DERBY CITY COUNCIL

COUNCIL CABINET
12 APRIL 2011

ITEM 17

Report of the Strategic Director Resources

ICT Strategy

SUMMARY

1.1 This report summarises the new ICT Strategy that has been developed to establish the framework in which the ICT service will operate and how investment in new ICT systems will be managed.

1.2 The strategy establishes seven key principles:

- establishing the role of ICT in the business; ICT as an enabler
- achieving Value for Money through more efficient use of ICT
- delivering for Customers; self service, mediated service and end to end workflow
- Information Management and Information Security; protecting customer data
- Service Delivery and Management; adopting professional standards
- Technology Standards; setting the technology framework
- Transformation; ICT delivering efficiency and reducing costs.

1.3 This report and the draft strategy have been approved by the one ICT strategy board and the one Derby one council strategic board on which all groups are represented.

RECOMMENDATIONS

2.1 To approve the ICT Strategy that has been reviewed and agreed by the ICT Strategy Board. This is attached as Appendix 2.

REASON FOR RECOMMENDATIONS

3.1 The new ICT Strategy sets out a robust framework in which the ICT service can be managed and new ICT systems can be developed. This covers both in house and contracted ICT services.

3.2 The new strategy reintroduces some important principles establishing more coherent processes and protocols to try and ensure that ICT services are better planned. The lack of a forward plan often leads to conflicting demands; and the lack of business cases showing a five year cost model makes it harder to understand the true costs and benefits of ICT systems.

3.3 There is a history of ICT contracts either expiring without a renewal process taking place or being renewed without any market testing. This has risks that we may be challenged for not following procurement rules and that we remain with an incumbent supplier despite better value solutions being available.

SUPPORTING INFORMATION

4.1 The ICT Strategy has been developed to have a business focus and is linked to the one Derby one council objectives. It has been driven by the design mandate and other work developed through the transformation programme.

4.2 A new ICT business case model has been developed based on models applied elsewhere and follows principles of best practice including the internationally recognised ITIL framework for managing ICT services.

4.3 The strategy itself has been available on the Intranet for comment and consultation and has been presented to the ICT Strategy Board, ICT Transformation Board and to ICT staff. This has been revised based on comments received, including the link between the ICT Strategy and climate reduction.

4.4 In order to implement the ICT Strategy we will establish with each directorate both an ICT forward plan and improved liaison between ICT and service management.

OTHER OPTIONS CONSIDERED

5.1 Volume of change - Transformational ICT will need to keep pace with the ability of the organisation to manage the planned changes and adopt the revised solutions whilst readying the systems; this will be reflected in the overall timelines.

This report has been approved by the following officers:

Legal officer	
Financial officer	
Human Resources officer	
Service Director(s)	Director of ICT
Other(s)	Strategic Director Resources (Chair of ICT Strategy Board)

For more information contact:	Nick O'Reilly nick.oreilly@derby.gov.uk
Background papers:	None
List of appendices:	Appendix 1 - Implications, Appendix 2 - ICT Strategy

Appendix 1

IMPLICATIONS

Financial

1.1 None Identified – although adopting a more robust business case process should help achieve better financial scrutiny of future ICT schemes.

Legal

2.1 None identified.

Personnel

3.1 None identified.

Equalities Impact

4.1 None identified for the technical implementation.

Health and Safety

5.1 None identified for the technical implementation.

Carbon commitment

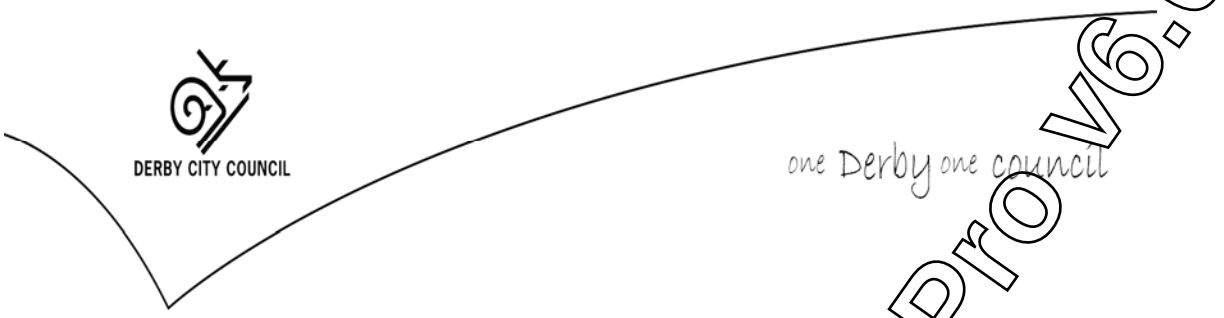
6.1 The ICT Strategy includes commitments to Green ICT and to carbon reduction.

Value for money

7.1 The ICT Strategy embeds value for money as one of the key principles in the strategy.

Corporate objectives and priorities for change

8.1 This is consistent with the one Derby one council programme.



ICT Strategy 2011 – 2013
ICT in Support of Transformation

Contents

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RACI Chart

Responsible	Nick O'Reilly – Director of ICT ICT Strategy Board
Accountable	Nick O'Reilly – Director of ICT
Consulted	ICT Transformation Board ICT Operations Board Lead Member for ICT
Informed	All Council Staff – Via Intranet Published – Via Internet

Draft ICT Strategy

1. Introduction

1.1. This Information Communication Technology (ICT) Strategy establishes the basis on which ICT services will be provided for Derby City Council. It also identifies the main priorities in respect of ICT Investment until March 2013.

1.2. The ICT strategy re-emphasises the fundamental role that ICT has in enabling both efficient council services and in delivering greater choice and flexibility to customers and staff.

1.3. The strategy is a high level document establishing key principles; it is not intended to be a detailed explanation of the ICT service or of all ICT projects.

2. Key Principles

2.1. The key principles established in this strategy cover the following aspects of providing ICT services:

2.1.1. Understanding where ICT sits in the Enterprise Architecture
2.1.2. Achieving Value for Money
2.1.3. Delivering for Customers
2.1.4. Information Management and Information Security
2.1.5. Service Delivery and Management
2.1.6. Technology Standards
2.1.7. Transformation

2.2. In the climate of significant cuts in public expenditure between 2010 and 2013 it is essential that we make best use of ICT facilities and that the ICT service is itself an exemplar of how to improve efficiency through the use of technology.

2.3. In defining our ICT Strategy we need to remain focussed on the needs of the business, how we add value to both internal and external customers and how we can both deliver ICT efficiency savings and enable the business to use ICT more effectively to deliver more efficient business services.

2.4. We also need to address where ICT contributes to other council objectives whether these be in respect of customer or service delivery, fulfilling statutory duties or achieving policy objectives. One example of such is how by replacing obsolete technology we can reduce both energy use and carbon emissions thus contributing to the council's climate change strategy; the council has a separate Green ICT Strategy which is attached as Appendix 2.

3. Brief History and Current Position (November 2010)

3.1. In writing this strategy it is important to understand both the historic provision of ICT in Derby and the current position which identify both some constraints but also some opportunities.

3.2. Historically ICT in Derby has been provided in a co-sourced model with some services delivered by in-house staff and some delivered through an out-source contract. The current contract is with Serco, and whilst it is titled and framed as a partnership agreement, it has been run very much on a customer/supplier basis.

3.3. Within the in-house provision there is a central ICT team that provide technology functions and support the main financial and personnel business systems and a number of small teams in different departments that provide support for various business systems.

3.4. The council is behind many others in terms of establishing a corporate approach to ICT strategy with over 400 different business systems in use, with many points of contact for customers supported by many disparate ICT systems, often with either duplicate or inconsistent data being held and with multiple systems often delivering the same core functionality but just in a different part of the Council's structure.

3.5. Investment in ICT has been sporadic, without planned technology refresh for either the core infrastructure or for user computing devices. This is best demonstrated by the fact that of the council's user computers over 35% are older than 5 years, with some older than 10 years. In contrast some users have replaced their computers three or more times over the same ten year period because they had the money to do so. This represents tactical rather than strategic planning.

3.6. Many contracts have been let for what were initially defined terms (often 5 years) but then either due to the costs of change or to a level of inertia, these have often rolled forward with the same supplier rather than been back through competitive procurement. It is true that price re-negotiations have often taken place.

3.7. In terms of Information Management and Information Security the security aspect has been the dominant factor, thus the council has high levels of security but at times this can constrain the business and can prevent efficiency.

4. ICT Strategy, ICT Transformation and ICT Operations

4.1. It is important to recognise that when considering the ICT strategy we have three distinct components to consider. These are the ICT Strategy, the need

to achieve ICT Transformation and day to day ICT Operational services.

4.2. The ICT Strategy needs to encompass both the transformation and the operational requirements and needs to establish a longer term approach to delivering stable ICT services. Its remit is wide-ranging, but by its very nature is at a high level with strategic objectives.

4.3. The ICT Transformation programme is part of the wider council transformation programme, and as such identifies a number of specific projects covering both infrastructure and business applications that are required to achieve efficiency. This is a high profile and very focussed programme which will inevitably drive ICT service priorities until March 2013.

4.4. ICT Operations are in effect the day to day provision of ICT services comprising mainly business as usual services but also including some significant change work for example major upgrades to existing business applications.

4.5. Whilst ICT Transformation is clearly a key priority there may be other ICT projects that need similar focus, for example we need to address the Children's social care inspection report that identified the existing ICS system as a major weakness to providing the required quality of care. Thus even when a project is not part of the identified ICT transformation programme there may be a need to give it priority and to allocate the required resources.

4.6. We have established governance arrangements that establish (or re-establish) an ICT Strategy Board which will be the owner of this strategy and will consider key decisions required on the overall ICT strategy. This will also be the board that considers the strategic relationship and effective partnership between the Council and Serco. This board will comprise senior management representatives from each directorate, the Directors of ICT and Transformation and the Strategic Director Resources plus senior managers from Serco.

4.7. An ICT Transformation Board has been established in accordance with the one Derby one council structure for Transformation governance; it will own the ICT transformation programme and oversee specific ICT transformation projects. Its membership is as per the transformation programme structures, with both Director and Head of Service level reps from each directorate, members of the transformation team, Price Waterhouse Coopers and Serco and again the Directors of ICT and of Transformation.

4.8. We are establishing a new ICT Operations board to consider detailed day to day matters; this board will review issues and problems and the regular service reports for both internal and Serco provided services. Its membership will be formed of IT Liaison Officers, Derby Homes rep, the Director and the two Heads of Service for ICT and Serco operational management.

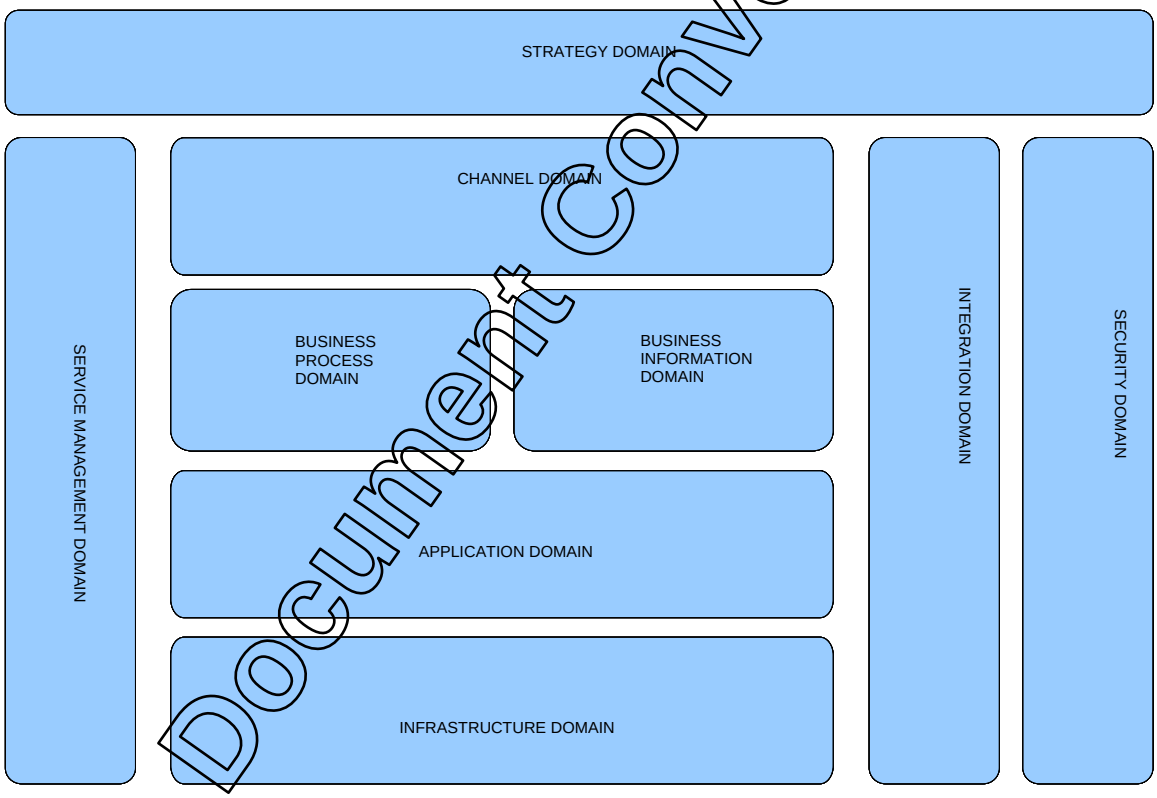
Note, separate papers detail the governance structures.

5. ICT in the Enterprise Architecture

5.1. It is important to re-position the ICT service both within the Enterprise Architecture but also to make it more attuned to the needs of different stakeholders in the ICT service.

5.2. ICT itself is just one building block of an efficient and effective service, in essence ICT is one of the foundation stones upon which services are delivered. It is important that when redefining the ICT strategy we approach this with the service outcomes and customer expectations at the forefront.

5.3. To position this it is intended to use the cross-Government Enterprise Architecture Model as a basis, thus ensuring a common platform with other public services which should make it easier to develop shared services and to provide multi-agency citizen-centred services. This is shown in the following diagram.



5.4. However this approach does not really show the customer perspective so in conjunction with this architecture model we will look at the customer perspective and the tools that support the customer in completing transactions. By doing this for example it shows how

- the customer service strategy and the ICT strategy sit in the strategy domain and complement each other,

- the web, contact centre, email and face to face customer interactions sit in the channel domain
- authentication and verification sit in the security domain which provides end to end security
- information management and business intelligence sit alongside business process and workflow management to provide efficient business processing
- a combination of business applications (software) which utilise technology infrastructure (hardware, networks etc) supports service delivery
- integration tools collect data at the customer interface and pass it through to business application systems using workflow and data matching tools
- end to end service management ensures there is sufficient availability, reliability and capacity and supports for both users and customers

5.5. Putting this in context for the Council and for how we deliver services to our customers we could show this in the following diagram, note in this diagram the application layer is split into two elements of corporate applications and line of business applications. The second diagram shows this in terms of a customer perspective.

Diagram 1 – The Enterprise Architecture Approach for Derby City Council

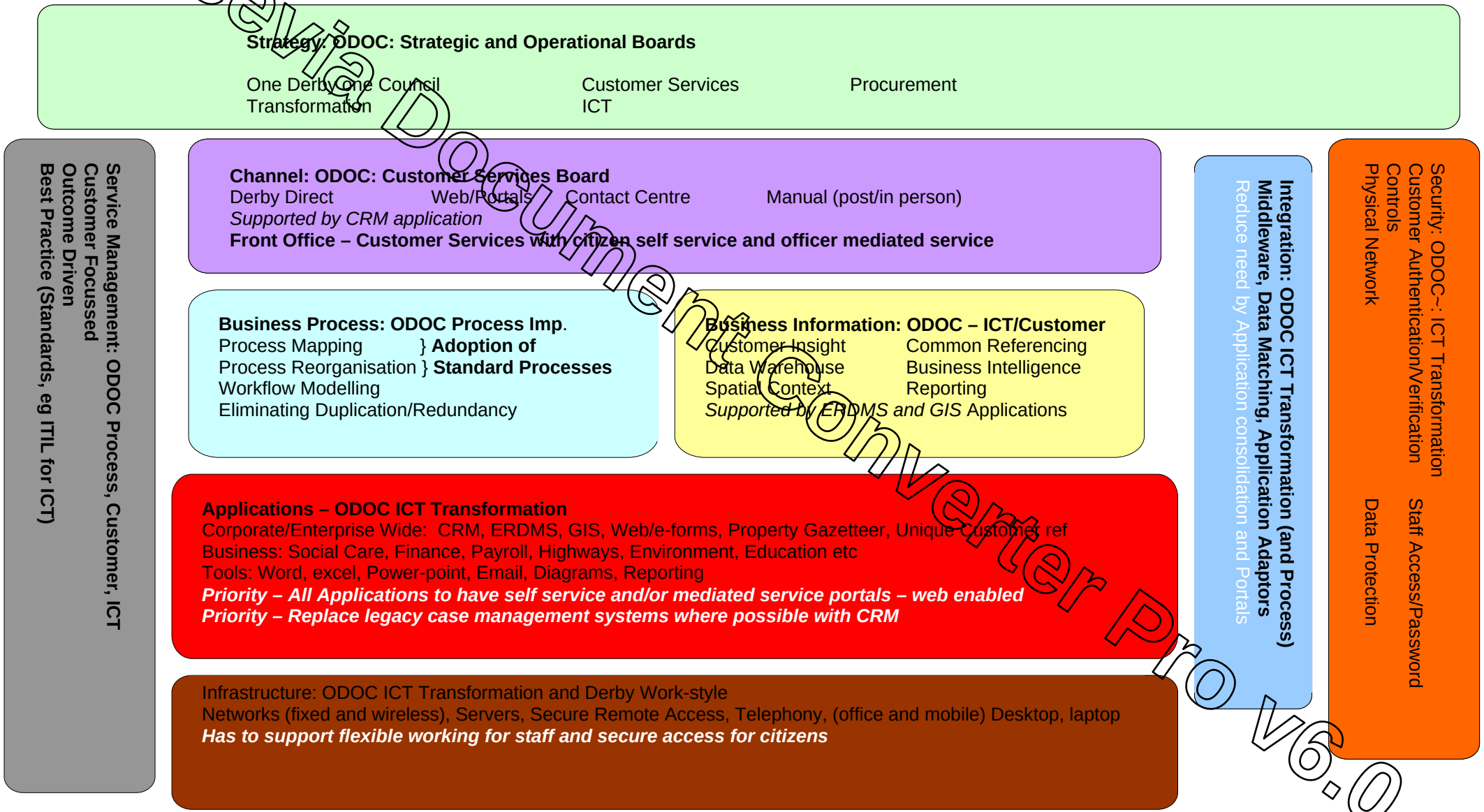


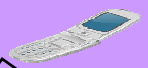
Diagram 2 – The Customer Journey – Routes for Service Fulfilment

Customers – Individuals, Households, Cares, Businesses (they are different and have different needs)




Choice of Channel – However Council Encouraging use of both 24 by 7 and cheaper Channels (Internet, Automated Phone, SMS ?)





Internet | Digital TV | Phone | Mobile | Face to Face | Email | Fax | Post

Secure Service: Authentication and Verification		Transaction not needing security but with identity	 Notification/Report – can be anonymous	

One Derby one Council – Seamless Interface to the Customer (Website, CRM and Front Office)

Self Served No council intervention		First Point of Contact – Assisted		Passed through to Specialist Team		Outreach – council officer visits customer	
eg, On Line Booking, Forms, Payments, etc – Council Website, Web Portals, GIS		Answer first time – supported by the CRM , by scripts and by EDRMS		Needs expertise – supported by specialist systems and data integration		Supported by mobile access, off line applications, portable devices and EDRMS	

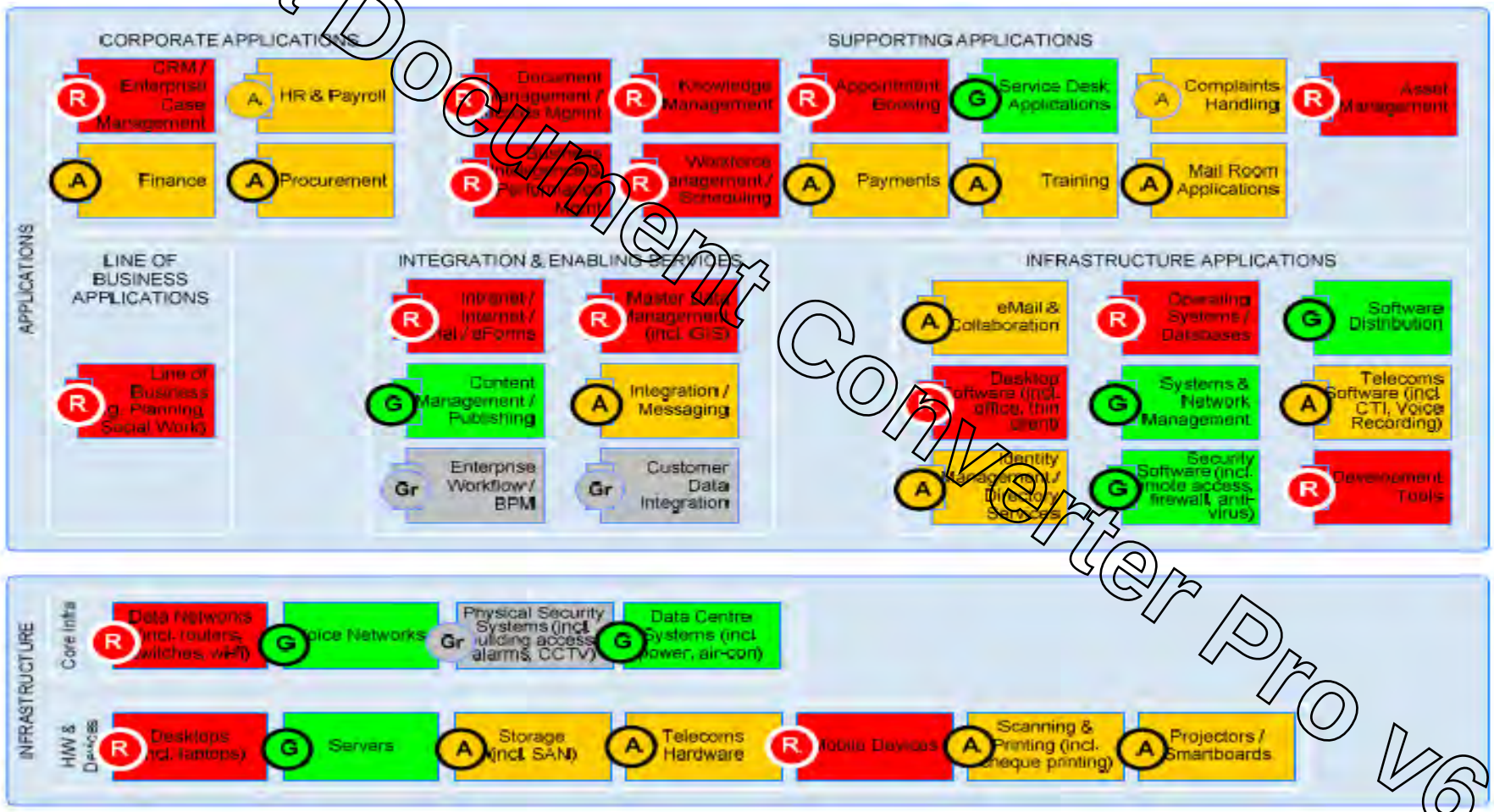
Faster Response for the Customer
More Efficient and lower Cost for the Council

Departments and Directorates Support each Option by publishing information, updating web and crm systems, adopting common references, sharing data – improving workflow and enhancing customer and business intelligence

The aim is to have the tools that support each of these routes but to increasingly promote the self service and first point of contact service, except where there is a genuine need for specialist knowledge and expertise or for an outreach visit. The ICT tools must support this and the ICT Strategy needs to encompass this.

Diagram 3 – The Application and Infrastructure Architectures in More detail

This diagram is taken from the Design Mandate and shows applications where we currently have gaps in Red (R) those that partially exist but may need modifications or enhancements in Amber (A); and those that are substantially in place as Green (G).



5.6. To fully establish this enterprise architecture and as part of the one Derby one Council programme a number of key priorities for strategic investment in ICT between 2010 and 2013 have been identified, these are:

Business Information Layer
- Business Intelligence Tools (BI)
- Master Data Management (MDM)
- Information Management Support*
- Performance reporting (Corvu)

Application layer
- A new Customer Relationship Management System (CRM)*
- A new Electronic Document and Records Management system (EDRMS)*
- Consolidation of Geographic Information Systems (GIS)
- Replacement of the Intranet
- HR/Payroll self service portal (Vision)
- Asset Management system
- Oracle Financials development

Infrastructure Layer
- Network enhancements
- Desktop renewal including operating system licensing
- Telephony
- Server renewal and virtualisation
- Storage expansion
- Mobile Working facilities

Integration Layer
- Data Integration (Middleware, Adaptors – CRM to back office)*

Security Layer
- Identity Management

* These components will also include elements of workflow management

5.7. In addition to these there will also be many non-transformational business applications that may require significant upgrades and/or replacements during this period. One example could be the social care application to meet requirements of a recent Children's inspection audit.

5.8. This investment supports the 14 themes of the Delivering Efficient Corporate and Transactional Services, in particular the following business cases for change:

Business Case	ICT Involvement	FTE Saved 11/12	FTE Saved 12/13	£ Mil. Saved 11/12	£ Mil. Saved 12/13
Assets & Facilities	New Asset Man't System (200k)	5.0	5.0	0.12	0.86
Procurement	e-Tendering and i-Procurement	23.0	23.0	4.84	6.44
Customer Management	CRM, EDRMS, Web, MDM	53.5	107.0	1.34	2.67
Developing Capability	Standardisation of ICT	25.0	62.0	0.99	2.48
Financial Management	Oracle	10.5	21.0	0.36	0.67
General Administration	ERDMS and Internal Self Serve	45.5	91.0	1.14	2.27
Human Resources	HR and Manager Self Serve	14.0	14.0	0.36	0.36
Information Management	MDM, GIS and BI	7.0	7.0	0.17	0.17

ICT	Infrastructure	0.0	7.0	0.00	0.175
Managing Change	None Directly – All Indirectly	NA	NA	NA	NA
Marketing & Communications	Content Management System	2.5	5.0	0.1	0.16
Increased Income		NA	NA	1.20	2.40
Strategy, Research & Perform.	Corvu System	12.0	12.0	0.30	0.30
Workforce Deployment	Mobile Technology	0.0	112.0	0	2.80m

5.9. Clearly from this list the CRM and the EDRMS are the highest priorities in terms of applications as they contribute most to reductions in both FTE numbers and total costs. However equally the tools required to support better procurement are a high priority as that will enable the largest financial savings. These are fundamentally supported by Business Intelligence, Master Data Management, and Mobile working. The target is to deliver all of these on or before the end of September 2011.

5.10. The Infrastructure stream will be driven forward separately, we have identified that completing many of those projects will not only deliver a more robust, resilient and higher performing platform but will also allow Serco to deliver cost reductions on the service contract in the region of £ 250,000 a year. In addition by replacing older technology we will contribute to both reduced power consumption and lower carbon emissions be this due to more efficient energy consumption on newer equipment for through projects to replace a large number of physical servers with a smaller number of servers each one hosting a number of virtual servers.

5.11. This means that other ICT transformation projects will either need to be progressed when capacity allows, or as self-contained projects where this is possible; or will be scheduled to commence after October 2011.

5.12. One issue we need to resolve as part of this initial re-investment in the ICT infrastructure is a more strategic and structured approached to future refresh of both infrastructure and user/client computing devices. This will involve developing a model that identifies for devices of different types what the optimum refresh cycle should be, for example:

- Servers purchased with 5 year warranty and refreshed after 5 years
- Laptops purchased with 3 year warranty and refreshed between 3 and 5 years
- Desktops (thick client) purchased with 3 year warranty and refreshed between 3 and 5 years
- Thin client terminals refreshed between 7 and 10 years
- Network switches refreshed between 5 and 8 years

In managing this refresh process we will take advantage of more energy efficient devices and of enhanced power management features, for example automated hibernation and power-down of computers that have been inactive for defined periods of time.

As part of this process we should establish an approach to keeping small numbers of strategic stand-by spare equipment to use as a hot swap should

items out of warranty fail, giving the ability to maintain service until a replacement can be purchased.

6. Achieving Value for Money

6.1. It is always important to demonstrate best value for money especially when we are funded by citizens and businesses. In times of considerable pressure on public sector expenditure and with significant reduction in budgets this is even more important.

6.2. Some important principles will underpin how the ICT service approaches delivering best value for money, and we will work closely with colleagues in both finance and procurement to establish such.

6.3. ***Principle 1 – Application/Software Sourcing Strategy***

6.3.1. Where possible we will source solutions from the ICT marketplace in preference to developing our own or working with suppliers to have bespoke solutions built.

6.3.2. We will actively consider the merits of adopting systems with either large customer bases or as part of either a joint procurement or a shared service such to achieve benefits of aggregation and lower initial and ongoing costs.

6.3.3. Where they exist and are beneficial we will utilise framework contracts to attract better prices.

6.3.4. Before purchasing any new application we will define a number of important pre-requisites:

- All new applications must have facilities for customer self-service and staff mediated service web portals, supporting more efficient transaction processing.
- All new applications should be capable of adopting common standards to facilitate data sharing including where relevant a unique customer reference number and a unique property reference number.
- All new applications should state how they can integrate with other systems including the cost and availability of standard adaptors.
- It must be possible to purchase licences for support and maintenance that are flexible, that are based on concurrent user numbers (and not per seat), and that allow costs to be revised should usage fall.

- That we should ensure there is a clear roadmap including planned upgrade schedule and future renewal or replacement triggers for all business applications to avoid these degrading.

6.4. ***Principle 2 – Business Cases and Cost Models***

6.4.1. All new ICT investment (infrastructure and applications) must be based on a clear business case which identifies:

- the reasons for the investment;
- the options considered, and the recommendation
- the cashable and non-cashable benefits (and the lost opportunity costs incurred if we do not proceed)
- At least a 5 year cost/savings profile showing return on investment date
- The risks involved
- How benefits will be measured and savings realised

6.4.2. Business cases will be subject to review and scrutiny, especially where the proposal is an "Invest To Save" model. It is accepted that some business cases will not provide savings but will be required for statutory or operational purposes.

6.5. **Principle 3 – Framework for Assessing Proposed Investment**

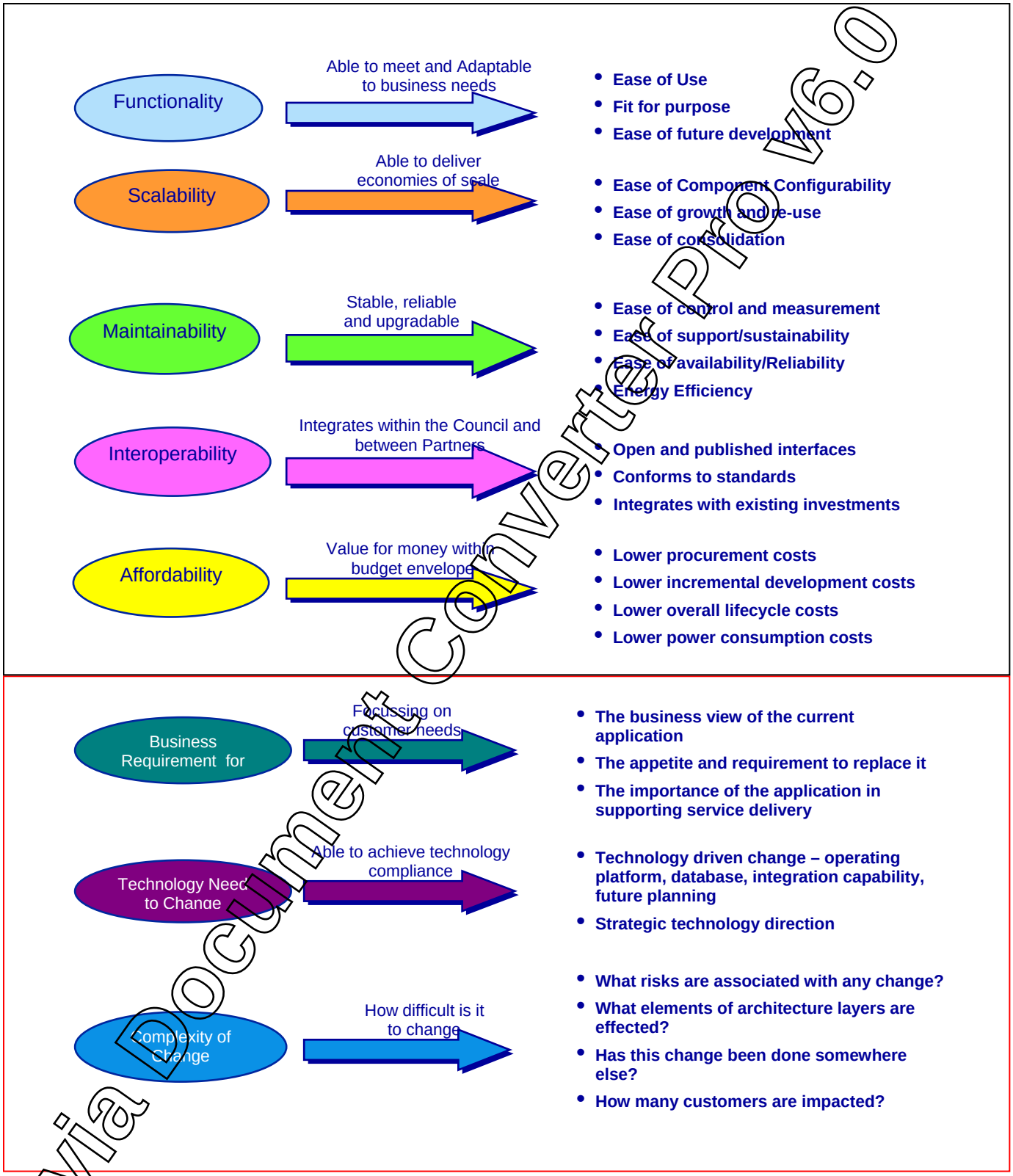
6.5.1. It is proposed to implement a framework against which proposals for new ICT investment can be measured be these for new applications or for new infrastructure. This will use 8 criteria for assessment.

6.5.2. The criteria are :

- Functionality - Ability to meet business needs
- Scalability - Ability to deliver economies of scale
- Maintainability - Stable, reliable and upgradeable
- Interoperability - Integrates within the council and with Partners
- Affordability - Provides value for money within budget envelope
- Business - Focus on customer needs
- Technology - Required to achieve technical compliance
- Change - How complex and difficult is the change

The first five of these apply to both infrastructure and application invest, the last three may normally only apply to application investment. For infrastructure items the requirement to be energy efficient will be included within the maintainability and affordability criteria.

6.5.3. It may help to use a matrix to compare the relevant importance of the different criteria in order to establish some weightings to guide the selection process. This could be done generically or individually for major investment projects.



Appendix 1 shows how these criteria can be used for different aspects of the ICT Infrastructure.

6.6. ***Principle 4 – Contract Length and Pricing***

6.6.1. There is a genuine dilemma between having a long contract length, which could result in lower cost and better value for money options coming onto the market and the high costs of regularly re-tendering and potentially changing business critical systems.

6.6.2. To offset this we will endeavour to award contracts with a ten year life, but built into the contract a price review mechanism that means at agreed intervals during the contract we can compare prices with the market and can give notice of termination if the price we are paying is significantly higher. In such we should allow the incumbent supplier to propose revised prices.

6.6.3. If we move to a ten year contract length we should also calculate life-time costs over ten years, which may in some cases (especially on hardware) include refresh, upgrade or replacement costs. Alternatively we could continue to calculate life-time costs over 5 years and at the midpoint as part of the market assessment re-assess costs for another five years including additional costs of changing to a different supplier/solution (for example data migration, new interfaces, installing new network connection etc).

6.6.4. We should not include in new contracts indexation based on generic indices be this Retail Price, Consumer Price or ICT specific indices. Suppliers should be required to justify such cost increases, especially when recently many have reduced their cost base but still required the Council to pay increased costs triggered by such indices.

6.7. **Principle 5– Infrastructure Services**

6.7.1. We have an existing contract with Serco that lasts until March 2016; this is based on the concept of an ICT Partnership approach. It is important to drive better value from this contract and to use the tools it contains such as open book pricing and opportunities to incentivise savings by both partners sharing such.

6.7.2. We will actively work with Serco to identify options for cost savings across the partnership, and will bring these forward using the agreed business case model. As such Serco have accepted the challenge set to try and identify savings in the region of 10% from the current (November 2010) contract price, an outline list of options has been provided and we will work to implement these to realise such savings.

6.7.3. Having such a contract does not mean that this is the only option for infrastructure and we can and will test the market where we feel better pricing could be possible or where for example a fully-hosted application solution may provide better value than hosting with one supplier and application provision and support with another.

6.7.4. We will look to consider opportunities to either consolidate and/or aggregate other significant infrastructure contracts in particular those involved with telecommunications. We will work to move from three different suppliers/systems for office telephony and to possibly combine office and mobile telephony under a single contract if such consolidation will result in better pricing.

6.7.5. We will make best use of framework contracts and will consider using reverse auctions where these have proven they can reduce unit prices significantly. There is considerable evidence that such auctions have provided better pricing for client computing (desktop and laptop), and emerging evidence that they can reduce mobile telephony costs. We will endeavour to work with local, regional and national partners to leverage better prices through collaborative procurement.

6.8. To test both initial and ongoing value for money we will commit to undertaking periodic benchmarking of equivalent prices both within the public sector, but also where possible with private sector bodies.

6.9. We will move from an approach whereby replacement computers are purchased tactically from service budgets (as and when they have spare resources) to an approach where such replacement is triggered as machines reach the end of their optimum life:

6.9.1. This could either be achieved by creating a new central budget for technology refresh or by introducing additional charges when services continue to use devices past their optimum life. Such an additional charge would reflect the higher cost of support and maintenance incurred on obsolete devices.

6.9.2. Other benefits from more strategic replacement will be an improvement in performance and a contribution towards the council's carbon reduction targets. Older machines often have slower processors and less memory and struggle to cope with more modern software applications, and are less energy efficient requiring more power and higher levels of cooling. It is often a false economy to try and make such computers last beyond their optimum working life.

6.10. In this time of financial constraints we will look again at how we design support services, in particular whether or not we are buying gold plated support with fast response when faults occur. It may be a difficult decision but we may have to downgrade such to longer response times in order to save money, but if there are relatively few incidents then it could be better to incur slightly higher costs of longer downtime than continue to pay for faster response that we rarely need to invoke.

7. Delivering for Customers

7.1. It is important to remember that ICT is very much a foundation service that enables our business customers within the Council to deliver their business services to the citizens, businesses, partners, visitors and other customers of the Council. Thus ICT services must be designed to meet the needs of the customers and not driven by the technology.

7.2. It is equally important to recognise that in the 21st century not only do most businesses and most business functions rely heavily on a stable ICT platform; but also that poor quality ICT systems and services cause serious problems both to the business and to our customers.

7.3. In developing this ICT strategy and in developing future ICT service plans and ICT project briefs it is therefore critical to focus on the primary business outcomes that are required:

- To deliver the technology tools that enable transformation; this strategy is built around the one Derby one Council business objectives.
- To help the business meet the savings targets and ultimately to help balance the Council's books
- To deliver the Council Plan and the vision "To create a city for all through strong leadership and excellent customer focussed services"

As such we need to test all ICT services and proposed projects against these primary business objectives and any that do not contribute need to be re-aligned or removed.

7.4. Within the ICT service as it currently stands (November 2010) there is considerable scope for and actual confusion due to ICT being fragmented into at least 3 different components:

- A central ICT core
- Departmental ICT teams
- The Partnership Framework Contract with Serco

To make matters worse often the seams are very clear and what the customer is receiving is a disjointed service with multiple hand-offs and with the ICT partners openly referring to each other as separate entities.

7.5. We need to refocus this to provide a seamless interface to the Customer, and to provide one ICT service for Derby. Part of this will involve re-centralisation of the in-house ICT function, but equally part of this will be to explore where different services can be better provided.

7.6. One fear that Customers have with centralisation is that they may lose their local teams, who understand their business and have built a rapport with business staff. That can be offset easily by considering co-location of key

teams with the business and by demonstrating that in many cases such teams where they are one or two people often have high risks and incur high overheads.

7.7. It is envisaged we will continue with a co-source model of some services delivered in-house and others by a strategic ICT partner, and both partners will explore both what is the best balance and how to streamline and align respective processes to improve efficiency.

7.8. An immediate priority will be to look again at the user experience of the service desk and of simple tasks involved with setting up new users, moving users, account and password management and deleting users. Currently this is very disjointed with Serco responsible for network and email and a plethora of different teams involved with each business application. It is intended to streamline this so that it can be serviced more quickly, and to explore tools that may allow users to have if not a single account and password, at least to reduce the large number of accounts and passwords they have to remember (many of which have different rules and expire at different times).

7.9. We then need to work with our customers to identify other aspects of the ICT service which are most frustrating and to consider alternative solutions where possible.

7.10. In some cases such frustration may be due to mandatory constraints imposed to meet security standards (for example Government Connect and Payment Card Industry standards to protect sensitive data or Caldicott rules to safeguard vulnerable people). Where such rules do exist the ICT service needs to take more care to explain to our customers why they exist, ideally giving some real world examples and to consider if we are taking a one size fits all approach when we could legitimately apply different rules to different groups thus minimising the impact just to those who need higher levels of security.

7.11. It is difficult for our customers to know what they can expect of the ICT service if we do not tell them. Therefore we need to develop short and customer-friendly definitions of the core service, with links on where to get more information and help.

7.12. The ICT service needs to become an exemplar of using the internet and intranet to guide both external and internal customers and this includes providing on-line transactional forms for standard interactions and publishing Frequently Asked Questions (and answers). In essence everything ICT staff expect from services they use we should be providing to our customer base.

7.13. As part of our internal assessment process we will seek regular customer feedback both through satisfaction surveys and through engaging with key business contacts. This will involve re-shaping the IT Liaison Officer role and re-modelling ICT processes and procedures taking account of the customer journey.

7.14. As part of this we will adopt a service management approach (based on the ITIL framework), and within this we will refocus on both resolving incidents and getting customers working; and on pro-active monitoring to prevent incidents before getting into the detail of what the root cause of problems was. We need to avoid the risk that in micro-managing an intriguing technical problem, the customer is either left in the dark or left to suffer. This means implementing clearer escalation paths and more importantly publishing these for customers to use.

8. Information Management and Information Security

8.1. The council has a number of duties and obligations in respect of both information management and information security however often the understanding and ownership of this can appear to be confused.

8.2. The underlying principle has to be that we need to protect the Confidentiality, Integrity and Availability of the information we hold about both our Citizens and other individual customers (Data Protection Act); and our business customers and that we will only share such information where it is legal and both in the interests of the customer and (except for special circumstances) where we have informed customers of our intention to share such data.

8.3. There is a genuine dilemma between convenience and business agility and security and this needs to be better understood. We all need to understand that the Council is a complex organisation that has highly sensitive records, and needs to apply security to match, for example

- To avoid credit or debit card fraud (we process £ millions payments a year)
- To prevent identity theft (council tax bills are often used as proof of identity)
- To safeguard vulnerable adults who may be put at risk if others know their health and social care needs
- To safeguard and protect children at risk
- To protect confidential financial information we collect on citizens and in some cases businesses

Convenience cannot therefore be the primary driver, especially as many parts of the Council simply could not perform their duties if we were barred from secure services due to previous security breaches.

8.4. It is not and should not be the role of the ICT service to be responsible for information management, but is it our role to support the business by providing appropriate advice, guidance and support. It is also the ICT service's responsibility to provide and manage the required technical security controls and to operate these in accordance with the needs of the business.

8.5. Information management needs to be determined by the business, because the business owns and understands both the information they hold and they understand the sources, the information flows and the need for retention or

destruction of such. Thus Information Management must rest with the business, and the controls will be different for different business units depending on the business impact assessment they have carried out.

8.6. The current approach has often been to apply one common layer of security across the Council, which inevitably means that we impose higher levels of security than some business users actually need, and which can impede the business. The new approach will endeavour to change this where possible such that for example:

- Only those processing financial payment transactions need to comply with the Payment Card industry Standards
- Only those accessing the government secure intranet need to comply with the Government Connect Standards
- Only those with access to Health or Social Care records need to comply with MNHS and Caldicott standards

However this is not always possible as some of the controls included within such standards explicitly require the control to apply to all users on the same physical network.

8.7. Where possible we need to take a different approach to security controls, however noting that this may be subject to challenge by internal and external audit and by assessors involved with statutory and operational security codes of compliance. What this means is where data is confidential and sensitive extra layers of protection will be required (such as encryption, secure mail transmission, recorded delivery post) but where the business deems the information to be less confidential then higher levels of security are not applied.

8.8. The ICT service will be responsible for :

- Establishing policies and guidance on information management and information security
- Providing a menu of tools that the business can use to apply appropriate levels of security
- Enforcing security where this is required to meet statutory or operational obligations
- Providing technical tools that protect the Council's network and ICT systems including firewalls, virus and malware protection, web and email filtering, intrusion detection and secure remote access facilities.
- Investigating reported security incidents and where necessary working with Audit to review such.

8.9. In respect of policies and guidance where in the past we have developed these as bespoke policies for the Council we will instead link to the standards recommended by the relevant bodies, in particular the Information Commissioners Office, or developed by relevant public sector associations (such as the local government association). We will monitor relevant websites and publications for relevant changes to such policies and cascade these

through the organisation. Thus avoiding duplicate effort and minimising risks of being out of step with revised policies.

8.10. The Business is responsible for:

- Undertaking its business impact assessment on the information it holds, and then applying the appropriate levels of security
- Deciding with whom they will share information both internally and externally, telling their customers this (possibly offering customers the option to opt out), and entering into appropriate information sharing agreements.
- Defining their information management (retention, deletion, archiving) policy
- Ensuring staff know what levels of security apply and are provided with the appropriate tools (such as encrypted laptops and memory sticks)
- Ensuring staff undertake training and follow the relevant guidance and for managing staff
- Applying an information classification/protective marking scheme that identifies different levels of security and confidentiality that should be applied to business information; note for some services it is already a requirement to show such classification/marking when sending information to others (be this sent electronically or not).

8.11. The Information Commissioner now not only has the power to levy fines, but has actually done so for the first time, with one Council facing a £100,000 fine for losing sensitive data. It is important that working in partnership the ICT service provides the policies, tools and guidance that minimise the risk of such for Derby, and that the business applies and enforces these. Please note the fines can be against the organisation and/or against the individual; thus if the Council has clear policies and practices and these are not followed then the member of staff could be liable; but if we have policies and practices but fail to effectively implement them the Council could be liable.

8.12. The fundamental principle in respect of information management and information security will be based on the obligation we owe to all our customers to protect their information, and where we share such data to give them reassurance how we protect such both during transmission and when held by our partners giving customers the option to opt out of such sharing except where we may be doing so as provided for in the Data Protection act for example to:

- Help prevent or detect a crime.
- Collect tax or duty
- Protect people in a life or death situation (protect the vital interest of the data subject)
- National security
- For journalistic purposes
- Regulatory activity
- Health, education or social work
- Research
- Defend legal rights.

9. Service Delivery and Service Management

9.1. The ICT service faces some challenges in how it both delivers its services and how it manages the overall service; part of this flows from the disjointed approach and the fragmentation with the different parties involved and part of it is due to the lack of a common framework upon which service delivery can be built.

9.2. In addition to the parties identified in section 6 above there are also a wide range of other suppliers involved including infrastructure suppliers such as British Telecom, Orange, Kcom; business application software suppliers such as Northgate, Tribal, Oracle, software suppliers such as Microsoft, Adobe and systems support suppliers such as Teamsolve. This immediately flags one aspect of service management that needs some attention, that of supplier management.

9.3. To facilitate better service delivery and service management we need to review how we do this and how we adopt a common framework that we can seek to apply to all suppliers. The obvious framework is the internationally recognised ITIL framework.

9.4. ITIL is built around the concept of lifecycle management and has a core of five themes:

- Service Strategy
- Service Design
- Service Transition
- Service Operation
- Continual Service Improvement

9.5. ITIL also has some other important principles when managing a diverse service with different parties involved most importantly that **value** is created by enhancing performance (**utility**) and by reducing variation (**warranty**). In other words we test value by checking the service is **fit for purpose** (does the job) and **is fit for use** (available, secure, continuous with sufficient capacity)

9.6. At the heart of ITIL is that it provides the framework by which the business can transfer responsibility to one or more service providers. Thus not only should we adopt it within the Council but we should also require our key suppliers to demonstrate how they have adopted and applied the ITIL framework.

9.7. ITIL also offers a professional service management qualification with a range of courses that can be applied at different levels and build up as careers progress. It can be seen as the IT industry equivalent of say the CIPFA professional training or the Institute of Customer Services professional awards. ITIL training is certified by the British Computer Society.

9.8. This means in practice that instead of primarily focussing on technical training and development, we will introduce a professional framework for managing the ICT service. These ICT service management disciplines are easy to correlate across to the existing Council core competencies for leadership.

9.9. It will also establish a common foundation for all the different parties involved with ICT service delivery to engage with each other; thus we will know what we mean when we refer to release management, change control, incidents, events and problems and in developing both service level agreements and underpinning contracts because we will all be using the same definitions.

9.10. We need to work within our main ICT Partnership contract with Serco, to apply the ITIL best practices to the service delivery structures here at Derby; thus where within the partnership contract Serco are responsible for the service desk and for the ICT asset registers we can agree the relevant service management protocols. This will help embed the relationship as a true service partnership.

9.11. Within the ITIL core it is envisaged that the following responsibilities will apply:

Core Element	Lead Responsibility	Supported by
Service Strategy	Derby City Council	Serco
Service Design	Derby City Council	Serco (& other suppliers)
Service Transition	Derby City – Business Systems Serco – Infrastructure	Bus System Suppliers (& Serco) ICT Suppliers (& Derby CC)
Service Operation	Serco	Derby City Council
Continual Service Improvement	Jointly Derby and Serco	Other Suppliers

9.12. For our Customers this means a more coherent service delivery model with much better defined responsibilities and with smoother transition between different parties involved with service delivery.

9.13. It means we will adopt a series of proven processes that are defined to :

- Respond to a Specific Trigger (Business Need)
- Deliver Specific business outcomes (Results)
- Deliver to identified Customers or other Stakeholders (Focused)
- Can be Measured (Performance)

9.14. It will be easier to identify and address where service is poor due to gaps in service management and easier to avoid risks where we have for example shortcut proper change management or testing leading to going live on unstable systems.

9.15. It should be faster to resolve problems when they arise because there will be better defined procedures that all involved will be aware of and following. We should be able to eliminate most of the instances when the business suffer whilst different ICT staff debate who is responsible as ITIL firmly establishes joint and shared responsibility with the priority to recover either Warranty or Utility.

9.16. Adopting ITIL should also help drive efficiency within the ICT service. Far too often time is lost and money is expended by taking shortcuts which backfire or as a result of poor planning which leads to major obstacles that require extra time and often money to resolve. ITIL will help us identify and eliminate both poor practices and redundant processes within the ICT service; and will send a clear message to our suppliers in terms of what we expect from them (It will give us better control).

9.17. This will however require us to manage expectations more carefully and to be clearer with our customers on the activities and timescales involved in for example implementing system upgrades. That said the reality is that almost always re-allocating resources at short notice to meet one customer's urgent requirement means both disappointing and delaying other customers and incurs extra work re-planning what had to be deferred.

10. Technology Standards

10.1. Having focussed so far more on the business facing elements of the ICT strategy; this section moves on to define the technology standards which underpin the ICT service. It is important that we are clear about these as they will define the environment in which we operate and will provide guidance to both existing and prospective suppliers.

10.2. The standards included here are high level principles which are supported by detailed technical architecture documents. The strategic principles here establish a clear baseline for our technology standards, and these support the business in achieving its desired outcomes. However we need to maintain some controls for example to avoid creating conflicts between different business units (eg cannot use two applications because they require different versions of the same software that cannot co-exist, use incompatible drivers) and that we avoid too much fragmentation that would lead to higher costs of support.

10.3. We need to establish a technical environment that is both easy and cost effective to support and to avoid trying to support a wide range of technology platforms that require additional skills and resources to support. This will form our preferred technical architecture. This will be agreed with our ICT Partnership framework supplier as often it is their skills, knowledge and resources that provide the support.

10.4. The agreed technical architecture must enable us to maintain legacy systems where necessary, but also to exploit new technology once it becomes available as a commodity. It should also state that we will probably not be investing in emerging technology until it has a proven track record as we do not have the capacity or appetite to be a bleeding edge customer.

10.5. If the business has an urgent need that cannot easily be met by the agreed technology architecture then provided such can be delivered as a total solution by a third party it is not the case that such will be prohibited. However it will need to be clear that such technology is provided under a

separate service agreement as a fully hosted, managed and supported solution.

10.6. The core operating system platforms will be:

10.6.1. A Microsoft operating system environment for both core servers and for the desktop environment; however we will in the timescale of this strategy review the feasibility of moving from the Microsoft platform to an open source platform. It is envisaged this review will take place in 2013.

10.6.2. In addition to the Microsoft platform we will support Unix server operating systems especially where core business applications work better on such a platform.

10.6.3. Initially the Citrix thin client environment, although as for the operating system we will in the timescale of this strategy review options for how best to achieve flexible working, secure remote access and desktop virtualisation.

The primary reason we are remaining with a Microsoft platform in the short term is the high cost, and significant disruption involved with migration, including the costs of checking where business applications use embedded links to Microsoft applications (eg to generate letters/email, publish spreadsheets and graphs etc); and the possible costs of retraining. We also need to prioritise achieving ICT transformation objectives rather than a fundamental change to the underlying operating system platform.

10.7. We will consider the appropriate time to upgrade our current versions of the operating system and the Microsoft office tools from previous versions to the latest release; this will be undertaken as part of the desktop refresh; and the server renewal projects planned in the ICT transformation programme.

10.8. The core standard desktop tools will include:

10.8.1. The Microsoft office suite for general purpose functions such as word processing, numerical analysis (spreadsheets), presentations and for email services; and other Microsoft software (eg Project, Visio) that can be sourced via an enterprise licence.

10.8.2. Other business software tools that work in a Microsoft environment whereby we will identify the preferred tool and publish this in a catalogue to avoid different Council teams buying different software to undertake the same basic purpose. For example we may define Autocad as our computer aided design package.

10.9. We will adopt a range of security tools to both protect Council data and to ensure compliance with mandatory requirements; these will include :

10.9.1. Firewall security to protect gateways to/from the Council network establishing the required rules to manage access and traffic.

10.9.2. Intrusion detection and intrusion prevention software; virus detection and prevention tools, email and web filtering and other malware protection.

10.9.3. End-point encryption technology to protect data held on portable devices and the use of encryption for portable media including both memory sticks and cd/dvd media.

10.9.4. Authentication tools to verify access, for example dual factor authentication where this is relevant to the role.

10.9.5. Activity and audit logging tools to monitor use and to detect potential misuse generating alerts and triggers.

The approach will be to meet the security standards offering a greater choice of devices provided that each different device type can be used with the minimum required security. We cannot however risk non-compliance especially in light of the recent six figure fines imposed by the Information Commissioners office.

10.10. The preferred database technology will be either SQL or Oracle databases, whereby the Council and its ICT service partner have the skills available to perform database administration tasks. If a different database tool is required and can be justified for business applications then support of the underlying database for that application must be included within the service agreement with the application supplier.

10.11. We will establish greater flexibility for both voice and data networks, enabling staff to work from a variety of locations both within Council premises and when working at home, accessing information from a client's house or from a partner's location (eg Health, Police); and to support access for staff whose job requires them to be mobile (eg Streetpride services).

10.12. We will provide a flexible wide area network based upon proven technology moving from older legacy copper circuits to fibre where possible for Council and school establishments; and to provide secure remote access to staff using ADSL, secure wireless and secure mobile (3G) connectivity.

10.13. We will progressively replace the existing separate voice and data networks within main Council buildings (where these have continued planned use beyond 2013) with a converged IP Telephony network; thus increasing flexibility and reducing the need for cabling. To supplement the wired network, we will provide secure wireless hotspots to support flexible working.

10.14. We will establish protocols and tools that support remote and mobile access including the required security; and the ability to deliver voice call services

seamlessly between fixed line and mobile devices.

10.15. We will require that new infrastructure devices provide energy efficiency in accordance with the prevailing standards and best practice and wherever possible adopt and apply:

- Device consolidation to reduce power, for example server virtualisation and storage aggregation
- Device configuration that automates low power modes be this hibernation, standby or shutdown after agreed periods of inactivity
- Energy efficiency ratings in technical requirements for new equipment
- Printer management to ensure two sided and mono printing by default
- Device recycling and disposal in accordance with WEEE directive ensuring re-use wherever practical
- Supply contracts that minimise packaging and that reduce transportation costs through more local build and assembly

10.16. Over the period of this strategy we will be reviewing our approach to providing services and moving towards aggregation with other public sector organisations. For example we will explore and potentially exploit the proposed Public Sector Network and investigate opportunities for shared services that arise resulting from the government ICT strategy and the Government Cloud (G-Cloud). At the time of writing this strategy whilst these have been published with considerable fanfare the reality is there are few products or services currently available and the market has still to mature.

11. Transformation and ICT Transformation

11.1. This strategy is by its nature focussed heavily on the need to deliver the business transformation required to deliver efficiency and to help the Council achieve cost reduction in order to meet the challenging financial targets set by central government. As such it is a shorter term strategy than is often the case, covering the period up to March 2013.

11.2. Priority will be given to the identified ICT transformation projects approved as part of the wider one Derby one council transformation programme which will see major investment of over £13 million over the next two years. It is important that these are delivered effectively, on time and such that the business can apply the new technology in achieving business efficiency.

11.3. However transformation is not the sole objective and it is important that we continue to deliver and support effective business as usual services and that we are able to undertake projects for new and enhanced ICT that may be driven by other important business objectives. For example we need to keep pace with any mandatory or statutory changes to existing systems including revenues and benefits and to be able to meet challenges that may arise

where internal or external audits and inspections identify weaknesses in ICT as holding back the business.

11.4. Delivering a more efficient, more robust and higher performing infrastructure will play a major part in achieving the transformation agenda, in particular the ability to support secure flexible working, to deliver highly available customer services via self service portals and to support workflow and records management. However we must not lose track of the fact this infrastructure is there to deliver business services.

11.5. As the council moves to provide more flexible services to customers and as staff move to different patterns of working we will need to consider how best to ensure availability and support for critical ICT systems over longer periods. This may include some locum style support for weekends and early evenings and some extended support contracts with suppliers. Before we do this and commit to higher costs we need to monitor patterns of use and consider the costs of enhanced support against the impact of downtime and therefore poor customer experience and/or lost staff productivity.

11.6. The test of this ICT strategy and of the ICT service is that it is seen to deliver the technology transformation; and that it is seen to enable the business to deliver business transformation required without jeopardising existing services.

Appendix 1 Assessment Criteria and the ICT Architecture

The following diagrams suggest how the proposed evaluation criteria apply in practice to different aspects of the ICT Architecture.

Architecture Elements where the criteria do not apply.

- To the Strategy Domain, other than this is used as a strategic tool
- To the Service Management Domain except in respect of any service management applications that support such; thus the service desk and any service inventory tools will have the Application Domain Criteria applied.
- To the Business Process domain except where application tools support such.
- To the Security Domain except where either applications or infrastructure components support such.

The criteria apply primarily to:

- The channel Domain and customer management
- The Business Information and Integration Domains
- The Application Domain
- The Information Domain

Channel Domain

Applying the IT Principles to Customer Management and the Channels used to access Council Services

The principles defined for Customer Management has the overriding principle that **solutions should be available to the customers through their choice of channel at the required time**

Functionality

- …Customer Segmentation…to gather knowledge and management information about Customers behaviours
- … Total Customer Experience…to provide a consistency in the customer experiences whichever channel is used
- …Voice of the Customer…to reflect the needs of customers in the development of channels and transactions
- …Closed Loop Processes…to ensure the required service requests are captured and actions taken
- …Information Management…to provide a consistent approach to available channels
- …Performance Measurement…to allow the measurement of channel performance
- …Consultation…to ensure that customer requirements are being reflected through time

Affordability

- …to comply with Best Value criteria of cost and quality
- …to be evaluated on a TCO basis over the expected lifetime (including internal costs)
- …to allow for licence flexibility and be purchased with future usage in mind

Business Requirement for Change

- …to meet the expectations of customers
- …to improve the services provided to customers
- …to support future changes and the ability to execute them

Complexity of Change

- …to understand the complexity of services provided by local government and the ability to achieve full coverage through integration
- …to apply leading practice to customer interactions
- …to provide the skills and resources experienced in customer service design and implementation

Interoperability

- …Real Time Integration…to allow real time interfacing with operational service applications
- …One and Done…through the use of integrated systems such that there is no hand-off after the first point of contact but with actions supported by workflow and document and content management
- …Multiple Channels…ensuring that the available channels are utilised by any solutions

Technology need to Change

Scalability

Maintainability

Business Process and Integration Domains

Applying the IT Principles to Integration, Business Information and the Common Infrastructure

The principles defined for Integration cover elements of common enabling infrastructure including Security, Information Management, Application Integration and Workflow

- Functionality
- Scalability
- Maintainability
- Affordability
- Complexity of Change

Interoperability

- …to provide meaningful business interfaces or services to applications and data allowing them to be delivered in batch or real time as required
- …to use standards based mechanisms to deliver the requirements
- …to allow cross service delivery to be enabled
- …to use common tools across the council to deliver integration and workflow wherever possible
- …to provide an information sharing platform exploiting opportunities for common data elements
- …to provide a mechanism for "pushing" relevant information through the council architecture
- …to fit with the ownership of data elements with defined areas of the council services
- …to be compliant with a single sign on approach across applications
- …to create an environment for external partners to provide and extract meaningful and allowable information
- …to use standard approaches to data validation and integrity
- …to allow the right information to be routed to the right person at the right time

Business Requirement for Change

- …to provide an integrated environment not bounded by applications and supporting end to end processes
- …to support workflow, process automation and remove duplication in information management

Technology Need to Change

- …to allow convergence on a single integrated environment
- …to provide support for IT as a catalist to process re-design

Application Domain

Applying the IT Principles to the Applications Architecture

The principles defined for Applications Architecture cover two distinct areas as defined in the SOCITM architecture model – Services and Shared Applications – with the overriding principles that **solutions should be package based and be configurable such that modification or custom development is avoided.**

Functionality

- …should exist to automate the Councils operations and obligations
- …should adhere to required regulatory frameworks
- …to deliver business services efficiently and effectively

Maintainability

- …to allow minimum support from IT through the use of user self-help and diagnostics
- …to have measurable SLAs with application support providers
- …to upgrade to stable versions, not early releases, but to remain compliant with support arrangements

Scalability

- …to provide for changes through growth or shrinkage in user base
- …to take a view of the future development plans for the application
- …to support flexibility in working methods

Interoperability

- …to allow operation with other council and partner applications
- …to comply with open standards and interfaces
- …to provide capabilities to import/export information a timely manner

Affordability

- …to comply with Best Value criteria of cost and quality
- …to be evaluated on a TCO basis over the expected lifetime (including internal costs)
- …to allow for licence flexibility and be purchased with future usage in mind

Business Requirement for Change

- …to improve service through better business processes and ways of working
- …to replace ineffective current systems and/or their usage
- …to support efficient and effective joint working between councils and services i.e. benefits driven

Technology Need to Change

- …to comply with support requirements and/or end of life notices
- …to provide efficiency in technology delivery
- …to achieve compliance with design authority and strategic direction

Complexity of Change

- …to look at the risks of change and the associated complexity of change to architecture layers
- …to understand the impact on the customer base
- …to be the leading edge but not with unproven architecture configurations

Infrastructure Domain

Applying the IT Principles to the Infrastructure

The principles defined for Infrastructure cover the hardware, networks and management platform on which the applications reside including servers and desktops

Scalability

- …to provide services to a consistent and defined performance levels
- …to incrementally add resources as demand grows
- …to provide sufficient, but not excess, capacity to run applications and store associated data

Technology Need to Change

- …to comply with support requirements and/or end of life notices
- …to provide efficiency in technology delivery
- …to achieve compliance with design authority and strategic direction

Maintainability

- …to provide an auditable secure environment for both internal and external access
- …to provide a resilient environment by minimising the single points of failure
- …to use standards for desktops, servers, operating systems, database environments
- …to support Business Continuity and Disaster Recovery Plans
- …to provide proactive management through prediction and repair
- …to make use of tools for central deployment and management of infrastructure

Interoperability

- …to provide a basis for joint working through shared infrastructure
- …to provide a more robust and easier to support service by converging infrastructure on common solutions
- …to provide the benefits of joint working in infrastructure during application convergence

Affordability

- …to comply with Best Value criteria of cost and quality
- …to be evaluated on a TCO basis over the expected lifetime (including internal costs)
- …to allow for flexibility in capacity and be purchased with future usage in mind

Functionality

Business Requirement for Change

Complexity of Change

Appendix 2 Green ICT Strategy

The Green ICT Strategy is attached

DERBY CITY COUNCIL

Green ICT Strategy

1. Background

As Britain's largest purchaser of ICT, Central Government wants to set an example in sustainable use and disposal of computers, servers and printers. This strategy sets out the first steps towards reducing ICT related costs and carbon usage, to help meet the Council's targets for reducing the carbon footprint.

ICT is a key enabler for most Transformational Government programmes and can be used to generate environmental benefits, for example through tele and video conferencing, remote and home working. The use of ICT can reduce building occupancy and travel. But these changes are likely to require an increase in ICT investments, making it all the more important to significantly reduce the carbon footprint of new investments. With the use of technology increasing at a rapid pace Green ICT initiatives can ensure that the environmental impact of this growth is controlled by considering the full-life cost of ICT. This strategy is a key component of the Climate Change Strategy.

This strategy concentrates on central council functions and does not yet include schools or Derby Homes. Although, schools are major users of ICT the strategy must be proven to be robust and workable before the scope is widened to include them.

2. UK Government Position

UK Government has set a target for the central government office estate to achieve carbon neutrality by 2012. The UK has an overarching target to reduce greenhouse gases by 26% or more by 2020 and by at least 60% by 2050. In addition to the current Sustainable Operations on the Government Estate (SOGE) targets that were announced by the Prime Minister in 2006, Government has the following commitments:

- Departments to source at least 10% of electricity from renewables by 31 March 2008
- Departments to source at least 15% of electricity from Combined Heat and Power by 2010

3. Local Government Position

A number of National Indicators have been developed to assess all Local Authorities' (LA's) progress towards mitigating and adapting to climate change.

These Indicators also help to identify where the LA needs to improve, therefore, helping to promote further work. Indicators relating to IT and climate change include:

- **185 – Percentage CO2 reduction from local authority operations**
  This indicator looks at how the council can reduce its carbon footprint across all of its activities and operations. Clearly the way we procure and use ICT will have a big impact in this area.

- **186 – Per capita CO2 emissions in the LA area**
  This addresses the carbon footprint of the wider city, looking at three specific sectors regarding the carbon emissions from businesses/large organisations, transport and housing.

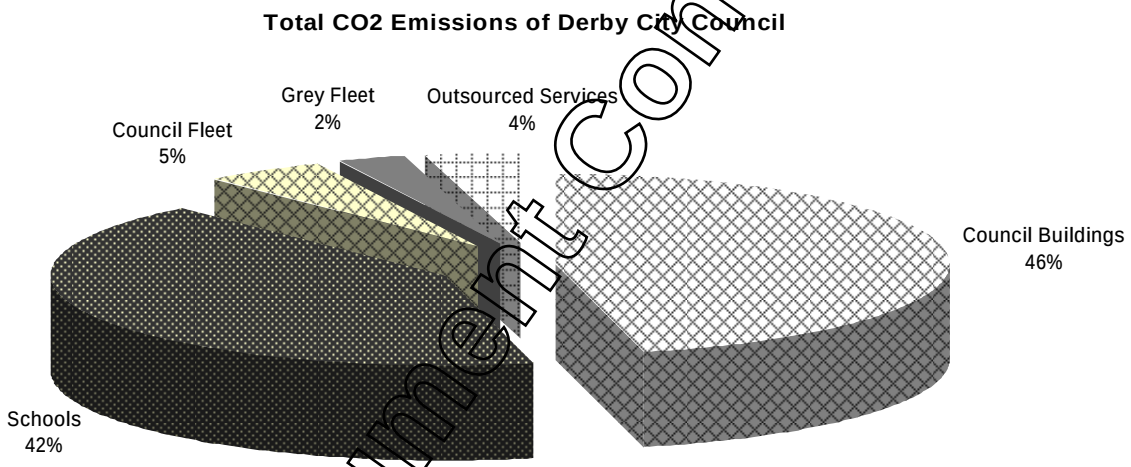
4. Derby City Council's Vision

Our Climate Change Strategy defines Derby City's long term vision:

'to work towards ensuring human induced climate change and its effects are limited to a level that will allow every person to prosper within locally and globally sustainable environments'

The following objectives aim to help deliver the vision:

1. To reduce the Council's carbon emissions in line with NI185 by at least 25% by April 2012
2. To work closely with our partners to facilitate the reduction of per capita CO2 emissions within the city from 6.7 tonnes/capita to 6.11 tonnes/capita by April 2011
3. To continue to measure, record and report on our carbon emissions to help improve our performance and to meet all mandatory requirements
4. To improve our performance in the Carbon Reduction Commitment (CRC) league table every year from April 2010 onwards



ICT contributes significantly to the CO2 emissions from Council Buildings.

5. Green ICT Strategic Objectives

- Consider the impact on carbon emissions of all new ICT purchases. This should also include considering the green credentials of the supply chain and what suppliers are doing to reduce waste and harmful emissions from their manufacturing facilities.
- Power consumption of equipment used will be lowered, including outsourced contracts and services. Emissions will also be reduced through changes in business processes and working practices, minimising transport and minimising paper use.

- Comply with best practice for sustainability across the whole ICT lifecycle, covering carbon neutrality and sustainable use of materials, water, accommodation and transport in the manufacture, use and disposal of ICT.
- Off-setting to be seen as a last resort.

This will be delivered by implementing actions such as:

- Optimise the lifecycle of all ICT purchases considering, their ability to support business objectives, excessive maintenance costs or carbon footprint and energy consumption
- Reduce the overall number of PCs and laptops and consolidate devices
- Reduce the overall number of printers and replace with multifunction devices and use green printing defaults such as double-sided and multiple pages printing
- Maximise the use of servers. Including virtualisation

A diagram showing the interaction with corporate projects and a detailed list of activities is shown in the 'DCC Green IT Roadmap' in Appendix A

The approach is to:

- Create awareness of the impact ICT can have and encourage different ways of working
- Identify more radical proposals to go beyond the easy changes
- Understand the resources required, costs and issues which need to be addressed if more radical proposals are to be introduced
- Increase awareness of the importance of manufacture and design for ease of re-use and recycle
- Task Departmental Management Teams and Approved Procuring Officers to assure environmental consequences of procurements are fully evaluated
- Ensure Departmental Management Teams demonstrate leadership, review existing contracts and procurement processes. Business cases must factor in the indirect costs to the environment.

New Ways of Working Project (NWW)

Technology can help change culture and behaviour but it can't do it all. NWW aims to change how we work, for example, hot desking, flexible working, home working and mobile working.

NWW will deliver a new building in which teams will share resources such as desks, chairs and computers. The overall ratio of staff to work stations will be 10:7. Staff will share thin client PCs, have their own dedicated portable device or use a desk top PC to carry out their work. The intention is to have a maximum of one computer device per person or less. The new computer devices will be low energy machines and are anticipated to use significantly less energy than the current ageing stock of computers.

There are plans to recycle heat created in server rooms and use this to heat roof spaces via venting systems to reduce the overall cost of heating the new building. The new building will be designed to use heat created by IT equipment to heat and ventilate office space. Drawing heat into roof voids will draw fresh air through offices via window vents and improve heat and

air circulation, removing the requirement for air conditioning and reducing energy consumption.

Current working practices will change significantly with New Ways of Working. This will be a major cultural shift for staff and the organisation. To help teams prepare for this change elements of NWW are being deployed around the Council to help teams get used to the changes. Bench style desks, offsite storage, thin client technology, EDRM, printer rationalisation and VOIP telephony are all either being developed or deployed in different teams and in different locations.

Alongside these pockets of change significant effort is taking place in communicating the changes and the impact of the changes to enable staff to understand what it means to them. The technology that underpins NWW is merely a resource and a tool to aid efficiency. The significant challenge is changing the culture of the organisation and its people to embrace and accept change rather than resisting and undermining it. ICT supports this providing it is robust and fit for purpose. If it is neither, it will undermine the change.

6. Progress to date

- 20% of the server estate is already virtualised (60 servers at 800 watts per server = 48 KW/Hr)
- Replacement of CRT monitors with TFT screens
- Printer rationalisation
  The roll out of printer rationalisation in the Council House has been completed on one full floor removing 42 desk top printers and replacing these with 4 Multi Functional Devices (MFDs). The second phase due to complete in August will achieve a similar figure on the first floor of the Council House. The third phase on the ground floor will complete the whole building by the end of 2009. It is anticipated that over 100 desk top printers will be removed and be replaced by approximately 15 MFDs. Overall savings cannot be calculated until the building is completed but already printing and the use of paper has reduced by 30% on the second floor. It is expected that this will be replicated throughout the Council House.
- Low-power consumption CPUs specified
- Improvements as a result of moving equipment from Capita to Serco
- 95% of devices are powered down overnight

Progress will be reported to the Climate Change Board.

Further work will:

- Address more complex options
- Embed best practices into mainstream supply chains and reflect these in procurement standards
- Encourage the use of ICT to help reduce energy consumption in other parts of the organisation e.g. reducing occupancy, travel and the need to print documents
- Assess the environmental impact of delivery, support and project development of ICT services

7. Risks and mitigations

There are a number of risks which will be considered and addressed, including people not taking targets seriously, the effort of measurement exceeding the value of what is being done, cultural change not happening, lack of benchmark data, operational requirements taking precedence over environmental concerns and new technologies making current best practices redundant.

Areas for ICT carbon reduction

PCs and laptops

- Remove active screensavers
- Switch monitors to standby after 5 minutes of inactivity
- Specify low-power consumption CPUs and high-efficiency Power Supply Units
- Apply thin client technology. This is more expensive up front but has a longer life.

Other office ICT equipment

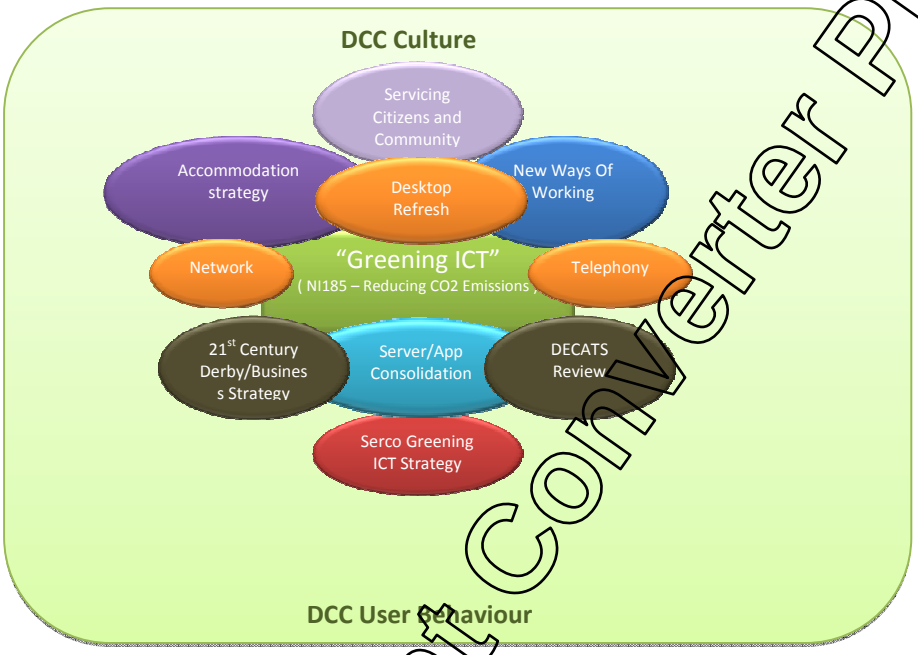
- Apply timer switches to non-networked technology and printers
- Set default green printing including duplex and grey scale
- Optimise the use of equipment, don't automatically buy new
- Optimise power saving sleep mode on printers
- Printer consolidation
- Device consolidation

Data centres

- Server optimisation – implement storage virtualisation and capacity management, convert physical servers to virtual servers
- Reduce cooling to appropriate levels and increase ambient room temperature
- Decommission idle servers and data disks
- Specify low-power consumption
- Optimise use of equipment
- Data centre audit

APPENDIX A

DCC Greening ICT Programme Interactions



serco

	Activity	Responsible owner	Target Date	Actions planned	Risk/dependency (high/med/low)	Progress/notes
PC's, laptops etc						
1	Remove active screensavers. Switch monitors to standby after 5 minutes of inactivity.	Jason Gruber				Behaviours need to change. Tied to desktop refresh, moving to thin client.
2	Power down PCs and peripheral devices after office hours and weekends	Miles Peters				Some devices need to be switched on for extended hours. Needs to be tailored to user requirements.
3	Remove any remaining CRT monitors, where appropriate, and replace with low power consumption LCD monitors	Miles Peters				Desktop refresh.
4	Specify low-power consumption CPUs and high efficiency Power Supply Units	Jason Gruber / Mike Small				Desktop refresh. New servers. Change to procurement approach.
5	Apply Thin Client technology	Jason Gruber				Estimated 40% deployment. Apply standard architecture. 30% reduction of devices linked to NWW.
Printers						
6	Use power management facilities where available on non-networked technology and printers	Miles Peters				
7	Printer rationalisation - Consolidation of printers to Multi Functional Devices. Set default green printing including duplex and greyscale. Use Pull Printing. Optimise power saving sleep modes on printers.	Andy Elliott/ Ann-Marie Hayes				
Data equipment						
8	Infrastructure consolidation - devices, server optimisation	Miles Peters/Serco				
8a	Implement storage virtualisation and capacity management	Miles Peters/Serco				

8b	Convert existing physical servers to 'virtual servers' - partition servers that run in parallel on the same hardware without any interference	Miles Peters/Serco				
8c	When designing & provisioning new services, create 'virtual servers' instead of procuring new physical new servers.	Miles Peters/Serco				
8d	Implement a multi tiered storage solution (much of the data spinning on disks is seldom accessed)	Miles Peters/Serco				
9	Reduce cooling in the data centre to appropriate levels and increase the ambient room temperature.	Serco				
10	Identify servers and data disks in the data centre that are running but not providing any services and decommission	Serco				
11	Specify low power consumption, low-voltage servers high-efficiency Power Supply Units (80% conversion or better)	Serco				
12	Application consolidation and rationalisation to reduce server requirements	Serco				
13	Data centre audit	Serco				Being done 24/07/09
Business processes						
14	Document sharing & collaboration. EDRMS, Sharepoint	Jason Gruber				
15	Increased use of tele-conferencing	John Cornall				Tele-presence

Action plans should:

- Include full explanation
- Quantifiable targets
- Estimated savings information (Wayne Saruwaka can help)
- Demonstrate where funding is coming from