Data Centre Transformation Business Case

London Borough of Bromley

17 November 2022

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Agenda

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Problem Statement Questions

"Is the current IT infrastructure and process able to support a Disaster Recovery incident?"

"Has the Council built a capability to deploy Cloud applications?"

"Has the Council an End of Life timeline for the current data centre equipment?"

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Exec Summary

Challenge

The Council is looking for a new platform that can provide Disaster Recovery for business critical services but also addresses some of the challenges around its current on premise data centre.

There is also a strong demand for applications delivered via cloud platforms..

Solution

BT as part of a Digital Consulting engagement has provided business analysis, blueprint options and costed business cases to guide the council in providing the best fit solution for the key problem statements.

BT is recommending the Council follows its IT strategy and moves all on premise services to the Cloud.

Benefits

Cloud will provide a robust offsite cloud platform with built-in DR resilience.

Offers the capability to build out new platforms, flex up or down existing IT platforms and retire legacy infrastructure using a third-party cloud platform.

Reduce the need for the Council to continually refresh their on-premise DC environment at each hardware and software renewal lifecycle.

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Commentary

With the reliance on technology through the pandemic and the need to allow staff to work flexibly, the Council needs to provide stable, robust and secure access to Council provisioned applications and IT services.

Although the Council has taken steps to move a significant amount of 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).

Rationale to transform the Councils on-premise DC;

➢ No Disaster Recovery Data Centre, network or equipment to support a critical outage event

➢ No formalised DR testing and recovery process

➢ Reduce the requirement for Data Centre Hardware and Software upgrade projects

➢ Move the Council into Opex 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

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Industry Analysis

Cloud solutions provide flexibility, resilience, the ability for increased collaboration that will ultimately help central and local government fulfil their digital transformation goals. With Cloud First being a Bromley Council's IT Strategy principle and a long standing central government strategic position (since 2013); this reduces reliance on on-premise hardware, enables remote working, acts as a single source for maintenance and updates platforms automatically.

The Welsh Government have successfully migrated their technology to the cloud and the Office for National Statistics (ONS) have overcome barriers to cloud migration, taken steps to change the workplace culture, and further engage with its workforce. The ONS has a target of having 80% of its infrastructure in the cloud by 2023.

With Central Government gradually moving to Cloud, London Borough's are also transitioning from Private Compute or On premise environments to Microsoft Azure recent examples of customers making this transition on the BT Westminster framework;

- ❑ Westminster
- ❑ Hammersmith and Fulham
- ❑ Merton
- ❑ Ealing

"29 out of the 32 London Boroughs are using Azure Services and of these 19 have or are in the process of migrating significantly to Azure"

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LONDON BOROUGH
LIBERTY

London Borough of Barking & Dagenham
lbbd.gov.uk

Haringey LONDON

h&f hammersmith & fulham

City of Westminster

Blueprint Options

1. Do nothing - Leave infrastructure as is and upgrade if equipment becomes EoL

Keeping services running from a single 'on premise' Data Centre; note this will not establish a Disaster Recovery or Business Continuity capability within the Council for its business critical systems. It merely replaces the old equipment with new equipment.

If the Council continues to upgrade 'on premise' services, additional costs will be incurred in keeping each service up-to-date, no evergreen option (Evergreen IT refers to running services comprised of components that are always updated by a third party vendor).

This will not follow the Strategic Principle of the LB Bromley's IT Strategy – "Cloud First".

2.   Migrate all critical services to Cloud – Infrastructure as a Service – BT RECOMMENDED

This option moves all critical services to a third party cloud platform.

Establishes a Disaster Recovery (DR) capability as part of the cloud service for the Councils business critical systems.

3.   Upgrade 'on premise' equipment and select a Co-location data centre for secondary recovery site

Upgrade End of Life Civic Centre Data Centre components

Utilise a local secondary colocation data centre , provides a communications network to secondary DC, provides rack space and compute capacity to provide failover options for the Councils Stockwell DC.

4. Upgrade 'on premise' equipment and select a Co-location but also define roadmap to the Cloud (Hybrid)

As per option 3 keep Civic Centre DC and utilise a secondary DC at a co location site.

Adopt a Hybrid Cloud in a managed and staged approach whereby legacy 'on premise' applications are moved to provide resilience and Business Continuity only if it reduces overhead and management costs, and maintains the uptime, performance and accessibility for each application

Data Centre Transformation Options Benefits/Risks

No	Option / Description	Considerations / Risks	Benefits
1	**Do Nothing** ❑ Leave the current data centre in place and upgrade any End of Life (EoL) components as required	Doesn't satisfy problem statement items. Risk remains on the councils central risk register around the lack of IT Disaster Recovery solution	This option has no tangible benefits to the Council apart from overall cost saving .
2	**Migrate all critical services to Cloud** ❑ Establishes a Disaster Recovery (DR) capability as part of the cloud service introduced for its business critical systems.	This option moves all critical services to a third party cloud platform with built in Disaster Recovery as part of the service.	As the Council has already seen with Microsoft Office 365, cloud delivers an evergreen IT principle. Removes the need for expensive on premise migrations and upgrades for hardware.
3	**Upgrade 'on premise' equipment and select a Co-location data centre for secondary recovery site** ❑ Utilise a local secondary third party colocation data centre to provide failover options for the Councils Civic Centre DC.	Provides disaster recovery platform required to maintain service in the event of a major incident. Will require additional spend to maintain secondary site and IT infrastructure	Council will continue to have ownership and full management control around its IT infrastructure
4	**Upgrade 'on premise' equipment and select a Co-location but also define roadmap to the Cloud (Hybrid)** ❑ keep Civic Centre DC and utilise a secondary DC at a co location site. ❑ Adopt a Hybrid Cloud in a managed and staged approach	Provides flexibility to offer services on premise (keeps security and application management controls within the Council). Offers roadmap to the Cloud.	Presents a gradual transition to the Cloud. Allows the Council to address the need for Disaster Recovery as well as offering services in the Cloud

Our recommendation
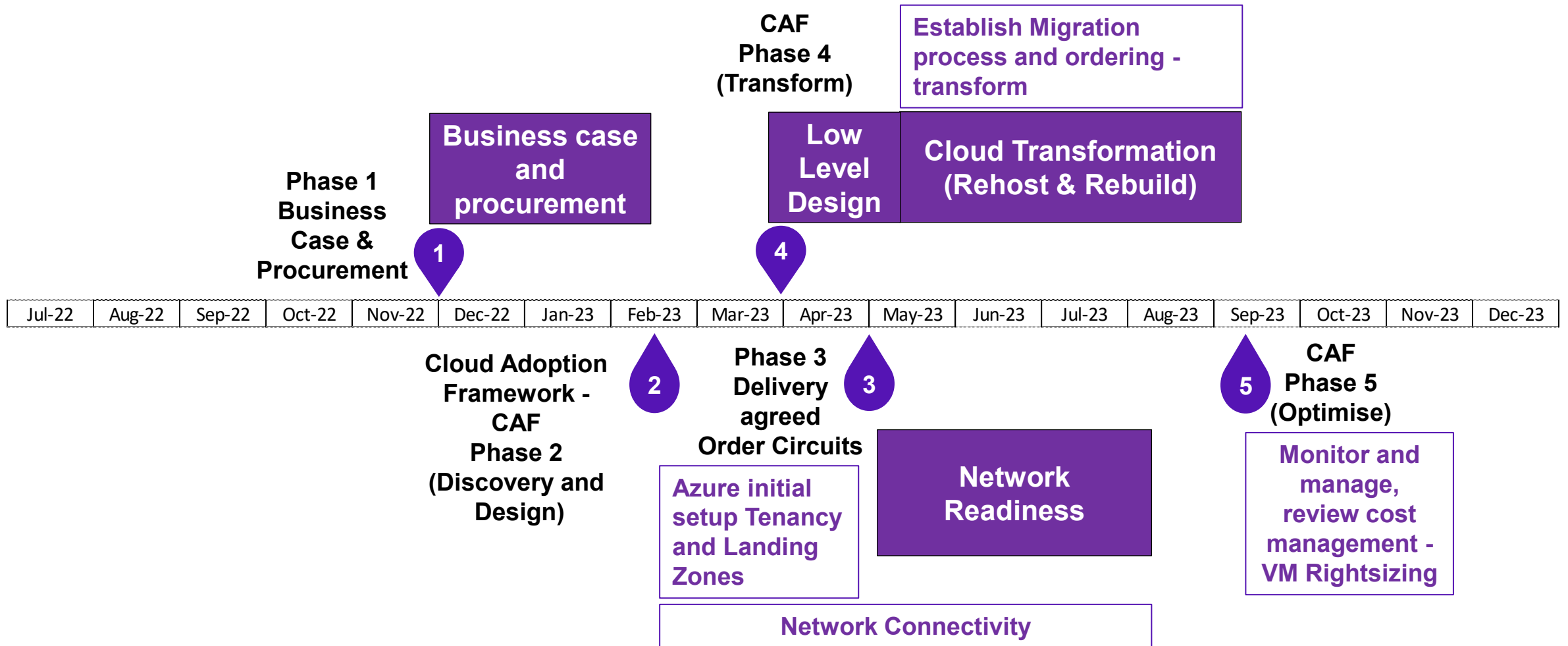
Option 2 – Migrate all critical services to the Cloud...

Benefits;

- ❑ Maintaining services to the public during a disaster recovery event

- ❑ New Technology refresh for EoL products

- ❑ Service availability , allows Council to relocate staff and offices with minimal disruption to IT services

- ❑ Cost efficiencies – reduced on premise platforms, lower footprint and power savings

- ❑ Ability to on board applications rapidly

- ❑ Design in new and cost effective ways of adopting new technology

- ❑ Future proofing for sustainability

- ❑ Increased data centre reporting and insights

Risk and Impact of doing nothing;

- ❑ Damage to reputation; example recent Hackney Cyber attack

- ❑ Loss of services to citizens of Bromley

- ❑ Legal regulatory requirement to have a robust disaster recovery (Civil Contingencies Act 2004)

- ❑ Cost of not being DR compliant – penalties and fines

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Implementation Roadmap to the Cloud – timeline

CAF
Phase 4
(Transform)

Establish Migration
process and ordering -
transform

Business case
and
procurement

Low
Level
Design

Cloud Transformation
(Rehost & Rebuild)

Phase 1
Business
Case &
Procurement

1

4

| Jul-22 | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 | Jul-23 | Aug-23 | Sep-23 | Oct-23 | Nov-23 | Dec-23 |

Cloud Adoption
Framework -
CAF
Phase 2
(Discovery and
Design)

2

Phase 3
Delivery
agreed
Order Circuits

3

5

CAF
Phase 5
(Optimise)

Azure initial
setup Tenancy
and Landing
Zones

Network
Readiness

Monitor and
manage,
review cost
management -
VM Rightsizing

Network Connectivity

Cost Analysis

London Borough of Bromley DC Transformation Cost Analysis

Summary RoM Pricing Sheet

	Capital / one-off	Year 1	Year 2	Year 3	Year 4	Year 5	Total / Op-Ex	Total Cap Ex/Op Ex
	Price (Ex VAT)	Price (Ex VAT)	Price (Ex VAT)	Price (Ex VAT)	Price (Ex VAT)	Price (Ex VAT)	Price (Ex VAT)	Price (Ex VAT)
Option 1 - Do nothing - Remain As-Is for next 5 Years (On Prem DC running and upgrade costs)	£798,799.83	£136,767.60	£136,767.60	£136,767.60	£136,767.60	£136,767.60	£683,838.00	£1,482,637.83
Option 2 - Migrate to a cloud services model	£461,444.64	£394,651.48	£397,651.48	£397,651.48	£397,651.48	£397,651.48	£1,985,257.39	£2,446,702.03
Option 3 - Single colocation data centre	£859,365.21	£490,240.62	£492,772.22	£495,405.09	£498,143.27	£500,990.99	£2,477,552.19	£3,336,917.40
Option 4 - Hybrid cloud service model	£895,948.14	£635,241.18	£640,304.39	£645,570.12	£651,046.49	£656,741.91	£3,228,904.08	£4,124,852.23

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Next Steps

❑ Gain Council approval to proceed with migration to the Cloud

❑ A further low level assessment and design should be delivered to define detailed architecture with interdependencies

❑ Applications that have to been marked as "retained on-premise" should be reviewed with each application owner (Council Head of Service) and agree a plan that will move them to either Software as a Service or Microsoft Azure.

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