

## Internal Services Strategy & Technology Framework 2012-15

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### Purpose of the Report

1. This report provides Members with an opportunity to consider the challenges facing the Internal Services service area in providing ICT support services essential to the delivery of frontline services.
2. Members will have an opportunity to consider whether the Internal Services Strategy is fit for purpose.

### Background

3. The Committee's Terms of Reference include responsibility for both strategic and operational ICT related services.
4. To facilitate consideration of the ICT service delivery approach attached at **Appendix A** is the *Internal Services Strategy for Cardiff County Council*, Supporting the achievement of this Strategy is *A Technology Framework* and action plan, attached at **Appendix B**.
5. The Council's approach to ICT is currently divided into operational delivery by Internal Services, which falls under the Shared service area, and strategic development, known as Enterprise Architecture, delivered by the Corporate service area. The Council also has a Strategic Technology Partner that falls under the remit of Corporate Services.

6. At this meeting Members will consider the Internal Services Strategy. An opportunity for Member familiarisation with the Enterprise Architecture approach and Strategic Technology Partner arrangements will be secured at a future meeting.
7. In November 2011 the previous Committee considered the draft Internal Services Strategy and expressed a wish to monitor progress closely over the next two to three years. At that time officers agreed to return in six months with details of improvements made.
8. In April 2012 the Council's Internal Services Strategy 2012-15 became live, supported by a technology framework to support its achievement.

### **Overview of Strategy**

9. The Internal Services Strategy for Cardiff Council 2012-2015 lays down the aims of the Council's ICT service and the environmental challenges ahead in the form of social, technological, economic, political and legal considerations. The strategy indicates that challenges will be faced as the Council moves away from a traditional fixed IT workforce model to a more fluid delivery of services involving mobile, home working and non-traditional devices. It also highlights that the Council has much equipment beyond normal service life and that the 3 year strategy will aim to create a suitable replacement programme for both hardware and software assets. The strategy refers to the 'OurSpace' programme as having significant implications for both business administration and ICT delivery as, in future, working for the Council will encompass 'Flexible Desk' workers, 'Agile' workers, 'Mobile' workers and 'Home workers', all requiring technological solutions.
10. The service is the subject of a Transformation project, and previously the Committee has heard that a key milestone is staff efficiencies of £200k within a year from June 2011. Estimated funding of the project over the same period was

forecast as £123,000. Projected gross savings from this project over the five years to 2015/16 are £1.2million.

### **Observations made by the Previous Committee**

11. Members may wish to reflect on observations made to the Executive following previous scrutiny in November 2011 in a number of areas as follows:

12. **Balancing technological progress and cost** - Members highlighted the issue of balancing technological progress and cost. There was a Member perception that technology in Cardiff had not kept pace with wider technological opportunities in supporting service delivery, yet at the same time recognition that maintaining technology at the highest level would create some difficulty in justifying development costs to the customer.

13. **Improvements forecast** - The Committee expressed a view that for the first time over the past twenty years the Council's ICT service did not appear effective to the customer in supporting frontline services. They noted officers' views that there are good examples of ICT in Cardiff but that the picture is uneven. They agreed and recognised that ICT requires investment and improvement and heard that the next two to three years will see increased emphasis on the ICT service. In response the Executive indicated that a full risk assessment had been undertaken and a plan to upgrade IT was in place. A corporate bid for suitable funding had been made and due to the financial pressures this would be dealt with in the Medium Term Financial Plan. A smaller sum was to be put forward in the budget to deal with critical issues.

14. **Funding improvement** - Members were advised that the Council's current spend on ICT is 2-3% of its budget and that the predominantly people based Council services would not require us to increase this to the 10% invested by many of the UK's top companies. Following the scrutiny Members felt they were still unclear exactly what the budgetary resource implications of the increased emphasis on ICT would be, and requested a more specific response. The Council's 2011-12 ICT budget (including recharged income) was £9.67M. This

represented 1.9% of the net cost of services for the Council. However, not all spends are currently centralised. Taking all identified spends across the council into account the total amount was around £13.3M, giving a total spend of around 2.7% of total budget.

15. For 2012-13 additional investment allocated to meet the risk was £600k revenue and £600k capital. The previous Executive has indicated that the level of funding improvement depends on our ambition for delivery – if the Council wishes to make strong front-line savings these will need ICT enablement. The range is therefore currently under discussion in the Medium Term Financial Plan; to move to a position where the current delivery is well-maintained and sustainable would require an increase to around 3.0% of budget, to deliver the complete transformation programme over the next five years is estimated to need an increase to around 3.8% of total budget for that period.

16. **ICT Strategy-** Members previously observed that current Council policy was inflexible in its definition of home-working, and needed to be refreshed, and urged that the final ICT Strategy support this repositioning. Additionally the Committee felt strongly that the ICT Strategy needed to encompass sharing data with other external partner public bodies such as health, police, and fire services. Members felt it was currently too Council focussed.

17. **The paperless challenge-** Members have previously accepted the need for less reliance on paper. The Committee agreed with the officer view that the greatest challenge would be winning hearts and minds to work in a different way and eventually move to a paperless society.

18. Councillor Heather Joyce, Leader, Philip Lenz, Corporate Chief Officer Shared, and Steve Durbin, Head of Internal Services, will attend Committee to give a presentation on the Internal Services Strategy, the technology framework and the challenges of delivery, and answer Members' questions.

## **Legal Implications**

19. The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters there are no direct legal implications. However, legal implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any legal implications arising from those recommendations. All decisions taken by or on behalf the Council must (a) be within the legal powers of the Council; (b) comply with any procedural requirement imposed by law; (c) be within the powers of the body or person exercising powers of behalf of the Council; (d) be undertaken in accordance with the procedural requirements imposed by the Council e.g. Scrutiny Procedure Rules; (e) be fully and properly informed; (f) be properly motivated; (g) be taken having regard to the Council's fiduciary duty to its taxpayers; and (h) be reasonable and proper in all the circumstances.

## **Financial Implications**

20. The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters there are no direct financial implications at this stage in relation to any of the work programme. However, financial implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any financial implications arising from those recommendations.

## **RECOMMENDATIONS**

The Committee is recommended to:

- a. Consider progress in implementing the Internal Services Strategy for Cardiff Council 2012-2015
- b. Consider whether it wishes to feedback its comments and observations on the challenges faced in delivering Internal support services for consideration by the Cabinet Member.

**MIKE DAVIES**

Head of Scrutiny, Performance & Improvement

25 June 2012

**Internal  
Services  
Strategy for  
Cardiff  
Council  
2012-2015**

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## 2 Introduction

Internal Services is a new service area created in 2011, covering:

- Business Administration (BA)
- Information and Communications Technology (ICT) Delivery
- Service Desk

Each of the services is a support service – that is, they provide services essential for the delivery of Cardiff Council’s front line services, but do not themselves provide a front line service, with a few exceptions.

Expenditure on these services can and does improve the efficiency and effectiveness of front-line delivery. Taking ICT as an example, Fortune 500 companies generally spend around 10% of turnover on ICT, seeing it as an investment; councils generally spend around 3%, seeing it as an overhead.

The basic delivery principles of the service must therefore be focused on:

- Supporting the transformation agenda via flexible delivery
- Delivery to front line and other support services according to business need
- Being highly reliable and professional
- Minimum cost concomitant with the requirements of services, providing clear return on investment.

The detailed ICT Technology Framework is separate from this document, as a joint delivery between the Enterprise Architecture team, the Internal Services team and our technology partner, Tata Consultancy Services. This document will provide the detailed plan for technical deliveries and will be available from end February 2012.

## 3 Aims

### ***3.1 Customer Focused***

All our services are only useful if customers accept and use them, and accept us as their delivery partner. For this reason, we need to ensure that the customer is the focus of all our thinking, and that our services are “always on” for customers.

### ***3.2 Open as Possible, Secure as Necessary***

We shall ensure that our data is as open to the public as possible by working towards a “publish unless we cannot” default view. This will help reduce the burden created by FOI requests and increase the confidence of our citizens in our delivery. This also allows all staff to share knowledge more easily.

Conversely, there is a need to ensure that data that needs to be kept safe is protected. We will work with our partners and colleagues to ensure that data is managed appropriately and safely.

### **3.3 *Appropriate and Flexible***

Our solutions cannot be based on a “one size fits all” view. Instead, we shall endeavour to deliver solutions that fit the particular business deliveries, exploiting the enterprise architecture to deliver solutions.

### **3.4 *Innovative***

Innovative solutions are needed to help us provide the best quality delivery and the best experience for our customers. We shall accept the risk of using appropriate innovative technologies and methods, always ensuring that risk is controlled and managed.

## **4 Environment**

Service delivery must be aware of the external environment as well as its internal challenges. The standard STEEP/L method has been used for the analysis covering the service area as a whole, and only factors directly relevant and specific to the service are included here; other factors are included in the council’s overarching strategy.

### **4.1 *Social***

#### **4.1.1 Social Networking**

A key environmental factor is the growth in social networking and the assumption by many members of the public that organisations such as ours should be communicating by these means by default. Our delivery must recognise this fact and ensure that these channels are catered for in any development, whilst managing the risks.

#### **4.1.2 “Google Generation” and Customer Diversity**

The current generation is much more at home with computing and assumes that everything should be published, that access should be instant, using whatever technology is to hand and communication is via instant messaging. These assumptions colour customer satisfaction with delivery, so wherever possible we must be in tune with these assumptions in order to improve our relevance. The BA service in particular needs to leverage ICTs to ensure that delivery is as effective as possible.

However, we have a very mixed population in terms of comfort with delivery via digital means – we must be sensitive to the needs of customers who are less able with ICT or less fluent in our main languages. So, whilst aiming for more engagement with customers via flexible ICTs, we must maintain suitable channels for customers who wish to engage by other means.

#### **4.1.3 “Consumerisation” of ICT**

A partial consequence of the “Google generation” above is the increasing pressure to allow personal devices onto the council network and for staff to use the same device for council and personal work, sometimes known as “Bring Your Own Box”.

This obviously has security consequences, but can also have cost advantages for the council as it reduces need to supply equipment. Our delivery will recognise this trend, and look to exploit it where the risk/reward balance is suitable. We will aim for all new deliveries to be “endpoint neutral” i.e. usable on any ICT device from a phone to a PC.

## ***4.2 Technological***

### **4.2.1 “Cloud”**

The “cloud” is an evolution of concepts around shared delivery and service combined with modern delivery technologies. It offers possibilities for rapid deployment, scaleable delivery and cost reduction. It carries risks of loss of control and data security. We shall adopt cloud delivery where it provides benefits and risks can be managed. The Welsh cloud deliveries in the All-Wales strategy will be important here. A private cloud service will be examined as a potential part of this delivery.

### **4.2.2 Mobility**

Mobile computing devices are now commonplace and of sufficient power to form a key part of service delivery. They have major advantages in that we can take updating of information to the point of delivery, reducing service delivery cost and improving the customer experience across the council. Risks are mostly around data security and asset theft. Mobile technologies will form a key part of the service delivery where they provide benefits and risks can be managed.

### **4.2.3 Open Source**

Open Source software is now a mature market, with the ability to supplement delivery in a variety of areas. There are still weaknesses in terms of ability to obtain support and some risks around procurement and intellectual property. Open Source will be adopted where it provides benefits and risks can be managed.

## ***4.3 Economic***

### **4.3.1 Cybercrime**

Cybercrime is now a major threat to all ICT-enabled deliveries. All our delivery must remain aware of the threats and ensure appropriate security measures. In particular, public-visible deliveries will be thoroughly externally tested before live use to minimise risk. We will also ensure that staff are suitably trained and equipped to use ICT safely.

## ***4.4 Environmental***

### **4.4.1 Carbon Reduction**

The need to reduce Carbon is an overarching issue, but needs mentioning here. We will work with delivery from the entire service to reduce carbon impacts by innovative use of ICT in delivery, management of ICT power consumption and “sweating” assets to ensure minimal replacement impact.

### **4.4.2 Component Resource Risks**

A key environmental risk is the complex of components and elements used in ICT equipment, particularly “rare earths”. These can cause sudden market changes in price and availability. We shall maintain a watching brief on these risks to ensure that we maintain a minimum risk position.

## **4.5 Political and Legal**

### **4.5.1 Freedom of Information**

Recently, FOI requests have increased dramatically; since we operate the council-wide service in this area this has a service impact. We shall look to reduce the impact by better information management and storage, plus a “publish unless there is reason not to” view to minimise the potential for requests.

### **4.5.2 ICT Strategy for the Public Sector**

On an All-Wales level, an ICT Strategy has been set. At the national level within the ICT profession, the Society of IT Management (Socitm) has created a parallel strategy called “Planting the Flag”. We shall support these strategies whilst working within them to maximise the benefit to the citizens of Cardiff.

### **4.5.3 Partnership Working**

A large number of our deliveries are done in conjunction with partners – police, health, voluntary sector, community groups and other branches of government to name but a few. Our deliveries need to recognise the need to share data with these partners and ensure that we have deliveries that work with them.

## **5 Challenges**

### **5.1 Workforce Skills**

A key challenge is that we are changing our delivery away from a traditional fixed desktop model to a more fluid delivery involving mobile, homeworking and non-traditional devices. Obviously, our ICT workforce needs to be re-skilled to deliver.

The BA workforce also need higher skill levels to provide an effective, professional delivery.

These are addressed under Staff Training and Development (6.1.1 below).

### **5.2 Ageing Infrastructure**

The ICT infrastructure noted under resources has a wide age profile, with much equipment beyond normal service life. We shall address this corporate risk through a targeted replacement programme, focusing on key business areas, whilst ensuring we maximise the value of assets concomitant with risk. We shall endeavour during the life of the strategy to create a suitable replacement programme to ensure equipment is maintained.

### **5.3 Security and Openness**

A major issue in partnership working (see 4.5.3 above) is data sharing. Legislative and cross-organisation policy issues have historically created problems here, although the technology delivery is generally not complex. We will work to improve these deliveries, based on our key aim “open as possible, secure as necessary”.

### **5.4 Architecture and Technology Changes**

Cardiff is evolving an Enterprise Architecture and removing legacy applications. These changes will result in more effective delivery, but carry with them risks as we

are often using technologies that are innovative. Additionally, new technologies and ways of working are continually appearing, some of which, (a recent example being social networking) are “game changers”. We will manage these risks as part of projects and normal delivery, always focusing on our aims. We shall also ensure that we decommission redundant services appropriately and securely.

## **5.5 Building and Workplace Changes**

Cardiff has a programme “OurSpace” to reduce building occupancy. This impacts Business Administration and ICT delivery in a number of ways. We are embedded in the OurSpace programme and working within it to manage the change risks.

OurSpace, and the need to deliver service at the point of customer contact, also require a move away from the traditional divisions of fixed desk workers and fixed home workers. We will instead have a mix of:

- Flexible desk workers – staff who will need to work at a variety of desks
- Agile workers – staff who sometimes flexible desk, sometimes home work
- Mobile workers – staff who generally work “in the field”, but sometimes need touchdown space
- Home workers – staff whose fixed base is their home address, and only visit offices for meetings/supervision.

For the BA service this means we need a mix of:

- Council-wide units, who can work remote from the customer and deliver services that do not need personal contact
- Location-based units, who work in buildings and provide service to the customer
- Service-specific units, working closely with customers and holding specialist skills.

We will ensure ICT delivery of appropriate flexible desking, agile, mobile and home working technical solutions to ensure the OurSpace goals can be realised. We will work with appropriate stakeholders to ensure that suitable corporate policies are put in place to enable these working patterns.

We will work with all stakeholders to ensure that the BA delivery is a good fit for the business, and that the process design meets the overall strategic aims.

## **6 Resources**

### **6.1 People**

People are the key component of any strategy delivery. People resources, to deliver, need three things:

- Staff Training and Development, giving staff the skills and know-how
- Capacity for Communication and Collaboration, ensuring that ideas can be discovered and executed
- Motivation, ensuring staff have the drive to deliver

## **6.1.1 Staff Training and Development**

The overall strategy is to ensure that staff are suitably qualified and that professional development is available to those desiring it.

This will require certified training, something that in many arenas has been shied away from on the principle that certified training leads to higher staff turnover as qualified staff leave. This is certainly true, but the converse is that by not investing in people one does not have a motivated and capable workforce.

### **6.1.1.1 Business Administration**

Business Administration staff traditionally have not had a professionalism route. Internal training (now via Cardiff Academy) is freely available and is well adopted. In order to provide suitable staff development routes and succession planning, an improved professionalism route is needed.

#### **6.1.1.1.1 Strategy**

The Institute of Professional Administrators (IPA) offers administrative staff at all levels an examined professional development route and qualifications. This will be offered to staff as an option.

#### **6.1.1.1.2 Budget**

No significant budget impact is expected; training is already included in the council's overall strategy, and IPA membership is a low-cost option.

#### **6.1.1.1.3 Targeted Qualifications**

We shall be looking to target the following qualifications:

- Membership of the Institute of Professional Administrators
- Masters in Business Administration/Masters in Public Administration
- N/SVQ in Business & Administration (levels 2 through 4)

### **6.1.1.2 ICT and Servicedesk**

Cardiff Council has traditionally used the same development mechanisms for ICT and Servicedesk staff as other, non-professional staff.

Whilst this mechanism has served Cardiff well for a number of years, it has resulted in some gaps in both reality and perception:

- A reduced availability of training to staff – Cardiff ICT staff received 0.91 days training per year in 2010 compared with a best practice recommendation of 5 days.
- A lack of certified staff. Very few staff are certified in individual discipline areas such as security, project and software management. This places the council at some risk if professional indemnity became an issue.
- Difficulties with implementing change due to lack of staff training. This has now become an issue for the Transformation Programme.
- A perception that Cardiff doesn't want to invest in people because they might leave, leading to a perception amongst some staff that you have to move on to get on.

This strategy attempts to address these issues.

### **6.1.1.2.1 Strategy**

The overall strategy is to develop staff in two key areas:

- New line-of-business applications, to ensure successful delivery of the Target Operating Model
- Modern professionalism skills including certified training from industry bodies, vendors and others, to ensure staff skills are relevant to modern ICT.

Measurement and recording of development will be using the British Computer Society Total Skills Management Scheme; this will supplement the existing PPDR scheme by providing recording of professional development as well as personal development. This recording can directly lead to some of the qualifications noted below (e.g. CITP). The additional recording is not onerous – it adds a quarterly review meeting and an hour or so of form-filling a quarter for the average staff member, some of which can in any case be repurposed to use in PPDR.

The overall increase in training may increase staff turnover – however it will also increase staff efficiency and make Cardiff a more attractive place to work for ICT professionals.

### **6.1.1.2.2 Budget**

In order to fund suitable training and development, based on the recommended five days per person/year, approximately £1,000 per person needs to be available. This is obviously a challenge for existing budgets. We shall therefore be looking to fund from project costs and vendor training included in the ICT refresh programme procurement, subject to the refresh programme budget approval.

This method was used in the ITIL programme successfully – resulting in over twenty people achieving ISEB ITIL Foundation Certificate status and most stakeholders receiving the (uncertified) ITIL Simulation Course.

We shall use Cardiff Academy as our training source wherever possible, and in any case liaise with them on all delivery.

### **6.1.1.2.3 The British Computer Society Total Skills Management Scheme**

From the BCS Website:

Total Skills Management has been designed to ensure that skills development for your IT professionals is aligned to the capability requirements of your business.

Traditional training needs analysis identifies individual training requirements, whilst the BCS process integrates individual, team and organisational development requirements.

#### **Long term organisational benefits**

- Reduced administration time
- On-going review of professional development priorities
- Pre and post training course evaluation
- Alignment of individual, team and organisational learning and development requirements
- Motivation, development and retention of IT professionals

- Supports managers to understand what they need to do to achieve their corporate goals through their IT professionals
- By helping each team member understand their full potential and encouraging their 'buy in' to objectives, it's possible to ensure swift creation of an effective and efficient IT team striving towards a common goal of exceptional achievement.

#### **6.1.1.2.4 Targeted Qualifications**

We shall be looking to target the following qualifications:

- Membership of the British Computer Society
- CITP, CEng general qualifications of IT management competence with Certificates of Current Competence
- PRINCE2, MSP Project Management
- CISMP, CISSP and SSCP qualifications in security
- Avaya ACA, ACP networking qualification
- Microsoft MCPD, MCP, MCM, MCITP and MCTS software certifications
- Oracle OCP qualifications
- Vendor qualification, preferably certified, in other areas selected by the Transformation Programme. The first examples here are the current training in Alfresco and Oracle BPM

#### **6.1.2 Capacity for Communication and Collaboration**

The staff survey taken in 2011 showed that this was an area that many staff felt was not working. Strategically, we shall:

- Ensure that all managers undertake team meetings at least monthly for all staff and that outputs from team meetings are fed up to leadership teams
- Encourage a culture of constructive criticism and collective responsibility
- Make teams more flexible and able to work cross-discipline by more matrix management and project focus.
- Ensure that staff have a clear view of the "big picture" through regular briefings

These issues are already being addressed and will be further clarified in the revised structure.

#### **6.1.3 Motivation**

Staff motivation is a difficult matter to address strategically, as people's motivation varies. Some of the training and communication pieces noted above will help improve motivation. We will additionally ensure that staff are empowered to explore new areas which may develop into business benefit and given appropriate opportunities to contribute to broader delivery outside their job role.

### **6.2 Assets**

BA assets are, for the most part, people based.

Our key tangible ICT assets after people comprise:

- Over 200 connected sites, 26 on private fibre
- 3 core switch/routers in a resilient triangle (City Hall, County Hall and Willcox house) and a large number of local switches



- 310 physical servers
- 3,600 “fat” client devices (PCs and Laptops)
- 3,000 “thin” client devices

Our key intangible ICT assets comprise:

- Large software estate, focused around the Microsoft platform with a variety of vendors in Line of Business applications

Many of the hardware and software assets are aging, and work needs to be done to deal with this within the life of the strategy.

A key challenge in dealing with the maintenance of the estate is the spread of budgets across services. We will work towards centralising these based on a single price per person for basic services and additional costed Service Level Agreements for additional deliveries.

## **7 Delivery**

### **7.1 Key Deliverables**

Detailed deliverables will be presented in the Business Administration Plan and Technology Framework. Some of these will evolve during the life of the strategy as the architectures and processes develop, others form business as usual. All deliverables will need to be flexible enough to meet the changing business needs, so any list in this strategy can only be a snapshot in time and not definitive.

The key visible deliverables at present are:

- Trained, capable staff with clear and effective processes
- Sustainable network, server, software and personal computing enterprise architecture with appropriate funding for Cardiff’s ambitions
- Complete the delivery of DigiGOV and make it available to all staff.
- A new schools delivery matching the new needs and reflecting the 21<sup>st</sup> Century Schools ambitions
- Improved and new communication channels, with internal customers, external partners, service users and citizens
- A document and records management solution
- New/improved flexible desking, agile, mobile and homeworking solution sets.
- New certified training model with professional development
- New structure suitable for the new methods of working coming from the ICT service transition

### **7.2 Measures**

#### **7.2.1 Business Administration**

Measures for the Business Administration service will be evolved within the life of the strategy as the service itself is formed.

## 7.2.2 ICT and Servicedesk Measures

### 7.2.2.1 Customer Satisfaction

Customer satisfaction will be measured from the Servicedesk surveys, with a target of 90% rating excellent.

### 7.2.2.2 Service Reliability

Service reliability will be measured as percentage “uptime” – that is, time that systems are working and available to customers. These are based on a 24/7/365 service availability.

The targets are:

Service	Target	Detail
Network and Telephones	99.99%	Less than 6 minutes a year
Core Applications and Services	99.9%	Less than 53 minutes a year
MFD Printing	99.9%	Less than 53 minutes a year
End-User Services (desktop/mobile device)	99%	

The Core Applications and Services are:

- CRM
- DigiGov
- Email
- HR/Finance/Payroll (SAP)
- Intranet/Internet
- Planning
- Revenues & Benefits
- Social Care (Care First)
- Website

### 7.2.2.3 Service Security

The target for this measure is a score of 95 out of 100 in any given quarter. This means that no major security breaches may have occurred in that quarter, and only a small number of minor incidents.

The target for longer periods will be the same, but the score created by averaging quarters within that period.

## 7.3 Summary

The strategy sets four key aims for the Internal Services going forward:

- Customer Focused
- Open as possible, Secure as necessary
- Appropriate and Flexible
- Innovative

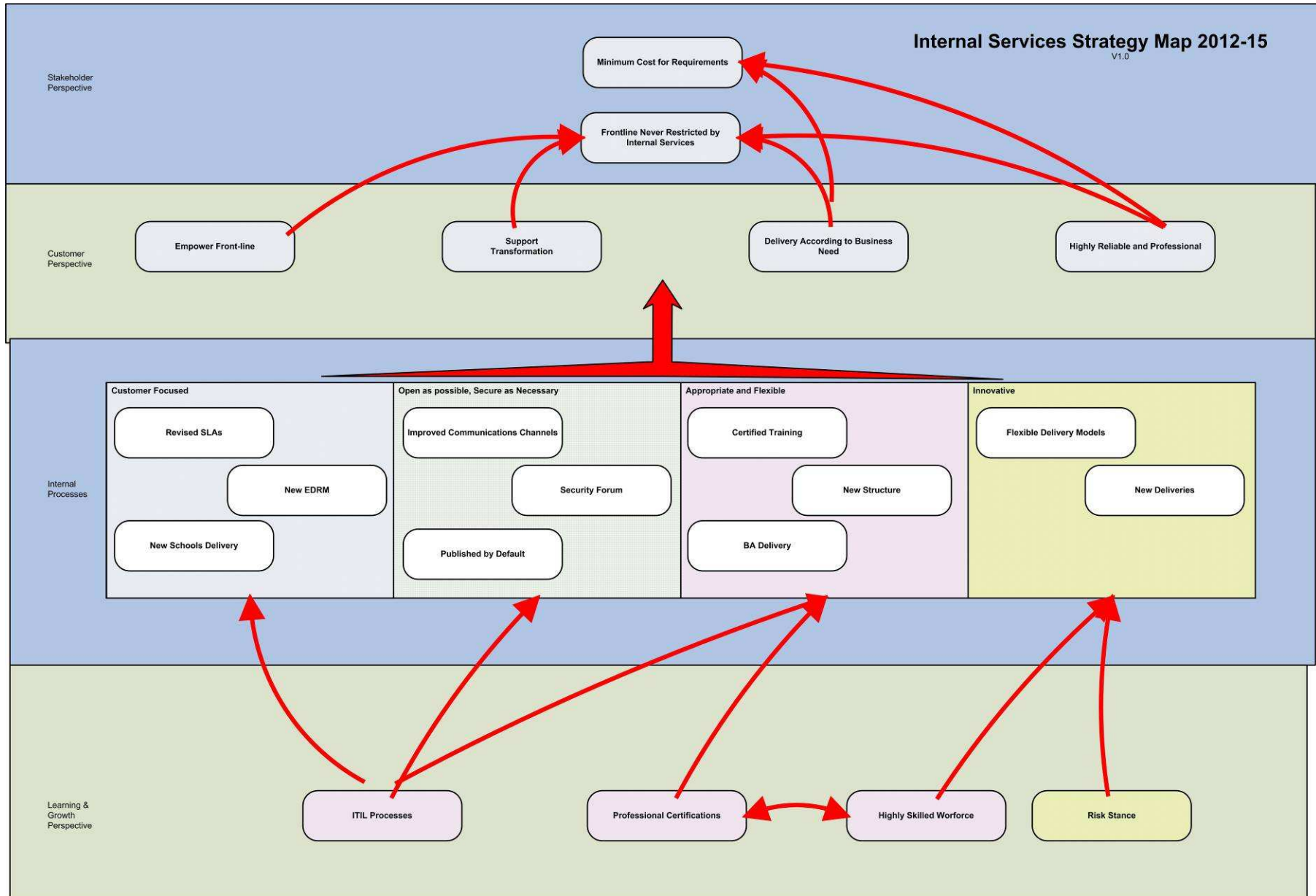
There are four major challenges our delivery needs to address:

- Workforce Skills
- Ageing Infrastructure

- Architecture and Technology Changes
- Building and Workplace Changes

Addressing these aims and challenges will be our key success factors. The underlying ICT issues will be addressed in detail by a Technology Framework.

# 8 Strategy Map



# A Technology Framework to support the Internal Services Strategy

2012 – 2015



Ownership: Head of Internal Services

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## 1 Introduction

### 1.1 Technology Framework

This document is the Technology Framework for Cardiff Council for the period 1 April 2012 until 31 March 2015. It contains the baseline of the ICT infrastructure across the Council as of March 2012. It includes a series of statements which relate future expenditures on ICT to a set of outputs in the form of an action plan. The objective of the technology framework is to support the Internal Services Strategy 2012 – 2015, which in turn supports the Council's overall service requirements.

The technology framework is built upon the standard of achieving operational excellence. The attainment of operational excellence by means of high availability within the budget allocated for ICT is the goal of this technology framework. The professional application of the most appropriate ICT infrastructure operating to the highest possible standards is the theme of this framework and, therefore, the technology framework addresses management standards for success in ICT.

The Enterprise Architecture team has the responsibility for definition of the overall Enterprise Architecture, and many of the high-level software choices. These choices inform the technology framework and form part of the statement of needs. The ICT Service Unit has to provide a reliable, suitable and economic infrastructure for the architecture to run, and this forms the main focus of the framework.

The work of developing the technology framework has been led by the ICT Service Unit. The Service Unit will monitor the technology framework and its effects over its lifetime to ensure it remains capable of absorbing technology advances and changes to Council services. It will also reflect the statements and needs of users as demonstrated through the regular user feedback to the service desk.

## 2 Operational Excellence

The ICT Service Unit with this framework aims for operational excellence to support the ICT Strategy. The ICT Strategy assumes that an underlying technical infrastructure is in place which is capable of reliably providing ICT to deliver services. The statements in this framework document address directly how Cardiff Council will engineer a set of technical solutions which together will form the roadway upon which the Strategy will be delivered.

The ICT framework extends beyond the confines of the computing and communications requirements of the workforce of the Council and encompasses the e-community agenda by way of usage of the Public Sector Broadband Aggregated network. The analogy can be drawn, therefore, with the more traditional and accepted forms of infrastructure such as water, road or rail when describing the impacts of the delivery of ICT into communities. This framework is concerned with ensuring the infrastructure is appropriate to delivering a well-engineered series of pipes from the main reservoirs of data and information held by the Council and its partners and where appropriate providing an onward feed to the Internet.

This engineered solution presupposes that a matter such as access to services is dealt with elsewhere but is able to deliver support to any agreed channel strategy for communication with and from the citizens and customers of the Council. As a framework concerned with engineering it deals

solely with the technical concerns of building and maintaining the infrastructure in the context of good management. It deals with capacity issues and matters of reverse engineering to ensure we can easily dismantle that which we build as technology changes.

Engineering excellence is an aim which can be expressed in terms of easily understood and realisable outcomes. The component parts of an ICT solution (the desktop, mobile devices, server, software and communications) represent for the user the infrastructure. What the user is concerned with, and what this framework addresses, is availability. Is the “system” there for me to use properly when I need to? For example, mobile telephone operators aim to achieve what is known as “five nines” of 99.999% reliability. Such a goal if achieved realises only one minute of lost time every 69.5 days. In addition to this measure the engineered solution will also aim to minimise the number of incidents that give rise to downtime and will report quarterly in the Quarterly Performance Reports on this measure.

The achievement of high levels of reliability in ICT is directly related to cost. This framework is a support to the ICT Strategy so the links can be made to the priorities which Cardiff Council has set itself in the business arena to ensure that the ICT infrastructure is neither over nor under engineered.

The availability assumptions are as follows:

Availability %	Unexpected Downtime per annum (excludes scheduled maintenance)	Infrastructure Area
99.999	5.25 minutes	Voice and Data network, Storage Area Network
99.99	52.5 minutes	Core Applications Central Printers/MFDs
99.9	c. 9 hours	End user computing devices including PCs, printers, VoIP telephone handsets  Network connected device including desktop printers, smart phones

The above levels as indicated exclude any planned maintenance required to maintain the necessary performance levels or to apply upgrades. The principle of engineered solutions, whether provided in-house or arranged through an external contract, must adhere to key performance standards in order to maintain availability. The ICT Service Unit will operate an at risk period for the infrastructure which will be from 17.00 hours to Midnight on each Friday. This period will be used for infrastructure



changes which have a potential to affect availability. Customers will be notified on all occasions prior to invocation of the at risk period.

### 3 Current Status of Technology Framework

The Council's current technology framework contains a degree of variation in technical components. Variation is costly and inefficient and the success of any technology framework must be measured in effecting a continued rationalisation. This statement excludes all schools.

Technology	Quantity	Comments
<b>Hardware</b>		
Unix Servers	13	Sun Solaris 3 – Libraries– being replaced. 2 x M5000 – DIGI, CF, Rents 1 x M4000 – Revenues 1 x M5000 – DigiGOV 2 x M3000 – DigiGOV Web 3 x T4 Oracle – SOA 1 x T5220 - NetBackup
Windows Servers	225 Physical  280 VM	All HP Kit
Data Centres	3	County Hall City Hall Willcox House
MFD Printers	95 PrintSmart enabled  240 traditional MFDs.	
Desktop Printers	c. 500	Being reduced as part of PrintSmart initiative.
Storage	3 Corporate NetApp filers	2 x 3160 – Cluster 188Tb County Hall  1 x 3160 – 188 Tb City Hall – Mirror  2 x 3140 – Cluster SAP - 12Tb County Hall mirrored to City

<p>Telephony</p> <p>Certified Cabling Locations</p>	<p>NAS 9000 15TB</p> <p>Server Storage DAS – 20TB</p> <p>Mitel VoIP</p>	<p>Hall.</p> <p>City Hall – D2D2T platform.</p> <p>Backed to Tape</p> <p>No locations have fully certified cabling.</p>
<p><b>Data</b></p> <p>Directory Services</p> <p>RDBMS</p>	<p>1</p> <p>Oracle SQL MySQL Informix</p>	<p>Active Directory.</p>
<p><b>Applications</b></p> <p>Core Applications</p> <p>Service Area Applications</p> <p>Business Intelligence</p> <p>Development Environments</p>	<p>10</p> <p>469</p>	<p>CRM, DigiGov, Email, HR/Finance/Payroll (SAP), Intranet/Internet, Planning, Revenues &amp; Benefits Social Care (Care First), Website</p> <p>Including 24 service area written “critical applications” using Microsoft Access/Excel</p> <p>Business Objects, Cognos and MS Reporting Services</p> <p>Visual Studio, Rational Application Developer (Java), PHP, Weblogic, Fusion</p>

<b>User (excl. Schools)</b>		
Desktop Computers	2784	
Laptop Computers	595	
Thin Clients	2500	Citrix/TS
Call Centres	4 commander (1 external) 2 6100 based 1 Tunstall	
Assistive Technologies for People with Disabilities		Various; we do not currently have a central register
Mobile Phones	2700 voice only, 750 smartphones	Good mobile deployed on 580 devices – not all of these council owned.
VoIP Phones		4,280
Traditional Analogue/Digital Phones		We do not currently have a central register.
<b>Customer</b>		
Internet Sites	>296	296 registered domain names; other external names may be in existence
Kiosks		We do not currently have a central register.
Authentication Technologies	1	Active Directory

## 4 Statement of Requirements

### 4.1 The Framework

The framework covers technical deployment in each of the following areas:

- Voice, Data and Video (converged) Network
- Mobility
- Cabling Standards
- Device Standards
- Data Centres

- Operating Systems
- System Software
- Business Applications
- Data Storage
- Print
- Security and Secure Access
- Management Standards

The Service Unit will continue to manage itself in accordance with the IT service management best practice as detailed in the IT Infrastructure Library (ITIL).

### 4.2 Voice, Data and Video (Converged) Network

#### 4.2.1 The Network

The network infrastructure throughout the Council delivers an Internet Protocol (IP) based network to facilitate the transit of Voice, Video, and Data. This integrated Voice, Video, and Data network is currently defined in three groups; Core, Tier 1, and Tier 2. The core network is a mixture of private fibre optic network and BT circuits connecting County Hall, City Hall, Willcox House and Global Link. Tier 1 consists of a similar mix of technologies connecting many schools and corporate sites. Tier 2 consists of small remote offices and home workers running VPN over ADSL.

Core and Tier 1 networks provide an IP Telephony (IPT) service. This is present in corporate sites and many primary schools. The central call handling system is Mitel. Currently all IP Phones are Mitel branded.

The main provider of network equipment is Avaya; firewall architecture is provided by Checkpoint.

During the period of this framework a major change to the network via the Public Sector Broadband Aggregation (PSBA) contract will be made. This will result in improved deliveries to many sites.

A wireless network installation is also taking place covering all schools.

The Corporate wireless network will need to be refreshed in line with the solution delivered in schools above.

During the period of the framework, consideration will need to be given to migration to IPv6.

##### 4.2.1.1.1 Network Monitoring Tools

The current position on the use of network software and monitoring tools is through the use of Solawinds. This enterprise product forms the basis of network monitoring.

##### 4.2.1.1.2 Network Resilience

Parts of the network infrastructure are aging, and suffer from a lack of redundancy. This will be addressed during the lifetime of the framework

#### 4.2.2 Mobility

A three tiered approach is planned to be implemented to improve staff mobility enabling flexibility to meet the impending business challenges.

## 4.2.2.1 Thin Clients/Hot desking

The current thin client devices will be reviewed and updated replacement sought. The back end systems will be upgraded to the latest versions of desktop and collaboration software within the first year, as noted under OS and collaboration software above.

Conventional PC devices are generally deprecated except for specialist applications where a thin client deliver is not technically suitable.

## 4.2.2.2 Mobile Technologies

Existing mobile technologies will be expanded upon, and tablet devices particularly will become a core delivery. This will place pressure on the existing legacy wireless network which will therefore require upgrading.

## 4.2.2.3 Public Network Access.

Access via public networks to certain levels of information is currently permitted and will be developed. (examples needed – e.g. OWA, Alfresco via Web)

## 4.2.3 Cabling Standards

The adoption of cabling standards in the core network will apply to all Council locations. The standards employed will support the building blocks of an open architecture to deliver Voice, Video, and Data integration. IP is acknowledged as the ubiquitous transport protocol and as such the physical cabling standards will be expected to support this.

The physical cabling will be carried out under contract and the contract will be let for a period of three years to run alongside the period of the technology framework; there will be a separate contract for the wireless deliveries. The use of the cabling contractor(s) will be mandatory for the future connection of any location to the network. Adoption of existing sites will be permitted if they meet agreed engineering standards.

## 4.2.4 Device Standards

### 4.2.4.1 Devices

The position adopted for the period of the current strategy is that control will continue to be exercised through the process of central procurement mainly through the planned corporate hardware replacement program and multi functional device print project.

The devices under consideration during the current strategy:

- Edge switches
- Wireless APs/Management
- Thin Clients
- Bootable Secure USB sticks (for using non-Council equipment)
- Desktops
- Laptops
- Tablet Personal Computers
- Multi Functional Devices

- Smart phones
- VoIP Phones

Desktop (thick client) PCs are deprecated and will only be installed where a clear application need is required.

The ICT Service Unit will procure on behalf of the Council through a process of electronic order and invoicing with delivery direct to the end user selected location. In each of the above areas, the ICT Service Unit will agree on a single supplier and the present arrangements will be tendered and a contract let for three years to coincide with the duration of the technology framework. A decision will be made on the business advantages of using a value added reseller (VAR) to facilitate procurement through the Value Wales Framework or other as appropriate.

The devices selected will be supportive of mobile and flexible working. Members and staff will be supported with the appropriate devices to undertake their work.

A key issue for all devices is the browser choice, as a modern browser is needed to deliver applications. We will standardise on a small number of browser choices (preferably one per platform), which will be of up-to-date versions with suitable support lifecycles. We will roll out the browser choice to all machines by end Dec 2012.

### 4.2.5 Data Centres

#### 4.2.5.1 Server Infrastructures

The technology framework aims to identify and work alongside the major disruptions to the server landscape over the next three years. The IT Service Unit has already adopted blade and server farm technology and will adopt cloud technologies where there is a clear business case to do so. There will continue to be a strong emphasis on centralization. The rationalisation and consolidation is an ongoing process to reduce the server infrastructure to ensure greater manageability with regards the physical hardware platform. Through the standardisation on a single vendor hardware footprint the council will continue to benefit from economies of scale alongside the ability to deploy new servers in reduced time. The Department is moving to a position of offering class of service SLAs setting different priorities for different services.

All server types, such as application, database or file and print, will be either rack mountable or blade servers supplied by a single hardware vendor. They will be located within the secure data centre sited in either one of the three available locations – City Hall, County Hall and Willcox House. Virtualisation and cloud technologies will be deployed to improve maintainability and TCO.

The technology framework will support the Council in the Data Centres by:

- Reusable components
- Standard processes
- Maintainability and serviceability
- Rapid extendibility
- Automation
- Built in quality
- Resilient architecture

- Scalable architecture
- Manageability
- Flexible sourcing
- Economies of scale by adopting the MS/Intel standards
- Resources pooled and virtualized

The Data Centre approach will deliver a monitoring platform that will provide granularity in terms of auditing, trending for event driven outages and the provision of performance data through synthetic transactions that emulate user actions. This will enhance the ability to minimise downtime, reduce costs and support growth. The service unit will evaluate and implement software to provide end-to-end service management that is easy to customize and extend to help improve service.

Additionally, the chosen inventory tool will be implemented to manage software inventory both inside and outside the Data Centre, providing the visibility of software use for cost and license management.

The Data Centre will improve the facilities in which the server and networking infrastructure is housed. This encompasses the physical layout and the resilient provisioning of power and chilling aiming at N+1 architecture where applicable. These improvements will be important to the Data Centre providing operational excellence and minimal downtime. The aim is to be able to allow for any planned site maintenance without disruption to the hardware operation and therefore mitigating failures. This will ensure the greatest level of resilience available to the Data Centre and directly improve the service it offers, at a server and network level.

The Data Centre will consolidate the print function into its operation for large print runs. The existing Canon ImagePress printers will be upgraded to include a folding unit. To support the printing operation, the current Polywrap machine will be discontinued or replaced. The existing KAS mailmaster is now eight years old. The fast sheet feeder will require replacement to enable barcode reading. It is not envisaged that the mailmaster insert stations will require replacement. This will provide cost savings as well as economies of scale. The Data Centre will be providing a single resource point for the Council that can be managed from a cost centre perspective. This assumes that the printing of non variable stationary will continue to be handled externally.

### 4.2.5.2 Operating Systems

#### 4.2.5.2.1 OS in the Data Centre

The aim is to continue to focus upon developing the data centre with a reduced number of supported operating systems with an emphasis upon Microsoft products and limited open source when appropriate.

This will require procurement in order to ensure that the operating system platform can be maintained. It is intended to enter into a Microsoft Enterprise Subscription in order to meet this goal.

### *4.2.5.2.2 OS on Personal Computing Devices*

The aim is to focus on the Microsoft product stack for fixed devices, and to reduce the number of “thick client” devices on the network to improve maintainability and hot-desking potential in line with other council strategic objectives.

This will require procurement in order to ensure that the operating system platform can be maintained. It is intended to enter into a Microsoft Enterprise Subscription in order to meet this goal.

A software asset audit is also required to define the license position here as part of entry.

The picture on mobile devices is less clear, although Android and iOS are currently taking the majority of the market.

A decision is needed on supported platforms and devices during the lifetime of the framework.

### *4.2.5.3 System Software*

#### *4.2.5.3.1 Support Statement*

The present position is that staff, financial and efficiency issues are created by the support for multiple database platforms. It is a function of the diversity of local government business that multiple platforms exist where they may not in the private sector. The diversity creates risk in terms of the depth of staff support that can be provided for critical applications. The Enterprise Architecture intends to reduce this to a smaller number of applications delivered over a service bus during the lifetime of the framework.

However, a strategic choice of the MS SQL server product is made from the technology standpoint. The reasons for this are as follows:

- Chosen in the proposed Enterprise Architecture
- Emergence of MS SQL server applications in the local government marketplace
- Good levels of in-house expertise
- Mature database technology
- Cheaper price points and licensing at this moment in time than main competitors
- Ability to support a multiple application/single server strategy

This will require procurement in order to ensure that the SQL server platform can be maintained. It is intended to enter into a Microsoft Enterprise Subscription in order to meet this goal.

The IT Department will continue to provide end users of non-SQL applications with assistance to support current applications running on different platforms. Data should be co-located where possible on drives mounted over the network to provide a more comprehensive database opportunity, or replicated to provide separate business intelligence and reporting databases.

In the case of non-SQL applications where the IT Department does not have the necessary internal support, then assistance will be given to obtain the correct external support. The IT Department will ensure that the relationship with any external support provider is professionally managed.



The rationalisation of system support arrangements will enable the IT Department to support the products it does manage better, with simplified training and recruitment requirements.

### 4.2.5.4 Business Applications

#### 4.2.5.4.1 Corporate Priorities

The corporate business applications considered as part of the ICT framework are as follows:

- Groupware including E-mail and Diary System
- Customer Resource Management System (CRM)
- Financial Information System (SAP)
- HR and Payroll System (DigiGOV and SAP)
- Geographic Information System (MapInfo)
- Document Management System (Alfresco)
- Content Management System and Web Services
- Social Care (Care First)
- Office Suite
- Revenues and Benefits

#### 4.2.5.4.2 Groupware including E-mail and Diary System

The previous deployment of Exchange and Outlook meets many of the business goals. The focus for the new framework will be migration to the latest versions (current version is desupported from April 2014), a new mixed local/cloud model with security and performance improvements, particularly around archival and management.

This will require procurement in order to ensure that the platform can be maintained. It is intended to enter into a Microsoft Enterprise Subscription in order to meet this goal.

#### 4.2.5.4.3 Customer Resource Management System (CRM)

CRM has been identified as a potential replacement system. ICT will incorporate this rollout in their plans as soon as a final decision is made.

#### 4.2.5.4.4 Financial Information System

The council has chosen SAP as its core Financial Information System. ICT will continue to support the system and maintain its SAP Certification at the current level.

#### 4.2.5.4.5 HR and Payroll System

The HR and Payroll system use DigiGOV and SAP. The DigiGOV project comes to an end early in the framework with the final deliverables going live. ICT will continue to support both products.

#### 4.2.5.4.6 Geographic Information System

Our GIS systems will continue to provide high quality location based information and services online. We will improve integration with back office systems utilising web services. We will improve customer self help and interaction with fault reporting and public consultation.

For general GIS usage, we will continue migration from desktop GIS applications to web based applications and the gradual moving away from the reliance on propriety systems and adoption of open source technologies.

We will reduce the cost of maintenance on all GIS related systems through open source.

We will explore the potential of shared services with other appropriate partners.

#### ***4.2.5.4.7 Document/Complaints/Correspondance Management***

Alfresco has been chosen as the Corporate EDRM and will be rolled out council-wide during the lifetime of the framework. Additionally, workflow for the correspondence management and complaints will be provided by Oracle SOA suite, and the case management by SAP CRM

#### ***4.2.5.4.8 Content Management System and Web Services***

SharePoint has been selected as the CMS/Web Service platform

#### ***4.2.5.4.9 Social Care***

The current CareFirst system is being considered for replacement under the Enterprise Architecture. Assuming this decision is within the lifetime of the framework, this change will need to be carried out.

#### ***4.2.5.4.10 Office Suite***

The current focus is upon Microsoft Office 2003. A migration to 2010 or later during the lifetime of the strategy will be undertaken ensuring best use of complex licensing models to exercise cost control. The migration is integral to exploitation of data and ongoing system security.

#### ***4.2.5.4.11 Revenues & Benefits***

The existing Revenues & Benefits system is meeting our needs well, but its technology is now somewhat outmoded. The existing system will be upgraded or replaced during the lifetime of the framework to more modern technologies, in line with decisions made in the Enterprise Architecture space and by central government around moves to national systems.

### ***4.2.5.5 Data Storage***

The current data storage capacity at the corporate centre stands at 400Tb (RAW).

The demands on storage capacity are increasing in terms of "File Store" and "Email" growth. Therefore Hierarchical Storage Management (HSM) is seen as part of the technology framework. This is inline with strategy as it will reduce storage and administration costs while keeping data available.

Rationalisation of the backup infrastructure and the movement away from the medium of tape is paramount to reducing the "backup and restoration windows". This is achieved through technologies such as "de-dupe" and "disc to disc" backups. The Council's growing requirement for providing longer operational windows for its services has a direct impact on the ability of the Data Centre to provide a robust backup strategy for Business Continuity purposes. Paramount to any

Business Continuity Plan is the ability to restore data in a timely manner to reduce the impact, of the disaster.

The current Data Storage systems will be redesigned during the life of the framework to include the above, with increased capacity to 800Tb (RAW).

### 4.2.5.6 Security and Secure Access

#### 4.2.5.6.1 Procedures

The management of security across the estate is a shared responsibility with Information Management. During the lifetime of the framework, new procedures and processes will be needed to address changing threats.

### 4.2.6 Management Standards

#### 4.2.6.1 Models

The management standards that will be employed by the Department to move forward the framework are:

- BCS SFIA+
- IT Infrastructure Library (ITIL)

#### 4.2.6.2 Training

##### 4.2.6.2.1 Staff

There is a requirement during the period of the framework to improve end user awareness training and to link ICT training closely to the corporate agenda on staff training.

IT Department staff will be allowed opportunities to develop innovative uses of ICT through encouraging controlled experimentation with the existing technologies.

##### 4.2.6.2.2 Service Desk

Customer and end user service underpins the success of the framework and the ICT Service Unit will address the concerns of users as expressed in regular surveys. The results will drive performance in this area and allow the technology framework to reflect user ideas and needs. This combines with the ongoing commitment to national benchmarking on ICT technology matters for which the service desk has key responsibilities in performance data collection.

Service Desk staff will be encouraged to improve customer and ICT skills in order to deliver a service that reaches our target of 90% of customers rating us Excellent.

## 5 Action Plan

No	Action	Responsible Team Manager	Timeframe (delivered by end)	Para.
1.	Engage with SLT, EA, the all-Wales agenda and other appropriate stakeholders to maintain the plans in alignment with current needs.	Head of Service	Ongoing	2
2.	Complete virtualisation and clustering of server farm, moving to less than 25% of servers being physical and less than 5% of servers not having clustering/virtual based resilience.	Server manager	March 2014	3
3.	Resilient link for core buildings; installed and tested.	Network Manager	Sept 2012	4.2.1
4.	90% of links migrated to PSBA or private fibre as appropriate	Network Manager	March 2014	4.2.1
5.	Create contract for delivery of schools high quality wireless installation	Head of Service	July 2012	4.2.1
6.	Roll out to all schools high quality wireless installation and suitable starter equipment to use it	Head of Service	March 2015	4.2.1
7.	Upgrade corporate wireless network to meet similar standards to that in schools, improving staff and public access	Network Manager	March 2015	4.2.1 4.2.2.2 4.2.2.3
8.	Decide and publish plan for IPV6 migration	Network Manager	March 2014	4.2.1
9.	Review, update and replace Citrix environment	Server Manager	March 2013	4.2.2.1

No	Action	Responsible Team Manager	Timeframe (delivered by end)	Para.
10.	Upgrade thin client platforms to new software versions (OS and collaboration software)	End User Computing Manager	Oct 2012	4.2.2.1 4.2.5.4.10
11.	Update the browser on all platforms to a suitable choice in order to deliver aspirations	End User Computing Manager	Dec 2012	4.2.4.1
12.	Confirm VMWare as the virtualisation solution of choice, and update/maintain it at latest version	Server Manager	March 2013	4.2.5.1
13.	Upgrade all servers to at least Windows 2008, and maintain at latest version as appropriate.	Server Manager	March 2015	4.2.5.1
14.	Revise datacentre provision to meet council's business continuity needs.	Server Manager	Dec 2013	4.2.5.1
15.	Revise data centre cooling/power to meet council's carbon targets	Server Manager	Dec 2015	4.2.5.1
16.	Review available Cloud Computing solutions, formally feed back to rest of service unit/business/EA and incorporate into plans as determined by review	All teams	Dec 2012	4.2.5.1
17.	Replace infrastructure components of DNS and Proxy Server with new facilities meeting needs of service	Server Manager	Sept 2012	4.2.5.1
18.	Define Video/TeleConferencing and IM Requirements	Server Manager	March 2013	4.2.5.1
19.	Deliver new Video/TeleConferencing and IM capabilities	Server Manager	March 2014	4.2.5.1

No	Action	Responsible Team Manager	Timeframe (delivered by end)	Para.
20.	Upgrade existing data centre print handling equipment to meet new aspirations.	Operations Manager	October 2012	4.2.5.1
21.	Create appropriate contractual agreements for Microsoft software to ensure support and maintenance in the future.	Operational Manager ICT	May 2012	4.2.5.2 4.2.5.4.2 4.2.5.3.1
22.	Obtain training to support team requirements, certified as appropriate.	All teams	ongoing	4.2.6.2
23.	Upgrade all SQL servers to SQL 2012 where operationally possible	Server Manager	April 2013	4.2.5.3.1
24.	Audit existing software and produce a definitive license position	Operational Manager ICT	May 2012	4.2.5.2.2
25.	A tactical review and appropriate procurement of a new storage management and archival architecture.	Server Manager	Dec 2012	4.2.5.5
26.	A tactical review and appropriate procurement of a new backup solution.	Server Manager	Dec 2012	4.2.5.5
27.	Improve call logging and reduce manual input by 50% from current levels	Service Desk	March 2013	4.2.6.2.2
28.	Replace with thin client, replace with new equipment or otherwise upgrade all thick client machines to run latest OS and collaboration software	End User Computing Manager	December 2013	4.2.5.4.10
29.	Upgrade Exchange farm to Exchange 2010	Server Manager	Dec 2012	4.2.5.4.2

No	Action	Responsible Team Manager	Timeframe (delivered by end)	Para.
30.	Retain and renew SAP certification, maintaining a suitable level of SAP support	Applications Manager	Ongoing	4.2.5.4.4 4.2.5.4.5
31.	Maintain the DigiGOV platform and ensure all services are transitioned to live in a timely manner	Applications Manager	Ongoing	4.2.5.4.5
32.	Improve GIS external service and reduce fault calls by 50% from current levels.	Applications Manager	March 2015	4.2.5.4.6
33.	Migrate at least 30% of general GIS users from existing propriety systems to web/OSS	Applications Manager	March 2015	4.2.5.4.6
34.	Reduce cost of GIS maintenance by 30%	Applications Manager	March 2015	4.2.5.4.6
35.	Explore potential shared services and create report	Applications Manager	March 2013	4.2.5.4.6
36.	Introduce Alfresco Document Scanning platform	Server Manager	April 2012	4.2.5.4.7
37.	Introduce Service Orientated Architecture (SOA) platform	Server Manager	June 2012	4.2.5.4.7
38.	Introduce SAP CRM platform	Server Manager	April 2012	4.2.5.4.7
39.	Deploy a suitable SharePoint farm for the external deliveries	Server Manager	Oct 2012	4.2.5.4.8