

Executive Member	Councillor Lynne Brooks
Strategic Management Team Lead Officer	Richard Burrows
Author	Bob Thomas
Telephone	01306 897171
Email	bob.thomas@molevalley.gov.uk
Date	29 th September 2015

Ward (s) affected	None specifically	Key Decision	Yes
--------------------------	-------------------	---------------------	-----

Subject	Migrating the ICT systems to the Surrey County Council Shared Data Centre
----------------	---

RECOMMENDATIONS

The Executive is recommended to adopt Option 2 to migrate the ICT application workload to the Shared Surrey Data Centre in order to deliver savings and to secure improved resilience of service availability and future opportunities in service delivery.

EXECUTIVE SUMMARY

The ICT Strategy identifies as an action “Migrate storage and appropriate Infrastructure into the Shared Surrey Data Centre in order to increase resilience, reduce office space demand and maximise future partnership working opportunity”. This report sets out the options, associated savings and additional costs of doing this. Option 2 offers greater value, than the other options, over the forecast cost of the status quo and secures the advantages of improving resilience and further opportunities as laid out in the strategy action.

If Option 2 is adopted, work to migrate systems to the Data Centre would start in October 2015 and it is anticipated that the work would be completed by the end of the financial year 2015-16.

CORPORATE PRIORITIES

The ICT infrastructure together with the operational and administrative systems, communications systems, the web site and self service facilities are fundamental to the delivery of services, enabling a significant number of the Council’s priorities to be achieved. The savings will contribute to the value for money theme. In terms of sustainability, the Data Centre has a considerably lower carbon footprint due to it using “free cool air” technology for much of its air conditioning cooling.

The Executive has the authority to determine the Recommendation

1.0 BACKGROUND

1.1 The Council's ICT services are delivered primarily by servers hosted in the Pippbrook Offices Computer Room utilising equipment owned by MVDC. This brings benefits as well as inherent problems, two of which have manifested recently; a utility power loss and air conditioning plant failure, both resulted in considerable disruption to the delivery of public services. The issues with self-hosting include:-

- Several single points of failure (SPOF) which makes the infrastructure more vulnerable to interruption, thus impacting on service delivery.
- The capacity of Mole Valley's self-hosted equipment and infrastructure is invariably sized to cope with peak demand, therefore requires more capacity than is normally required. Through the data centre we would only need to pay for what we use and this use can be increased or decreased to meet our actual demands.
- Considerable staff effort is required to support the underlying infrastructure

2.0 Shared Surrey Data Centre

2.1 Members will have seen "Cloud - Pay As You Go" services being advertised on TV and in the papers by global vendors such as Microsoft, HP, Amazon and Yahoo. Unsurprisingly, "Cloud" provision has been widely discussed across the government ICT industry and within Surrey local authorities for many years. However, as local government is restricted to ensuring its data is hosted within the EU, a few years ago, Surrey County Council built a resilient data centre with enough capacity for themselves, all Surrey Districts & Boroughs and additional space for others; thus creating a "private cloud" and a compliant, secure UK location to hold the data.

2.2 With SCC, SCITO (the Surrey ICT Managers Group) has been developing a "commercial based" operating model that will enable Surrey Districts & Boroughs to occupy a shared technology infrastructure in a similar fashion to that offered by the global brands. This "private shared cloud" approach removes several SPOF, delivers a high level of resilience and brings a number of benefits and opportunities:-

- Generator in case of utility power failure (supported by a UPS)
- Multiple connections to the Surrey wide UNICORN network
- Multiple Air Conditioning Plant
- Improved backup operation that backs up the data to a secondary data centre at a geographically remote location.
- A loss of the Pippbrook offices will not impact on our ability to continue to operate with remote access being possible from home or other authorities.
- Able to increase / decrease capacity requirements as our workload demand inevitably changes but only pay for that which is used on a month by month basis

- No support or replacement of server hardware is required as the base infrastructure is provisioned, managed and replaced as part of the arrangement.
- Future cost avoidance through not needing to replace the aging UPS and air conditioning plant or core network hardware
- Able to benefit from the Microsoft data centre licensing terms and prices when the existing Enterprise Agreement ends in October 2016

2.3 However there are some additional factors that need to be acknowledged or addressed:-

- Higher capacity UNICORN connection is required from Pippbrook at additional cost (included in the figures used in this report)
- A fallback connection to UNICORN for resilience (using a different provider & with lower capacity) would be prudent to remove a new created SPOF (cost included in the figures used in this report)
- Funding is a revenue based operating model which will be addressed in future budgets

3.0 OPTIONS

3.1 A number of possible options have been investigated covering part or all of the workload transferring to the shared infrastructure at the Data Centre.

Option 1 – Entire workload model

While, arguably, offering the “ideal industry practice” solution, many of our server configurations result in being expensive environments within the Data Centre due to the current pricing method employed. Over 15 Years this option has a value of £ 91,518 with the breakeven point being reached in 4 years.

Option 2 – Blended model - Recommended

Under this model the newest of MVDC’s servers that will become available during the migration to the shared platform will be re-utilised at the Data Centre to cover those expensive environments identified in Option 1, with the remainder of the workload being provisioned through the shared infrastructure. Over 15 years this option has a value of £620,401, with the breakeven point being reached in 1 year.

Option 3 – Lift and Shift model

While providing protection from the SPOF issues, simply moving our hardware infrastructure to rented cabinet space at the Data Centre will fail to deliver any wider operational benefits or enable any changes to the way in which services can be delivered in future. Over 15 years this option has a value of £54,174 with a breakeven point in year 4

Option 4 – No change

Continue to run the servers from the Pippbrook Computer Room, tolerate the impact any SPOS issues will have to the services and disassociate the

Council from the advantages of future collective operations and limit opportunities for change. Additional costs forecast to 2018-19 for replacement plant, equipment and backup infrastructure, that will not be needed if operating from the Data Centre = £124,000

- 3.2 If the move to the Data Centre is approved, some short term staffing support will be required during the period of migration to backfill the ICT resources deployed to the programme, to ensure that that does not unduly affect the business units and the service to customers. This cost can be managed within the current ICT service budget from savings accrued through temporary vacancies.
- 3.3 As the workload is established at the Data Centre on the shared infrastructure and as other authorities follow, further opportunities will be able to be exploited including:-
- Different structure and roles within ICT
 - Sharing ICT support staff across other authorities.
 - Sharing base systems software (e.g. SQL database) across organisations (see previous comment) thus reducing licensing charges.
 - Convergence of application software across organisations (see previous comment) to reduce support costs and/or licence charges.
 - Sharing application software to operate from a single instance.
 - Join data across organisations (see previous comment) in order to deliver single view services and facilities to residents
 - Utilise most of the Pippbrook computer room to release primary office space for new rental opportunity
- 3.4 In time, local government private cloud operations will generally become firmly established and the benefits to services and reductions in costs will be widely realised. It is further predicted that the Public Service Network security attitude to public cloud provision will also shift to a far less rigorous stance. Thus, for the longer term benefit of Mole Valley's and the wider Surrey residents, it is important that the immediate period delivers the ability to consolidate data, applications and operations across the Districts and Boroughs. Having secured that position, it will then permit that consolidated capacity to be further market tested against the providers in the global market leading to further cost reductions.

3.5 Financial Implications

Analysis of Financial Impact of transferring ICT operations to SCC Data Centre	Option 1	Option 2	Option3
<u>Year 1</u>			
Data Centre cost/£	-146,800	-79,700	-37,000
Less revenue savings/£	81,000	80,000	11,000
Net revenue budget impact/£	-65,800	300	-26,000
Less capital savings/£	17,500	10,000	4,000
Net financial impact/£	-48,300	10,300	-22,000
<u>Year 8</u>			
Data Centre cost/£	-130,500	-70,800	-42,500
Less revenue savings/£	143,800	135,800	52,500
Net revenue budget impact/£	13,300	65,000	10,000
Less capital savings/£	20,300	11,400	4,700
Net financial impact/£	33,600	76,400	14,700
<u>Years to break even</u>	4	1	4
<u>Value over 15 Years (NPV)/£</u>	91,518	620,401	54,174

Definition of options

Option 1: Transfer whole of MVDC ICT application workload to SCC Data Centre servers in a hosted arrangement.

Option 2: Transfer ICT application workload to SCC Data Centre servers in a hosted arrangement, except user filestore and desktop servers where the newest MVDC servers will be utilised in the data centre.

Option 3: Relocate all existing MVDC servers to SCC Data Centre.

- 3.6 **Legal Implications** – there are no legal implications arising as a direct result of this report, but MVDC will need to enter into legal agreements with SCC over the use of the Data Centre.

4.0 CORPORATE IMPLICATIONS

Monitoring Officer commentary – The Monitoring Officer is satisfied that there are no legal implications arising as a direct result of this report.

S151 Officer commentary - The s151 Officer confirms that all relevant financial issues and risks have been considered in this report.

Risk Implications – IT is a strategic risk, and this is one of the options that would mitigate against issues identified. The risks experienced from the single point of failure would be removed if the application workload is transferred to the Surrey Shared Data Centre.

Equalities Implications - There are no equalities implications arising as a direct consequence of this report.

Employment Issues – A review of the ICT teams current and future work activity and changes that arise from the move to the Surrey Shared Data Centre will be assessed and resources planned accordingly. Opportunities to better equip staff to provide the required levels of service will also be identified. All changes will be handled in accordance with the Councils HR policies.

Sustainability Issues – Moving to the Data Centre would reduce the net carbon footprint of the public sector as the increase in power consumption from hosting Mole Valleys applications at the Data Centre would be less than the reduction in consumption Mole Valley would experience. The SCC Data Centre has a considerably lower carbon footprint due to it using “free cool air” technology for much of its air conditioning cooling. These reductions are in addition to the sustainability improvements already made in the building, which will be further enhanced during the upcoming refurbishment.

Consultation - None

Communications - A press release has been drafted.

BACKGROUND PAPERS

None