

**Decision Maker:** Executive

**Date:** 30<sup>th</sup> November 2022

**Decision Type:** Non-Urgent Non-Executive Non-Key

**Title:** IT TRANSFORMATION (DATA CENTRE MOVE TO CLOUD)

**Contact Officer:** Tel: 0208 313 4461 E-mail: vinit.shukle@bromley.gov.uk

**Chief Officer:** Tasnim Shawkat, Director of Corporate Services and Governance

**Ward:** All

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## **1. Reason for decision/report and options**

- 1.1. This report sets out options and recommendations for the Executive to consider on the future of the Council's Data Centre and Disaster Recovery.
  - 1.2. The report has appraised the various technical options as part of the analysis process and has included the recommended option, risks, benefits and the required changes that are needed to ensure that the Council provides an adequate disaster recovery capability.
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## **1. RECOMMENDATIONS**

**The Executive is asked to:**

- 1.1 **Note the information and agree to the procurement of the Microsoft's Cloud (Azure) as the Council's Data Center with disaster recovery and increased resilience of the Data Centre for 5 years.**
- 1.2 **The Executive is requested to approve an increase in the IT Services revenue budget of £400k to ensure Microsoft Cloud (Azure), Disaster Recovery and Cyber Security functions required are procured and available for the Council. This additional revenue budget requirement represents a forward commitment as part of the 2023/24 and future years budget. There will be part-year costs expected of c. £100k in 2022/23 which will need to be managed from within the existing approved IT Services revenue budget.**
- 1.3 **Agree to the use of the current IT service provider, BT, through the mechanism of the Westminster City Council Pan-London ICT Framework to procure the services detailed in the report. Where in the opinion of the Director of Corporate Services and Governance a separate procurement is required or desirable, agree to delegate authority to this Director in consultation with the Portfolio Holder, to authorise the use of an alternative procurement route in order to proceed to procurement and award the contract.**

## Impact on Vulnerable Adults and Children

1. Summary of Impact: Not Applicable
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## Transformation Policy

1. Policy Status: Existing Policy
  2. Making Bromley Even Better Priority -  
(5) To manage our resources well, providing value for money, and efficient and effective services for Bromley's residents.
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## Financial

1. Cost of proposal: Estimated Cost: £727k one-off costs
  2. Ongoing costs: Recurring Cost: £400k per annum
  3. Budget head/performance centre: Information Management
  4. Total current budget for this head: £
  5. Source of funding:
- 

## Personnel

1. Number of staff (current and additional): 0
  2. If from existing staff resources, number of staff hours: 0
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## Legal

1. Legal Requirement: Non-statutory
  2. Call-in: Applicable
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## Procurement

1. Summary of Procurement Implications: See section 7
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## Property

1. Summary of Property Implications: Not Applicable
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## Carbon Reduction and Social Value

1. Summary of Carbon Reduction/Sustainability Implications: Not Applicable
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## Customer Impact

1. Estimated number of users or customers (current and projected): Borough-wide
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## Ward Councillor Views

1. Have Ward Councillors been asked for comments? No
2. Summary of Ward Councillors comments: Not Applicable

### 3. COMMENTARY

- 3.1 The Executive agreed as part of the IT Transformation report in November 2018 Report no – CSD18176 the cloud or 3rd party cloud solution, as needed for Disaster Recovery (DR) and for Business Continuity (BC).
- 3.2 This report sets out the options and costs of the Disaster Recovery (DR) for the Council. The London Borough of Bromley, like all Councils, has become totally reliant on stable, robust & secure communications and technology platforms (infrastructure) to deliver service to their citizens and support staff.
- 3.3 The Council currently has a single Data Centre that is housed in Civic Centre with backups being made off site.
- 3.4 The Council's single Data Centre hosts servers and infrastructure that support business critical applications for public facing services but has no secondary site to support a recovery process from a major incident in a disaster recovery.
- 3.5 The Council requires a new data center platform that can provide Disaster Recovery (DR) for business-critical services but also address some of the End of Support hardware and software challenges around its current on-premise Civic Centre Data Centre. There is also a strong demand for applications delivered via cloud platforms from several of its outsourced service providers.
- 3.6 With the Councils reliance on technology throughout the pandemic and its increased need to allow staff to work flexibly, it has become even more critical to provide resilient, stable, robust and secure access to Council provisioned applications and IT services.
- 3.7 Although the Council has taken steps to move a significant amount of medium and high priority IT infrastructure and applications to the Cloud, a number still have a single occupancy in the Civic Centre. The gradual move to the "cloud" has provided the Council with a much-needed Disaster Recovery (DR) and Business Continuity (BC) option for many of its most critical applications but action is still needed on the remainder of applications that reside in the Civic Centre Data Centre (DC).
- 3.8 The Council's reduction in applications now running within its own on-premise Data Center makes the viability of purchasing on-site infrastructure to support a diminishing number of applications less viable than offering services via the likes of Microsoft Azure or Amazon cloud.
- 3.9 To provide improved resilience IT, DR, BC and Information security, the officers have reviewed below challenges to investigate options as outlined elsewhere in the report:
- Provide an off-the-shelf solution for a Disaster Recovery Data Centre, network connectivity and client capability to connect anywhere to services (via the internet) during a critical disaster recovery outage event
  - A Data Centre transformation must follow the Councils ambitions and provide flexibility to move the workforce to new premises, providing a Fastrack option to move applications and services away from a single fixed data center location to a flexible architecture
  - Creation of a formalised DR testing and recovery process
  - Reduce the requirement for Data Centre Hardware and Software upgrade Capital expenditure projects

- Move the Council to a subscription-based model where costs could reduce if services are not being utilised (Elastic Cloud where services can be powered down over night)
- Allows Council service teams to access cloud services and the wider Cloud marketplace

## 4. OPTIONS APPRAISAL

4.1 The officers through internal review and external advisory services including Gartner and has evaluated industry standard options to address the lack of a disaster recovery facility; a final report identified each solution option, a blueprint design, benefits and risks and indicative costs, a summary of this report is included within Appendix A.

4.2 Officers have investigated the following areas for Disaster Recovery Strategy:

### 4.2.1 Option 1 - Do nothing

Leave a single Data Centre infrastructure with no Disaster Recovery capability, continue with regular capital investment for like for like upgrades.

#### Pros

- No disruption to current service, continue to utilise proven on-premise infrastructure

#### Cons

- If a failure on a business-critical application occurred in a DR event this could lead to services failing within the Council, with a potentially direct impact to public services (financial, fines, risk to lives, damages etc.)
- Application vendors will phase out support on the products currently deployed within the Councils IT estate, if the underlying infrastructure is not compliant (note: several vendors are now requesting Azure services to run their software – example Capita One Education System).
- The council would be required to replace the old equipment with new equipment when EoL support lifecycle is due.
- If the Council continues to upgrade 'on premise' services, additional costs will be incurred in keeping each service up to date

### 4.2.2 Option 2 - Migrate all critical services to Cloud

Establishes a Disaster Recovery (DR) capability as part of the shift to Cloud service model (Recommended option).

#### Pros

- Provides DR capability for the Council's business-critical applications currently hosted from the on-premise DC using Microsoft Azure Infrastructure as a Service (IaaS)
- Supports the Council's ambition around the Civic Centre move strategy, enabling improved working practices – enhanced mobile and smart working
- Adopt a proven Cloud platform utilised by other London Borough Council's
- Helps support business application upgrades and new requirements in terms of capability and flexibility in relation to supporting specific requirements from the application vendors
- Increased Citizen satisfaction when accessing the Councils digital services
- Support Digital by Choice strategy by improving platforms offered to Citizens – improved uptime and access
- Reduce system outages by not relying on current ageing Electrical Infrastructure within the Civic Centre.

#### Cons

- Need to ensure the Bromley platforms in Azure are tightly managed for it to be cost effective, over committed resources will increase subscription charges

### 4.2.3 Option 3 – Build a second Data Centre for Disaster Recovery

Utilises a secondary third-party co-location Data Centre together with communications network, rack space and compute capacity to provide failover options for the Councils Civic Centre DC.

This option will require upgrades to the End-of-Life Civic Centre Data Centre components which would run alongside the build of a secondary site.

#### Pros

- Gives the Council greater control of their IT estate

#### Cons

- Higher overall cost than transition to cloud option
- No roadmap to the Cloud to support outsourced service partners
- Dependency on Bromley facilities to continue to manage the existing Civic Centre Data Centre e.g. diesel generator, power, air conditioning
- New equipment lead times – Cisco and Hyperscale hardware vendors due to worldwide supply constraints will have extended delivery timelines for hardware supply
- Increased level of network connectivity required to support this solution

### 4.2.4 Option 4 – Hybrid Cloud Service Model

As per option 3 this design will require a secondary third-party colocation Data Centre but will also build the interfaces into cloud services to provide a gradual migration to Cloud.

This option will mirror option 3 but will provide a roadmap to Cloud over a longer period

If the Council had the extended funds to build additional infrastructure to support DR in the short term, with the view to a phased application migration to Cloud over a longer period, this would be the preferred approach.

Following budgetary cost analysis of this solution this would require the largest spend from a Capital and OpEx perspective.

#### Pros

- Gives the Council greater control of their IT estate

#### Cons

- Higher overall cost than Options 2 or 3
- Provides longer term roadmap to the Cloud
- Dependency on Bromley facilities to continue to manage the existing Civic Centre Data Centre e.g. diesel generator, power, air conditioning
- New equipment lead times – Cisco and Hyperscale hardware vendors due to worldwide supply constraints will have extended delivery timelines for hardware supply
- Increased level of network connectivity required to support this solution

- 4.3 Following the review of all options available, It is recommended that the Council should adopt Microsoft Azure Cloud - Platform as a Service to transform from the existing Data Centre solution; this offers the flexibility of moving applications to the cloud and reduces the impact on key services in the event of a disaster. The programme would target Business Critical Systems as the first candidates to move to the cloud (as the core deliverables), and ensure DR is enabled in the Cloud as part of the move.
- 4.4 Adoption of a “cloud first” strategy offers the scope for the business critical applications to flex up or down dependent on the Council’s needs. This provides the Council with financial management options around internal charging controls for application infrastructure and potential to power down services when applications are not being used.
- 4.5 The transition to cloud will support a fast-track option for the Councils office move plans by transferring services directly to Azure allowing access via Bromley’s existing BT IP Clear wide area network or via Internet based Cloud Connect services (VPN tunnelling).
- 4.6 The Council will utilise a multi-layered security model provided by Microsoft, across its physical datacenters, infrastructure, and operations in Azure. The cloud offering the Council will use is built with customized hardware, has security controls integrated into the hardware and has added protection against threats such as Distributed Denial of Service (DDoS). The infrastructure is supported by over 3,500 global cybersecurity experts that work together to help safeguard business assets and data in Azure.

## 5 TRANSFORMATION/POLICY IMPLICATIONS

- 5.1 This report supports “Making Bromley even Better” and BBB which invest in technology to enable greater flexible working.

## 6. FINANCIAL IMPLICATIONS

- 6.1 Executive approved as part of the IT Transformation report in November 2018 (report no – CSD18176), £795k for the cloud or 3rd party cloud solution, as needed for Disaster Recovery (DR) and for Business Continuity (BC). The Financial system has since moved from on-premise to Oracle Fusion at a cost of £68k, funded from this £795k allocation. This means that there is a remaining budget of £727k for the DR and BC which will be allocated to the transformation work that needs to be carried out to ensure that the Council is running a supported IT infrastructure with DR.
- 6.2 The table below summarizes the one-off capital costs and revenue, and the funding sources, over the next five years: -

<b>Estimated Costs</b>	<b>Capital</b>	<b><u>2022/</u> <u>23</u></b>	<b><u>2023/</u> <u>24</u></b>	<b><u>2024/</u> <u>25</u></b>	<b><u>2025/</u> <u>26</u></b>	<b><u>2026/</u> <u>27</u></b>
	<b><u>£'000</u></b>	<b><u>£'000</u></b>	<b><u>£'000</u></b>	<b><u>£'000</u></b>	<b><u>£'000</u></b>	<b><u>£'000</u></b>

Data Centre Transformation – once-off costs	465					
Resources to deliver the Project	262	0	0	0	0	0
On-going revenue costs		100	400	400	400	400
<b>TOTAL COSTS</b>	<b>727</b>	<b>100</b>	<b>400</b>	<b>400</b>	<b>400</b>	<b>400</b>
<b>Funded by:</b>						
<i>IT Transformation fund</i>	727					
<i>22/23 IT Revenue budget</i>		100				
<i>Revenue budget growth</i>			400	400	400	400
<b>TOTAL FUNDING</b>	<b>727</b>	<b>100</b>	<b>400</b>	<b>400</b>	<b>400</b>	<b>400</b>

6.3 There will be on-going revenue costs of £400k per annum, which will rise with inflation over time. The expected part-year cost that will be incurred in 2022/23 is £100k; this cost will need to be contained within the existing approved IT revenue budget. The recurring £400k per annum revenue cost would represent growth and an additional budget would need to be allocated and included in the financial forecast from 2023/24 onwards.

## 7. PROCUREMENT IMPLICATIONS

- 7.1 This report seeks to vary the Council's contract with BT to include additional data centre costs as outlined in this report, at a total value of £400k p.a. revenue costs.
- 7.2 The variation stated above can be completed in compliance with Regulation 72 of the Public Contracts Regulations 2015.
- 7.3 The Council's requirements for authorising a variation are covered in CPR 23.7 and 13.1. For a contract of this value, the Approval of the Portfolio Holder following Agreement by the Chief Officer, the Assistant Director Governance & Contracts, the Director of Corporate Services and Governance, the Director of Finance must be obtained. In accordance with CPR 2.1.2, Officers must take all necessary professional advice.
- 7.4 Following Approval, the variation must be applied via a suitable Change Control Notice, or similar, agreed with the Provider.
- 7.5 Further, this report indicates that, should a variation provide unsuitable, the requirement may be procured through an exemption from competitive tendering, or another suitable procurement route, and that this approval be delegated to the Chief Officer in Agreement with the Portfolio Holder.
- 7.6 The actions identified in this report are provided for within the Council's Contract Procedure Rules, and the proposed actions can be completed in compliance with their content.

## 8. LEGAL IMPLICATIONS

- 8.1 This report requests the Executive to approve an increase in the IT Services revenue budget of £400k p.a. to provide a Cloud based disaster recovery and cyber security function to the Council. It is recommended this is done by way of a variation to the existing BT contract. If this is not the most suitable option, then Members are asked to delegate authority to the Director of Corporate Services and Governance in consultation with the Portfolio Holder to proceed to procurement and award under another procurement route. This matter comes before the Executive as the value is in excess of £1,000,000.
- 8.2 Although there is no statutory requirement for the Council to provide this DR and security service, the Council has both an implied and a specific power under section 111 of the Local Government Act.1972 to do anything (whether or not involving the expenditure, borrowing or lending of money or the acquisition or disposal of any property or rights) which is calculated to facilitate, or is conducive or incidental to, the discharge of any of their functions.
- 8.3 The purchase of these services is a public contract within the meaning of the Public Contracts Regulations 2015. Regulation 72 permits contracts to be modified without a new procurement procedure where all of the following conditions are fulfilled: — (i) the need for modification has been brought about by circumstances which a diligent contracting authority could not have foreseen; (ii) the modification does not alter the overall nature of the contract; (iii) any increase in price does not exceed 50% of the value of the original contract. As all of these conditions exist in this instance then a contract variation can be made in accord with this Regulation. Such a variation must accord with the CPR's as is detailed in the Procurement comments. Should this route be followed then the appropriate change control documentation must be put in place.

<b>Non-Applicable Headings:</b>	Impact on Children and Vulnerable Adults/Personnel/ Property/Carbon Reduction & Social Value/Customer Impact/Ward Councillors
Background Documents: (Access via Contact Officer)	

## 9. APPENDIX

### 9.1 Data Centre Transformation Consultancy Exec Summary