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BRIEFING REPORT

Corporate Overview and Scrutiny Committee

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Report Title: ICT Shared Services Investment Programme

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1. Introduction and Policy Context

- 1.1.** This paper responds to a request made by the Corporate Overview and Scrutiny Committee on 7 January 2021 to report on the specifics of the council's ICT infrastructure spend and whether cost-per-person value for money has been achieved.
- 1.2.** The Evolution Programme (formerly Infrastructure Investment Programme - IIP) is a joint investment programme which has enabled both Cheshire East and Cheshire West and Chester Councils to modernise, move from a legacy infrastructure, meet compliance standards and deliver a flexible environment to underpin service delivery.
- 1.3.** Over the preceding four years (2017/18, 2018/19, 2019/20 and 2020/21) the Evolution Programme has:
 - 1.3.1.** Provided a stable, compliant, and secure technology platform that met the essential replacement needs of both Councils,
 - 1.3.2.** Updated the remaining data centre components to enable a robust and resilient service connected via reliable local and wide area network services,

- 1.3.3. Created a contemporary and performing environment migrating viable applications and products to the cloud thereby ensuring remote and new ways of working throughout the pandemic.
 - 1.3.4. Provided access to key applications hosted appropriately and in the most cost-effective manner i.e. on premises or in the cloud.
 - 1.3.5. Supported both Councils through implementation with an updated incident management system (Halo), and a comprehensive training and communication plan (alongside planned-for and appropriate legacy application decommissioning and rationalisation) reducing the impact of change and helping services to make best use of the new technological capabilities provided.
 - 1.3.6. Introduced an improved level of resilience and disaster recovery capability through the delivery of modern infrastructure technology.
 - 1.3.7. Delivered the necessary tools and processes, which has enabled ICT Shared Services to be more efficient and effective in managing the new environments.
 - 1.3.8. Produced an updated cost transparency model (Apptio) and Product Catalogue that outlines services and associated capabilities for both Councils, which will inform value for money cost models going forward.
 - 1.3.9. Enabled both Councils to work in more agile and flexible ways in line with their ambitions for flexible and mobile working which have been business critical and successful during the pandemic.
- 1.4.** The Evolution programme successfully achieved all this through robust procurements and within the jointly agreed funding envelope. Through strong programme governance, the budget and delivery of the project outcomes and objectives were closely monitored and reported. Through strong financial support and governance, the programme ensured that any implications of the pandemic were captured, tracked, and agreed with finance colleagues as appropriate to be recorded on the Covid-19 financial tracker.

2. Background

- 2.1.** ICT Shared Service was formed following Local Government Reorganisation in 2009 as a joint delivery service for both Councils (Cheshire East and Cheshire West and Chester) to meet their ICT needs.
- 2.2.** Over the last 12 years the Service has moved around from being hosted by Cheshire West and Chester Council (CWaC) to being formed into a company (CoSocius) and is currently a hosted shared service in Cheshire East Council (CEC) since April 2016.

- 2.3.** Over that same period there have been many independent ICT specialist reviews and audits. A common conclusion was the lack of sustainable investment in ICT infrastructure to keep pace with the demands and expectations of the Council. This is evidenced throughout the years in a number of major incidents for both Councils (Gartner 2011 and 2013, Hewlett Packard Enterprises (HPE) 2016 and Ernst & Young (EY) 2017). The outputs and recommendations from these reviews were shared with Shared Services Joint Committee.
- 2.4.** ICT Shared Services commissioned a data centre audit (November 2016) to provide assurance on the condition and quality of the data centre components or assets; this resulted in a report by HP Enterprise (March 2017) which concluded that a significant cliff-edge or disaster threshold had been reached and there was a significant risk that this situation compromised the Councils' compliance with statutory regulation and accreditation authorities. The audit also highlighted a heavy reliance on a single data centre with no disaster recovery provision. It also reported that 80% of the infrastructure was more than 5 years old and the headcount for support staff was well below established industry norms, making even a reactive support approach difficult to sustain.
- 2.5.** As a result, ICT Shared Services engaged with both Councils and gained approval for a high-level business case and Cabinet paper (May 2017) for funding and to engage a strategic partner to address these issues. The overall aim was to stabilise (replace ageing infrastructure), rationalise (remove cost and complexity by design), optimise (move to more efficient and agile way of working) and provide a flexible base to respond to the changing business needs of both Councils.
- 2.6.** The business case also addressed the need for ongoing essential replacement, completion of committed infrastructure projects and the future demands for a replacement public sector network including all local and wide area network infrastructure; the management of these services to both Councils and schools/academies; the need for more complex tools to manage and monitor a hybrid cloud environment; and the resourcing to deliver utility based product cost models.
- 2.7.** If these risks were not addressed, a greater level of capital investment would ultimately be required to address system failure with the associated business continuity issues and potential liabilities that entails. In addition, there was a need for both Councils' to be able to deliver the wider objectives of a safe and secure, shared, and integrated working environment. These would be

seriously constrained if not addressed and would impact on the drive to transform frontline service delivery to residents across both boroughs.

3. Briefing Information

- 3.1.** The Evolution Programme (formerly Infrastructure Investment Programme - IIP) is an investment programme which has enabled both Councils to modernise, moving from a legacy infrastructure, ensure compliance and deliver a flexible environment to underpin delivery.
- 3.2.** ICT Shared Services engaged Microsoft as a strategic partner to support delivery of new cloud capability and the deployment of Windows 10 and Office 365. Our application estate has been reduced from over 1500 (May 2017) to 300 in March 2021, because of application rationalisation during Windows 10 deployment.
- 3.3.** The programme has decommissioned over 160 key line of business systems, meeting the 25% decommissioning objective.
- 3.4.** It was critical that we migrated from Exchange Server 2007 to Exchange Server 2013 to maintain compliance and provide a necessary step towards Office 365. Legacy Exchange 2007 servers have been powered down, with only a few servers retained to support ongoing external investigations.
- 3.5.** New, more secure, compliant remote access service is in place, enabling the removal of legacy remote access solutions and providing essential hybrid cloud security and management capability has been delivered. This was critical in the Councils' response to the pandemic.
- 3.6.** Two secure, compliant evergreen mobile device management solutions have been implemented, removing the need for frequent costly upgrades, exploiting the benefits of cloud, reducing on premise infrastructure, and providing significant improvements in management and reporting.
- 3.7.** The programme has implemented new backup and storage infrastructure capability to provide off site back up and remove the reliance on tape, whilst ensuring General Data Protection Regulation compliance.
- 3.8.** New quarterly IT Health Checks (increased from annual) have been established, significantly mitigating the risk of cyber-attack and other emerging cyber security threats, enabling ICT Shared Services to become more proactive and less reactive in managing security threats and issues.

- 3.9.** McAfee security suite end client upgrades providing enhanced protection against zero-day threats and improved cyber security intelligence (migrated from Google to Central Government) have been implemented. We have reduced the threat of security vulnerabilities by the removal of old and non-compliant server software.
- 3.10.** As part of the programme we have focussed on developing our network capacity and capability to provide more robust and resilient internet service. As part of this work we have established improvements including Microsoft Azure and Amazon Web Services.
- 3.11.** The programme has undertaken a procurement to select a new wide area network strategic partner. The implementation of this project will be completed during the 2020-21 financial year.
- 3.12.** The programme has been responsible for decommissioning or upgrading over 350 legacy databases and migrated over 250 servers to the latest operating system.
- 3.13.** Statutory compliance has been maintained. We have ensured Public Service Network (PSN) code of connectivity certification achieved for both councils.
- 3.14.** Significant improvements in overall resilience have been achieved. The Councils now have three data centres providing data centre services to the council, Kelly House, Microsoft Azure and Amazon Web Services. This has enabled the removal of aging server platforms, hosting the new strategic desktop environment, removed the need for Microsoft extended support, a significant step in addressing issues affecting service availability, whilst enabling both Councils to become cloud ready organisations. On completion of the programme the risk of losing the data centre completely will have been greatly reduced.
- 3.15.** Responding to the Covid-19 major incident, supporting the Councils to work from home, when the incident required a change to Target Operating Model overnight. This was only possible due to the work that had been achieved in the previous years.
- 3.16.** One of the programme's biggest achievements has been the modern desktop deployment. The migration team accelerating deployments through precision planning and migrated over 7,300 users since lockdown started in March 2020, including elected Members. This has included giving out new

devices using a no touch COVID secure approach. Over 99% of the estate is now on Windows 10, which is a significant achievement.

3.17. We have supported both Councils through the Covid-19 pandemic. This has been a huge challenge for the team, supporting two organisations whose ways of working changed so significantly overnight. As an indicator, below is a summary of activities undertaken in the first few weeks, which we were able to deliver because of the earlier investment in infrastructure:

- Over 4000 daily remote connections up from a previous maximum of 500 on a normal day
- 4,169 calls in to the Service Desk over an initial 2-week period - 50% increase
- 3,444 voice services (One X Communicator) deployed to devices
- 294 laptop rebuilds and encryption reassignment
- 215 new laptop requests
- 62 Citrix server builds
- 54 call forwarding requests fulfilled
- Secure remote access node rebuilt

3.18. We have enabled the adoption of virtual working at speed. A wide range of virtual meetings have been enabled including virtual Full Cabinet meetings, Court Adoption Hearings, School Admission Appeals, Planning Committees, School Transport Appeals, Training and Mediation Sessions to name a few.

3.19. As a result of the investment, made we have seen a significant reduction in IT service outages: Reducing the levels of aged infrastructure has led to a reduction in significant IT service outages (major incidents) from 146 in 2016/17, 60 in 2017/18 and 35 in 2018/19. In 2019/20 we had 32 major incidents and in 2020/21 there were 16 incidents – a 89% reduction.

3.20. In the recent customer satisfaction survey, we can evidence improvements across the board:

	2021 (Both councils)		2020 (CWC only)	2019 (Both councils)
BUSINESS ENABLEMENT	75%	+7%	68%	63%
ICT SERVICES	74%	+5%	69%	63%
ICT COMMUNICATIONS	76%	+4%	72%	68%
APPLICATION SUITE	74%	+6%	68%	65%

3.21. Quantifying the financial benefits, based on both Councils' ICT spend with respect to the Evolution programme and whether cost-per-person value for money has been achieved, is difficult. We believe that the Councils would not have been able to operate fully and meet their statutory responsibilities

during the pandemic under lockdown restrictions without this underpinning ICT investment. The Evolution programme however had total budget of £19.8m (for both Councils) serving approximately 384,200 Cheshire East residents; this equates to approximately £25.77/person since 2009 i.e. £2.15/person/year.

3.22. Based on the National Audit Office (NAO) definition which uses three criteria to assess the value for money of government spending i.e. the optimal use of resources to achieve the intended outcomes:

- Economy: minimising the cost of resources used or required (inputs) – spending less.
- Efficiency: the relationship between the output from goods or services and the resources to produce them – spending well; and
- Effectiveness: the relationship between the intended and actual results of public spending (outcomes) – spending wisely.

The Evolution programme provided access to key applications hosted appropriately and in the most cost-effective manner i.e. on premises or in the cloud, delivered a cloud operating framework supported by the necessary tools and processes which has enabled ICT Shared Services to be more efficient and effective, and enabled both Councils to work in more agile and flexible ways in line with their ambitions for flexible and mobile working which were critical during the pandemic.

4. Implications

4.1 Legal Implications

4.1.1 The changes to the Councils ICT infrastructure brought about by the Evolution Programme will enable the Councils to comply with the requirements of GDPR in particular Article 5(1)(f) that Personal Data is 'processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organisational measures ("integrity and confidentiality"); and Article 32 Security of Processing specifically Articles 31(1)(b), (c) and (d):

(b) the ability to ensure the ongoing confidentiality, integrity, availability, and resilience of processing systems and services.

(c) the ability to restore the availability and access to personal data in a timely manner in the event of a physical or technical incident.

(d) a process for regularly testing, assessing, and evaluating the effectiveness of technical and organisational measures for ensuring the security of the processing.

- 4.1.2** The Evolution Programme has reduced the risk of the Councils failing to comply with GDPR that existed with the Councils legacy systems.
- 4.1.3** Failure to comply with the above Articles of GDPR has resulted in substantial penalties being issued by the ICO in 2020 in relation breaches by British Airways (£183 million reduced to £20 million) and Marriott Hotels (£99 million reduced to £18.4 million).

4.2 Financial Implications

- 4.2.1** The Evolution Programme was enabled through an approved budget for change and was fully utilised. Both capital and revenue budgets were monitored throughout by the Programme Board and proactively sought savings through detailed application assessment and strategy, joint procurements, and decommissioning.
- 4.2.2** However, growth in digital technologies are expected over the next 5-year period and costs for licencing will increase as demonstrated with end user computing Citrix licences. Again, these costs will be closely monitored and reported back to the Essential Replacement Programme Board going forward, Joint Business Design Authority (JBDA), Joint Strategic Board (JSB) and Shared Services Joint Committee. Archiving, security, encryption, business continuity, disaster recovery, tools and ICT Services applications will continue to require additional investment and have been costed separately whether undertaken by third parties and/or contractors.
- 4.2.3** The ICT Vendor Management Office (VMO) continues to ensure that procurements are undertaken in the most cost-effective manner to secure value for money in collaboration with legal, finance and procurement colleagues, securing the necessary supplies and services at best prices from the marketplace. This has also enabled ICT Shared Services to be more efficient and effective, and enabled both Councils to work in more agile and flexible ways in line with their ambitions for flexible and mobile working which were critical during the pandemic.
- 4.2.4** The various aspects of the programme were evidenced as being the right thing to do, from an 'improving VFM' perspective through the capture of the relationship between outputs and resources (efficiency) and the extent to which the objectives were achieved as referenced in section 3. For example, cloud infrastructure (or Infrastructure as a Service - IAAS) has enabled automation for both cloud deployments and monitoring. It has reduced the on-premises repetitive tasks undertaken by both ICT Operations and for Projects in terms of reduced provisioning time, reduced costs by eliminating manual processes and efficient management of cloud compute resources.

- 4.2.5** Another example was that lost time has been avoided through the introduction of the new infrastructure by the SQL Server team, as an estimated 10% of support hours were spent on recovering failed backups.
- 4.2.6** The required rapid response to the pandemic has been 'enabled' by the Evolution programme and has facilitated the new ways of working going forward for both Councils. Other benefits such as the reduced use of buildings; reduced business travel; etc. have been enabled and captured through the medium-term financial strategy by most service areas and will help to deliver even greater VFM in the longer term.
- 4.2.7** Benefits have also been measured including the reduction of cost per deployment and reduced project costs and timescales.
- 4.2.8** An estimated cost avoidance of £1m for the employment of agency staff to undertake business as usual tasks due to aging and complex legacy infrastructure has been achieved as proposed in the business case.
- 4.2.9** The HPe report also identified benefits from other Council exemplars which included a potential 30% reduction in deployment costs for new applications, 50-75% reduction in provisioning time and a 15-30% reduction in operations costs. These benefits are being examined through the maturing cost model work and have yet to be finally quantified.

4.3 Human Resources Implications

- 4.3.1** The ICT Shared Service is currently subject to a strategic review. It has a pending restructure which will ensure that the service provision is aligned to the needs of the business. The implementation of a new structure will enable the service to demonstrate value for money moving forward.
- 4.3.2** The ICT utilises a significant amount of agency staffing for specialist roles and for other roles pending the restructure. Due to the external market rates, the costs of some of the agency staff exceed that that of the internal evaluated grades/salaries for the roles. This contributes to higher costs within the Service.
- 4.3.3** The ICT service keeps the use of agency staff under review and, where possible, has permanently recruited to posts within the structure. This is limited because of the pending restructure.
- 4.3.4** The changes to the Councils ICT infrastructure brought about by the Evolution Programme will support the ability of the ICT Service to move forward to a fit for purpose structure. It will also enable the service to support and deliver on the Council's ways of working, including agile, flexible working practices.

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