DERBSYHIRE COUNTY COUNCIL

CABINET

19 November 2020

**Report of the Executive Director for
Commissioning, Communities and Policy**

**ICT SERVICE DATA CENTRE HARDWARE REPLACEMENT AND SAP
PLATFORM**
(CORPORATE SERVICES)

1 Purpose of the Report

To ask members to approve the replacement storage and compute hardware within the two county council data centres (County Hall and Shand House) to enable the retirement of current hardware, and to facilitate the current SAP HANA upgrade. These procurements were identified in the CCP Service Plan 2017-2021 Update (July 2020). The upcoming Data Centre storage and compute Infrastructure at £1,500,000 and SAP Project hardware allocated £2,000,000.

2 Information & Analysis

Current Situation

On 23 April 2020 Cabinet approved the upgrade of the SAP software to the latest version SAP HANA. As indicated in that report work has since been undertaken to establish the ICT hardware requirements to support this significant implementation and manage the rest of the Council's needs.

The current solution is hosted in the Council's data centre and has proven to be highly resilient, providing high, robust availability of services and has enabled the Council to flexibly grow the solution and components. This has proven particularly important during the significant changes to the way employees have worked during the current pandemic.

The last major storage and compute technology refresh in the data centre was in 2014 and in the intervening period additional hardware and solutions have been added to address increases in utilisation and capacity. Since 2014 the ICT Service has continued to review its service offerings and has utilised cloud technologies to enhance the services where appropriate. The most significant example of this flexible approach has been the adoption of

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Microsoft 365 solutions and hybrid-cloud delivery services which are being utilised as a key enabler to transformation within the Council and have been utilised to great effect during the Covid-19 pandemic. It is envisaged that this move to the cloud will continue over the next 5 years, with each application or workload being assessed for its ability to efficiently function within the public cloud, based on technical and procurement assessment. However, the current legacy applications need to be hosted in a secure, reliable and cost-effective environment.

As part of assessing the requirements for the new SAP HANA infrastructure a soft market testing exercise was undertaken and the following options and conclusions arrived at:

Options

Option 1 - Do Nothing
Doing nothing would put the council at risk of hardware failure and resulting in most ICT services being inaccessible whilst alternative hardware was procured.

Option 2 - Extend the current solutions support
Extension of the current hardware contract would extend the life by up to 24 months and cost an estimated £370,000.

Equipment asset sweating in the Councils data centres has resulted in parts of the infrastructure being in excess of 7 years old; the further extended use of these components increases the risk of failure and the most significant ICT services being inaccessible.

The SAP HANA Project infrastructure would need to be located in the Microsoft Azure public cloud environment, which would generate an estimated annual cost of over £300,000, this is a revenue expenditure and subject to any increase in future base charges by Microsoft.

At the end of the period alternative hardware may need to be procured which would also represent a potential significant cost.

Option 3 - Microsoft Azure (Infrastructure as a Service)
Moving all services to the public cloud, often referred to as a lift and shift approach to cloud migration, would represent a high-risk project with a very short timeline, and potentially put at risk ICT Service stability, currently in excess of 99.75%. Engagements with Microsoft on a cloud readiness assessment have highlight the significance of such a project, and it would likely take several years to do in a risk-free manner.

If a lift and shift approach was adopted then the estimated cost of a running the current ICT footprint and the new SAP HANA in the cloud would be around

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£800,000, equating to £4,000,000 over a 5-year period. Again, this is a revenue expenditure and subject to any increase in base charges by Microsoft

Option 4 – Hardware replacement of the current solution based in the Council's Data Centres
Replacement hardware could be procured and implemented, which could reasonably be expected to be the last major data centre storage and compute hardware implemented by Derbyshire County Council. It would be expected that the hardware would last for around 5 years.

The expected cost for the two projects combined based on the Soft Market responses in April 2020 is the region of £2,000,000 for an initial five-year period. A further increase in the capacity of the backup solution would be required at an estimated cost of £100,000

This would be the preferred option as it would enable a controlled move to the cloud, over a five year period, and will be undertaken with each workload being assessed based on procurement lifecycles, cost and other success criteria to migrate to the cloud in a controlled and successful manner.

This option allows the Council to manage the significant move from a capital cost model to a revenue cost model over the medium term instead of taking a sudden increase in revenue costs at a time when budgets are already under severe pressure.

Due to the challenging procurement timeline and other external factors such as Covid19 and Brexit, it is reasonable to expect some delays to the implementation. For example, earlier in the year COVID19 had an adverse effect on the supply chain leading to longer delivery times for ICT hardware and equipment. Staff availability may become an issue if there are enforced periods of isolation and/or absences due to COVID19. An additional contingency has been included within the budget to fund the costs associated with any delays should this be experienced.

Other Considerations

Initial SAP proof of concept
In addition to the main hardware implementation there is a business requirement to undertake the build of full pre-prod proof of concept for the SAP HANA upgrade. The indicative cost for the SAP Project proof of concept to be created by Microsoft is estimated at £27,000 per month on a one-year reservation, until a Pre-Production solution can be created from new infrastructure implemented within the Council Data Centres. This funding will be drawn from the Change Management Reserve.

3

Project time dependencies

In order to meet the SAP HANA project timeline and the successful retirement of the current data centre hardware by 30 September 2021 it is imperative the formal procurement starts in November 2021, leading to an expected implementation date of early July 2021. These timeframes are assuming no project delays caused by external factors, such as Covid19 or Brexit.

Estimated additional costs resulting from a delay
Should there be any delays due to the reasons detailed above, there will costs incurred for several services. Based on a delay of 2-3 months, these would be as follows:

- Additional funding for Microsoft Azure services in order to build temporary development and quality assurance (QA) services for the SAP HANA project. Delays to the SAP programme will incur cost for the SAP Solution Implementor to extend the implementation programme.

- Maintenance and support for some aspects of the current hardware environment would need to be continued along with licencing.

A summary of the costs for a 2-3 months delay are as follows:

Requirements	Estimated cost
Additional Microsoft Azure build and licensing	£90,000
Solution implementor costs (3 weeks)	£50,000
Maintenance and support extensions	£60,000
Total	£200,000

A longer delay to the solution implementation would require hardware support and licensing for the current data centre hardware to be renewed for a further 12 months. This is estimated to be an additional £175,000.

3   Financial Considerations

In July 2018 Cabinet agreed capital investment of up to £2m per year (£10m over 5 years) to be built into the annual capital programme to support ICT hardware replacement. To support the proposed upgrade of the Council's SAP solution a number of key hardware, compute and storage components needed to be replaced in the Council's data centre.

The timing of the SAP upgrade has meant that a number of other data centre hardware components that have become or are nearing end of life have been held back and a number brought forward to enable rationalisation and alignment with the SAP project. The ICT Service requirement for capital borrowing in 2021/22 includes the figure of £2.1m for the hardware components to support infrastructure upgrades.

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Any delay in the procurement or supply of hardware because of other external impacts will have an adverse impact on the SAP upgrade and existing hardware components and support contracts. A contingency of £375,000 has been included within the project as outlined in the report. It is recommended that funds are earmarked within the Change Management Reserve for this purpose

The SAP proof of concept project is a requirement of the business in order that they can begin work in preparation for the new solution. The proof of concept can be built in a Microsoft Azure and is anticipated to cost £325,000 for a 12-month period. It is recommended that funds are earmarked within the Change Management Reserve for this purpose.

The proposal is that a procurement is undertaken via Crown Commercial Services framework Technology Products & Associated Services RM6068 Lot 1 Hardware & Software & Associated Services to replace the Storage and Compute infrastructure and provide a platform for SAP HANA.

A business case to support the use of the CCS framework has been approved by the Director of Finance and ICT and Director of Legal Services in accordance with protocol 2a of the County Councils financial regulations.

The award of the contract is a matter which is delegated to the Executive Director of Commissioning, Communities and Policy under protocol 2b of Financial Regulations.

Call off under the CCS framework will be by way of mini competition.

4   Legal Considerations

The Director of Legal Services is satisfied that on the basis of information set out in the report it is appropriate to use the CCS framework for the procurement of a replacement Storage and Compute infrastructure and provision of a platform for SAP HANA.

The use of the CCS framework is in accordance with the County Councils financial regulations.

5   Other Considerations

In preparing this report the relevance of the following factors have been considered: human rights, equality of opportunity, health, environmental, transport, property, crime and disorder and social value considerations.

6 Background Papers

Information held by Director of Finance and ICT in relation to the replacement of the Storage and Compute infrastructure and provision of a platform for SAP HANA.

7 Key Decision

Yes

8 Call-In

Is it necessary to waive call in, in respect of decisions contained in this report?

No

9 Officer's Recommendations

That Cabinet approves

9.1 That Option 4 as set out in the report is approved, and replacement hardware is purchased with a 5-year plan to move in a controlled and planned way to the cloud.

9.2 A procurement is undertaken via Crown Commercial Services framework Technology Products & Associated Services RM6068 Lot 1 Hardware & Software & Associated Services.

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