. Funding strategy	<p>Is funding confirmed: All funding fully guaranteed</p> <p>Recommended option</p> <table border="1" data-bbox="531 685 1353 1155"> <thead> <tr> <th data-bbox="531 685 1161 741">Funds/Sources of Funding</th> <th data-bbox="1161 685 1353 741">Cost (£)</th> </tr> </thead> <tbody> <tr> <td data-bbox="531 741 1161 831">Provision for new schemes 2020-21 capital programme £200K allocated</td> <td data-bbox="1161 741 1353 831"></td> </tr> <tr> <td data-bbox="531 831 1161 887">Note: Only £50k is requested.</td> <td data-bbox="1161 831 1353 887">£50K</td> </tr> <tr> <td data-bbox="531 887 1161 943"></td> <td data-bbox="1161 887 1353 943"></td> </tr> <tr> <td data-bbox="531 943 1161 999"></td> <td data-bbox="1161 943 1353 999"></td> </tr> <tr> <td data-bbox="531 999 1161 1055"></td> <td data-bbox="1161 999 1353 1055"></td> </tr> <tr> <td data-bbox="531 1055 1161 1111"></td> <td data-bbox="1161 1055 1353 1111"></td> </tr> <tr> <td data-bbox="531 1111 1161 1155" style="text-align: right;">Total</td> <td data-bbox="1161 1111 1353 1155">£50k</td> </tr> </tbody> </table>	Funds/Sources of Funding	Cost (£)	Provision for new schemes 2020-21 capital programme £200K allocated		Note: Only £50k is requested.	£50K									Total	£50k	<p>Who is providing funding: Internal - Funded wholly by City's own resource</p>
Funds/Sources of Funding	Cost (£)																	
Provision for new schemes 2020-21 capital programme £200K allocated																		
Note: Only £50k is requested.	£50K																	
Total	£50k																	

Appendices

Appendix 1	Options Appraisal
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Contact

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Appendix 1 - Options appraisal table.

Delete option numbers as appropriate

	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3 (Recommended)</i>
1. Brief description	Do nothing	<i>Continue with the original scope.</i>	Continue with the new proposed scope.
2. Scope and exclusions	<ul style="list-style-type: none"> • Accept the risk of Tier 1 Comms not having adequate power protection. • Understand that the impact of a power outage is likely to be lower in light of the other activities and behaviours that Covid have brought to light, i.e greater numbers of staff working remotely, a greater proportion of staff using non-Guildhall connectivity and a greater proportion of staff using laptops. 	<ul style="list-style-type: none"> • Where the UPS Review Report categorises a Comms Room/Site at Tier 1 and therefore requires UPS protection, replace the UPS and ensure it is monitored and managed. • The scope is likely to include providing UPS protection for on-prem telephony infrastructure, Direct Access and Microsoft SCCM, all of which are to be deprecated as part of the Technology Roadmap and the 	<ul style="list-style-type: none"> • Remove and dispose of older UPS from across COL, which are consistently a source of equipment failure (where a UPS fails, so does the equipment relying on it.) • Reduced quantities of critical on-premise infrastructure components and services will result in less UPS devices needing to be purchased and installed.

	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3 (Recommended)</i>
		new ways of working that Covid have introduced.	
Project Planning			
3. Programme and key dates	N/A	<p>From approval to start work:</p> <p>Project duration is expected to be approximately 3-6 months, dependent on resource availability.</p>	<p>From approval to start work:</p> <p>Project duration is expected to be circa. 2-4 months, given the reduced quantity of UPS devices to be installed. Estimated completion Feb 28th 2021.</p> <p>This is a simple project which COL IT have carried out before and recently.</p>
4. Risk implications	<ul style="list-style-type: none"> • High risk– • The likelihood of a power outage causing issues would remain as is, with a slightly reduced impact due to other mitigating factors, such as the Azure migration 	<ul style="list-style-type: none"> • Medium risk - • This would improve the power supply and service resilience issues in a number of key sites including Guildhall, reducing the risk. 	<ul style="list-style-type: none"> • Very Low risk • This re-scoped project would tailor the spend of funds and efforts to meet the new and changed business requirements. • The scope of the core project (UPS

	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3 (Recommended)</i>
	and more staff working remotely using laptops.	<ul style="list-style-type: none"> Funds and effort would be expended unnecessarily, providing UPS to infrastructure or comms rooms unnecessarily. 	<p>removal/replacement) is reduced, enabling faster, cheaper delivery. This is an activity we have done recently, so costs, risk and activities are well known.</p> <ul style="list-style-type: none"> The IT Division already have an existing supplier for the supply and install of UPS devices and the cost of these is below the £50k single tender threshold. Once installed, the UPS devices will be monitored remotely by the existing network support partner. The UPS removal and replacement works will take place out of hours

	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3 (Recommended)</i>
			and will follow the Change Management process to reduce risk and business impact.
5. Benefits	<ul style="list-style-type: none"> Offers potential savings if the risk above is accepted. 	<ul style="list-style-type: none"> Provides significant risk reduction and continuity of service in the event of a power supply failure. 	<ul style="list-style-type: none"> Moves COL closer to being “site-agnostic – removing the reliance on the Guildhall (even for remote connectivity networking components.) Enables COL IT to tailor any resilience, security and flexible working solutions to the current climate and for the future.
6. Disbenefits	<ul style="list-style-type: none"> The Corporation retains the use of it’s older UPS devices, which are a source of 	<ul style="list-style-type: none"> unnecessary expenditure of funds and effort in the wrong places. 	<ul style="list-style-type: none"> None

	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3 (Recommended)</i>
	<p>frequent service issues and incidents.</p> <ul style="list-style-type: none"> • Would maintain the status quo where much of the Corporation's reliance is on infrastructure is hosted within the Guildhall. 	<ul style="list-style-type: none"> • Opportunity Cost of funds not being available for better solutions that meet the direction of the IT Strategy and the Architectural Roadmap. 	
7. Stakeholders and consultees	<ul style="list-style-type: none"> • <i>Members</i> • <i>All COL staff</i> • <i>COL IT</i> 	<ul style="list-style-type: none"> • <i>Members</i> • <i>City Surveyor's Dept</i> • <i>City Procurement</i> • <i>Chamberlains Dept</i> • <i>IT Security</i> • <i>COL IT</i> 	<ul style="list-style-type: none"> • <i>Members</i> • <i>All COL staff</i> • <i>COL IT</i>
Resource Implications			
8. Total estimated cost	N/A	Circa £200k	£50k for physical asset procurement & implementation
9. Funding strategy	N/A	'In principle' funding of up to £200k was agreed via the 2020/21 annual capital	'In principle' funding of up to £200k was agreed via the 2020/21 annual capital

	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3 (Recommended)</i>
		bid process. Further approval of Resource Allocation Sub Committee will be required in order to draw down against these funds following approval of this gateway report.	bid process. Further approval of Resource Allocation Sub Committee will be required in order to draw down against these funds following approval of this gateway report.
10. Estimated capital value/return	N/A	N/A	N/A
11. Ongoing revenue implications	N/A	<p>Ongoing UPS support costs to consist of:</p> <ul style="list-style-type: none"> • Hardware maintenance from UPS vendor. • Network monitoring by incumbent network partner. <p>Expected to be <£30k pa. Quotes to be obtained for GW5.</p>	<p>Ongoing UPS support costs to consist of:</p> <ul style="list-style-type: none"> • Hardware maintenance from UPS vendor. • Network monitoring by incumbent network partner. <p>Expected to be <£15k pa to be taken from existing budgets.</p> <p>Quotes for equipment and implementation to be obtained for GW5.</p>

	<i>Option 1</i>	<i>Option 2</i>	<i>Option (Recommended)</i> 3
12. Investment appraisal	N/A	None	None
13. Affordability	N/A	Funds for this scheme are included within the capital programme.	Funds for this scheme are included within the capital programme.
14. Procurement strategy/Route to Market	N/A	These services will be subject to a call off arrangement via a compliant framework agreement.	This procurement falls under the 'Operational Purchasing' threshold, allowing departmental officers the option to run their own quote exercises from £10,000 to £50,000. An approved Procurement Authorisation Report (PAR) will be provided to City Procurement to process the purchase order.
15. Legal implications	<i>None</i>	None	None.
16. Corporate property implications	<i>None</i>	This approach supports greater resilience for critical services but	This scheme supports further remote and agile working and reduces

	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3</i> <i>(Recommended)</i>
		requires access to physical assets located within the Guildhall complex.	reliance on the routing of IT networking and applications hosting from the Guildhall complex. Thus, allowing for future re-purposing of the current estate.
17. Traffic implications	<i>None</i>	None	None
18. Sustainability and energy implications	<i>None</i>	None	The old, removed devices will be disposed of using the existing WEEE disposal contract.
19. IS implications	<ul style="list-style-type: none"> • Outages caused by power supply issues or issues with the older UPS devices will lead in turn to continued IT Incidents. • If an IT incident prevents access to a Critical Application or Service, then a P1 incident occurs. 	<ul style="list-style-type: none"> • Two key factors would significantly reduce the likelihood or impact of an IT issue with power supply or an old, faulty UPS: • The activities to move core, critical technology components outside Guildhall. 	<ul style="list-style-type: none"> • Two key factors would significantly reduce the likelihood or impact of an IT issue with power supply or an old, faulty UPS: • The activities to move core, critical technology components outside Guildhall.

	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3 (Recommended)</i>
	<ul style="list-style-type: none"> Due to the close relationship between availability, continuity and security, this could also include a security incident. 	<ul style="list-style-type: none"> The removal or <i>replacement</i> of older, faulty UPS devices outlined in this option. Plus the addition of new UPS where previously none were in place. 	<ul style="list-style-type: none"> The removal of older, faulty UPS devices outlined in this option. Plus the addition of new UPS where previously none were in place.
20. Equality Impact Assessment	<ul style="list-style-type: none"> An equality impact assessment will not be undertaken 	<ul style="list-style-type: none"> An equality impact assessment will not be undertaken 	<ul style="list-style-type: none"> An equality impact assessment will not be undertaken
21. Data Protection Impact Assessment	<ul style="list-style-type: none"> The risk to personal data is non-applicable and a data protection impact assessment will not be undertaken 	<ul style="list-style-type: none"> The risk to personal data is non-applicable and a data protection impact assessment will not be undertaken 	<ul style="list-style-type: none"> The risk to personal data is non-applicable and a data protection impact assessment will not be undertaken
22. Recommendation	Not recommended	Not recommended	Recommended