

OUR CITY – OUR FUTURE



KEY 2008 STATISTICS

- **Success Rates**
 - Systems have continued to improve with an average availability in excess of 98% of the time
- **Costs**
 - Costs have been contained within the budget for the last 5 years
- **Business Benefit**
 - ISB has sold £2,500,000 of services to other councils and public bodies and this has reduced the cost of Information Technology to Belfast residents.
- **Staff Benefits**
 - Staff absence has been reduced to approximately 1% during 2007/08

Information Services Belfast Strategic Information Management Framework

The strategic information management framework has four key elements

- **Implementation of information management**
 - Treating information as valuable
 - Defined information ownership and governance
 - Focus on decision-making information
 - Integration with RPA and other Government in initiatives
- **Increased online services**
 - Increased web services available to citizens
 - Increased online transactions
 - 24 x 7 information
- **Improved support for citizen-facing staff**
 - Improved information
 - Increased range of support devices
 - Improved services through collaboration
- **Improved internal services**
 - Improved ISB services to all departments
 - Improved ISB operational procedures
 - Increased systems availability
 - Process Improvement plan
 - Increased security

1. STRATEGY OVERVIEW

Background

This Strategic Information Management Framework (**SIMF**) comes at a time of very significant opportunistic change. Changes within the Northern Ireland administration, within Belfast City Council (BCC), the monetary restrictions of the economic climate, and in the evolving expectations of Belfast City citizens, have come together to provide a starting point, potentially, to lead to a transformation in the way Belfast City Council operates and delivers many of its services to the public.

The new agendas for local government re-organisation and BCC management are likely to focus on the well tried principle of higher levels of delivery with lower cost bases. However there are now opportunities for new services, better services, and smarter services. Technology within society has moved on rapidly in the last few years and this is as true within Belfast City as in the rest of Northern Ireland. Citizens' expectations have also changed with busier life styles, higher expectations from the Council to operate and respond beyond the standard working day and the standard working week.

Strategy Formation

This SIMF strategy recognises these changes and expectations to establish not an itemised roadmap, but clear forward directions and considerations. However no plan will work without the appropriate commitment of management intention, people, funding, and time.

This SIMF strategy is constructed with three elements of information services:-

- **Management of Information (MI)** – Transforming data into information
- **Information Systems (IS)** – The systems used to process information
- **Information Technology (IT)** – The technology used to deliver information

SIMF Purpose

The Strategic Information Management Framework sets out objectives for the next 4 years. The objective being to set firm foundations for the use and management of information based on current and future operational needs.

Through improved use and management of information, the Framework will enable the Council to realise the following aims:

- **To deliver increasingly effective services**
- **To optimise access to those services by the general public and Council employees**
- **To inform, involve and engage key audiences including the public and partners**

The emphasis of this SIMF is on ensuring that the current infrastructure is, and current systems are, robust and secure, rather than investing in new technology except where this can be shown to create cost-efficient benefits. The strategy will extend the Council's investment in Intranet and web technologies, and incorporate an Electronic Document Management System (EDMS), Geographic Information System (GIS) and other corporate systems. The overlapping areas of these initiatives are not always clear cut and developments may affect other projects. However, SIMF will provide an "umbrella" structure within which the other initiatives can be progressed.

1.1. Guiding Objectives

The main thrust going forward will be council-wide cross-cutting themes to establish a structure of improved management information to cause higher efficiency coupled with higher service delivery using technology where appropriate; an increased emphasis on much improved processes; and much stronger technological support for citizen-facing staff at all levels. These themes will have multiple, and parallel, courses for action.

The six council themes are central to the SIMF strategy. These are:

- **Theme 1:** Better leadership
- **Theme 2:** Better opportunities for success across the city
- **Theme 3:** Better care for Belfast's environment
- **Theme 4:** Better support for people and communities
- **Theme 5:** Better services – listening and delivering
- **Theme 6:** Better value for money – an accountable and efficient Council

1.2. Council-wide commitment

These BCC objectives cannot be achieved purely by publication of this strategy and will require strong support and commitment in every department. The ISB department is committed to working even closer with user departments and to be proactive in advancing beneficial IT opportunities.

The production of this strategy is not an end in itself, and its scope and content will need to reflect the business needs and stage of development of the department concerned. It is important that the strategy demonstrates that the programme for delivering projects is well conceived, constructed and mapped out. This strategy will support:

- A co-ordinated, cross-cutting and innovative programme that clearly enhances the strategy vision;
- Services that are citizen focused with strongly improved internal support processes;
- An outline of how services will be 'joined up' through effective links with other organisations delivering related services to similar customers, including :
 - All BCC departments, Central government departments, other local government partners, and Private and voluntary sector service providers
- An approach to integration with the RPA (Review of Public Administration) initiatives;
- An approach to the information management implications of each aspect of the strategy, including an outline of plans to capture, manage and maintain all corporate records electronically;

To achieve true cross-cutting objectives there will need to be a consolidation and centralisation of IT funding so that council-wide objectives can be met.

1.3. Review of existing IS Strategy

The existing IS strategy is a thoughtful approach reflecting many of the achievements and objectives of the ISB department. Much has been achieved and most of the basic groundwork has been either completed or significantly started. The positive need for 'on-line' ethos throughout the Council has been largely accepted in principle and this has

already led to some improvements in processes in the Councils' interactions with the general public. The Council can be justifiably satisfied of the IS progress made over the last few years.

Within Belfast City Council there is a strong, comprehensible and working governance structure for SIMF projects which has contributed positively to the implementation of many services to BCC departments.

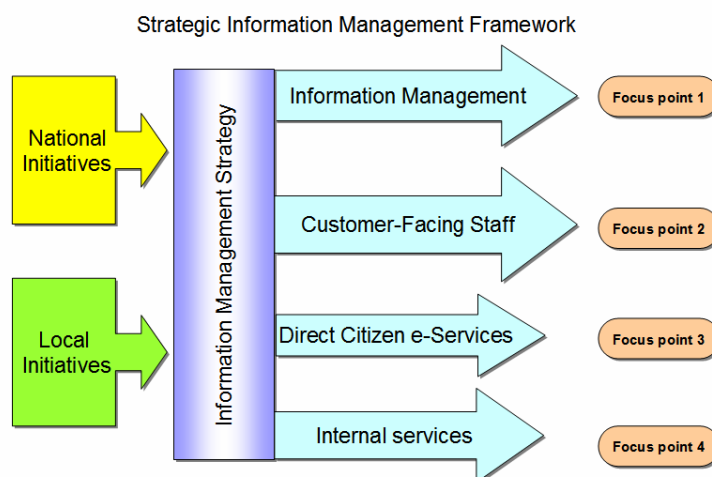
It is recognised by ISB that the level of IS services and the governance of those services will continue to increase, and that this will require tight governance co-ordination with every Council department.

1.4. Strategic Direction 2009-2012

The strategic direction is based on two main cross-cutting approaches:

- **Improved internal efficiency within the council**
- **Improved external services to the citizens of Belfast.**

These two approaches will be actioned through 4 focus points within the Strategic Information Management Framework:



Each of the focus points overlap and interact with each other and there will be the need for strong Programme Governance throughout this strategic framework.

FOCUS 1 – Implementation of Information Management

To implement a structured programme of **implementing a management of information** plan to capture, retain, and exploit existing and new information from a wide variety of sources. This will include catalogue of data assets, homogenisation of CRM systems to provide a single citizen view, and a governance structure to increase the flow of information though all departments.

FOCUS 2 – Front-line Staff

To support the **citizen-facing service** provision teams throughout the council services. Front-line staff require, and deserve, improved assistance and this in turn will enhance the capabilities for improved services. This may include additional technology, mobile computing, home-working, and remote access to information, or just as importantly, improved processes and procedures.

FOCUS 3 – Delivery of Citizen Services

BCC should implement a programme of **improved web-based services** for the general public. This will include an upgraded website with additional features for **online transactions**. Different delivery channels will be used where this is appropriate (e.g. SMS text messaging, online booking improvements and faster information downloads, etc). This strategy will encourage, at every level, the use of technology where it can be shown to add efficiency, cost savings, and improved services.

FOCUS 4 - Develop internal services

This focal point will be to **consolidate and develop the existing internal services** to meet the Council objectives. Additionally there are aspects regarding the IS/IT delivery capacity that require further augmentation to the IT capabilities of the Council. This will include improvements in the infrastructure, increased security & resilience aspects, and increased department support capabilities.

Additionally there will be a simultaneous programme to implement government initiatives, such as the RPA Agenda, as and when these interlock with BCC objectives or separate funding is available.

1.5. IS Strategy drivers

Local Initiatives

Belfast City has a wide range of different drivers for implementing a Strategic Information Management Framework. Primarily the strategy should deliver real-world benefits to the Belfast City citizen. There should be higher levels of knowledge access as well as the potential for higher levels of efficiency at reduced internal costs.

National Initiatives

There is a wide range of exiting national strategies combined with a range of national initiatives. Many of these initiatives overlap functional areas and many of these initiatives operate to very different timetables. With the RPA change initiatives it is possible that the emphasis on these programmes may change. While these strategies are worthwhile the variability in aims, funding, and process may cause councils to defer implementation except where the national initiative and the local initiative have similar objectives.

1.6. Strategic Direction

Technology

During the last 5 years there have been many technological advances that provide the opportunity to **radically modify** accepted practices or have offered the potential to enable entirely new approaches to internal efficiency or external services.

Therefore the ISB department will significantly improve its **proactive stance** with new technologies and work with both individual departments and multi-department teams to look for opportunities where technology via the operational departments can provide either internal efficiencies or improved citizen services.

Legislation

Rapid change and uncertainty in the NI local government environment are becoming increasingly important issues. This rapid change and uncertainty are caused by many

factors; however the key question to consider is how Information Management technologies can help BCC deal with a dynamic operating environment.

Collaboration

There are new demands upon the organisation (both internally and externally) for co-ordination, communications, etc. Moreover, because of the increasing range of Council responsibilities, there is a strong need for **information integration**. This is bound to create needs for cross-functional delivery mechanisms, more team working, collaboration techniques and project co-ordination, etc. All decision systems must become integrated at the information level where this supports the Council in meeting published objectives.

Operational change within the organisation is considered an important factor for the successful application of the Strategic Information Management Framework. While service delivery may continue to be delivered through skill silos, the information flows must operate in a cross-department fashion. Management responsibilities to the Strategic Information Management Framework should be designed to promote culture change, team working, more open communications, and innovation. These will bring benefits such as improved cross-functional understanding, shorter response times and lower costs.

1.7. Strategy Realisation

1.7.1. FOCUS 1 - Implementation of Information Management

A critical aspect of the 2009-2012 Strategic Information Management Framework will be the formalisation of **Information Management** as both a function and as a culture.

No organisation can operate without information. Therefore the collected information must be accurate, timely, and relevant.

Within the council, information is held in many different forms. With the exception of the SAP based corporate systems, in the main, this information is held within the service delivery departments, this leads to a number of issues such as:

- Duplicated systems: multiple CRM, reporting, appointment managing, scheduling systems
- Duplicated data: the same information is held in the different systems
- Disconnected and wrong data: information is collected and maintained in the local systems at the point where a citizen requests the service or re-contacts the council. Only the most recently updated system will be correct.
- BCC often does not see the citizen as an individual, it sees service delivery episodes. It is relatively easy to identify the number of replacement bins delivered to an individual or look at an individual's use of recreational facilities however it is very difficult to identify the complete bundle of services delivered to an individual, a social grouping or a geographical area. This focus on departmental systems makes managing and sharing data complex. Reasons for avoiding sharing include:
 - The information will give an advantage to another section or interest group within the council
 - The other area's information is not up to date / wrong / unclear
 - This service needs a higher level of authentication.

Information as a Corporate Asset

The Council has a sophisticated and mature set of systems; however these systems have evolved within a departmentally focussed environment. This can be an efficient approach ensuring that individual services are optimised and communication within the service is kept at a manageable level by limiting communication between the service and other individuals. This however makes producing cross service information and carrying out efficient resource management within the Council very difficult.

Identification of Corporate Information

Much of the information held about the customers and partners of BCC is private to the service delivery systems and is very difficult to integrate. There are differing meanings to data held and many different validation and collection rules. It is often unclear which piece of data is the most up to date.

As well as the need to produce performance management information and operational reports BCC has onerous obligations to consult and report on equalities and diversities both demographic and geographic.

All information about customers, addresses and services should be integrated through a common citizen's account and an address gazetteer linked to the business operational and IT systems.

Purpose

The objective of the Strategic Information Management Framework is to set firm foundations for the use and management of information based on current and future operational needs. Through improved use and management of information, the Framework will enable the Council to realise the following corporate aims:

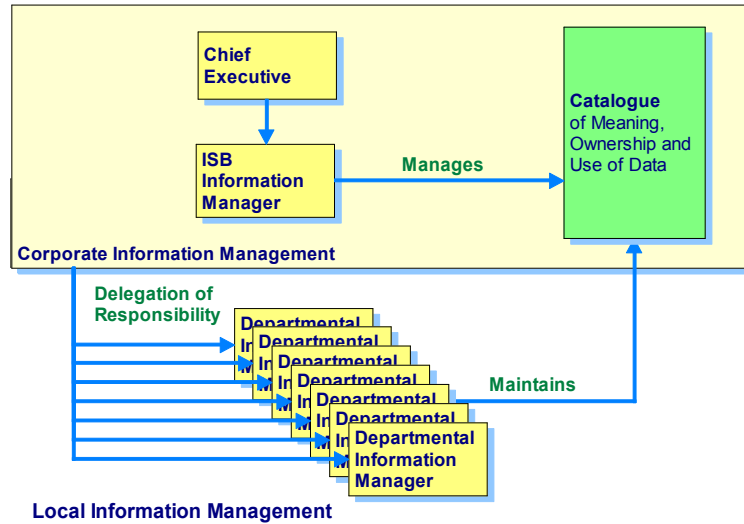
- To deliver increasingly effective services.
- To optimise access to those services.
- To inform, involve and engage key audiences.

The emphasis of this Strategy is on ensuring the current infrastructure is, and current systems are, robust and secure, rather than investing in new technology except where this can be shown to create cost-efficient benefits. The strategy will extend the Council's investment in Intranet and web technologies, and incorporate an Electronic Document Management System (**EDMS**), Geographic Information System (GIS) and other corporate systems. The overlapping areas of these initiatives are not always clear cut and developments may affect other projects. However, the information strategy will provide an "umbrella" framework within which the other initiatives can be progressed.

Information Governance

Information is an asset of the whole Council and must be managed using a formal structure within the Council. The Council, embodied in the Chief Executive is responsible for all data held by the Council and for cross divisional services and the supporting data. This duty can be delegated to Officers such as ISB or the Improvement Service covering centrally managed data through to local officers managing departmental systems and information. The critical part is that all such data should be managed, understood and owned with that ownership documented and managed by a single officer or function.

Governance Structure



Information Ownership

Information can be in the care of or be the responsibility of an officer however that information can not be concealed, withheld or misrepresented to another officer or function within the Council.

The collection of information is the responsibility of every department. The storage of the information is an ISB responsibility. The dissemination of information **within** the council is a factor of the Information Governance group. The dissemination of information **external** to the Council is the responsibility of the Corporate Communications team.

Meaning of Data/Information

Much of the information held by the council is complex, with both transactions covering a long time and transactions with a detailed history. Often the answer is not a piece of data held in a single field. In order to make sense of such complexity an information catalogue should be produced identifying all of the:

- Shared data such as Citizen and Property identifiers
- Financial data
- Departmental data.

This catalogue will have some of the characteristics of a 'dictionary' and will store the correct meaning of data in the context identified.

Scope

This is a very large project and if too large a brush is used will most likely fail. The project should focus on shared data and corporate data first expanding into the documentation of data used in the performance management framework then adding to the catalogue as new areas are analysed. Please note that the information being referred to is not necessarily computerised.

Web, Paper, Telephone and Other Channels

Information must be managed in isolation from the channels used to deliver it. While establishing standards for publication and display are important the information itself

must be the same irrespective of channel. Management of that information is described elsewhere in this strategy.

Information Policy Framework

In order to successfully implement this and the related strategies, Belfast City Council must review the Policy Framework that ISB and the Council work within.

This project will review current policy in detail and will define and agree an updated set of policies which will provide guidance on how the Business Objectives identified by the Council will be met. The following is an initial **list of policies** to be addressed by this project:

- All information held within the BCC information system will be considered as a corporate asset and will be made available to all who have a legitimate need to access it. All information held by BCC will have a nominated owner.
- All information will be entered into the BCC ‘information systems’ once and once only. All information will be held in only one place within the BCC information system i.e. without duplication. (This may not be practical in the short term). All information will be adequately protected against accidental or deliberate harm.
- Purchase or development of all new Information Systems will comply with Corporate/IT policy. It will be essential that any new system complies with data interchange standards.
- Wherever possible information will be held on electronic systems. Information to be held electronically will be captured at source (i.e. at the point of entry into BCC).
- The sharing of information will be subject to any required security or legislative constraints but will not be unreasonably withheld. Priority will be given to those situations where there is a need to share information within the Council or with the public it serves.

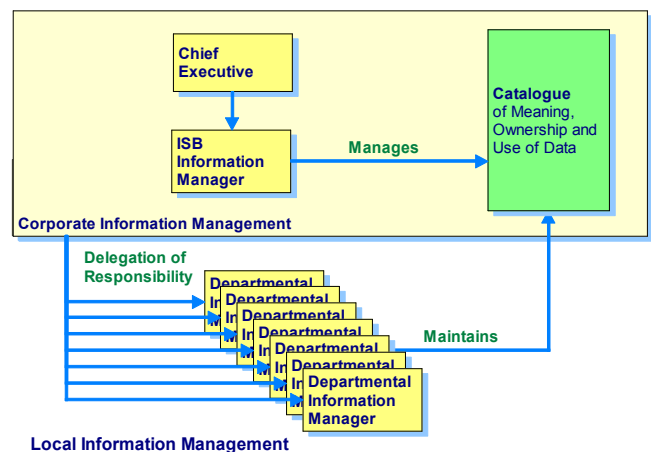
Information Catalogue

Another infrastructure project would be the development of the **information catalogue**.

After initiation this will be a living project which will continue indefinitely.

The initiation project will identify the content of the Catalogue and the targeted areas of information to be documented. This Catalogue will provide considerable benefit to all internal managers that require information in all its forms.

The project should start with documenting the information used in the new Performance Management structure, and identify and reconcile the meaning of the data used.

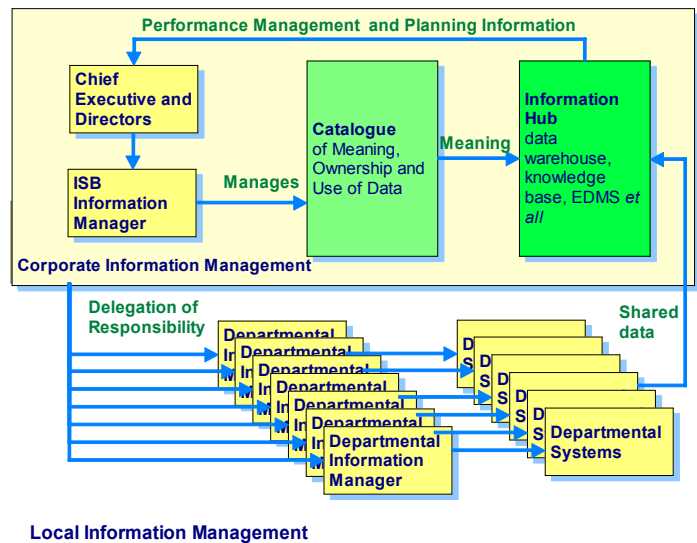


Information Hub

The information hub is a combination of the work carried out developing the Catalogue implemented in a technical architecture. It will include warehouse and data management facilities building on the investment in CORVU, it will understand the integration rules between the Departmental systems and many other functions.

This facility will allow the preparation and delivery of performance and planning information where the meaning of the information is understood.

With an Information Hub approach the Council can incrementally develop a robust performance, planning and management system built from the data within the service delivery systems.



Policy Development Project

In order to successfully implement this and the related strategies, Belfast City Council will need to review the Policy Framework that ISB and the Council work within.

This project will review current policy in detail and will define and agree an updated set of policies which will provide guidance on how the Business Objectives identified by the Council will be met. Example policies are described above in this strategy.

1.7.2. FOCUS 2 – Supporting front-line staff

This strategy strongly suggests that there is direct focus on supporting the front-line staff with improved systems and capabilities. This will require considerable detailed planning and evaluation. However it will be possible to make noteworthy improvements as there is a considerable deficit in the support that is currently provided. This focus point can be started immediately. It should also be recognised that there is no end point as such, and that there should be a mid-set of continual improvement and continual support. This list of items below is a starting point only.

Leeds Council increased productivity by 10% using home-working

Home working & remote access

BCC should generally extend appropriate home working and remote access to a much greater wider range of staff than the currently limited numbers. This would be very helpful to non-office based staff.

East Dunbartonshire Council has launched a flexible working solution, which enables council staff to work securely from any location, boosting overall efficiency, reducing absenteeism, and enhancing service delivery.

Staff should be able to complete reports, make applications, etc., and determine work specific guidance all from their homes or access points without the need to travel to offices. Absenteeism is reduced.

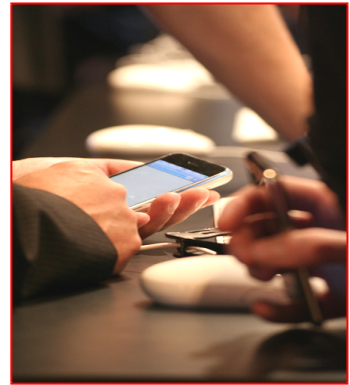
Security issues can be resolved by a mixture of methods (e.g. Digital certificates, secure keys, secure toggles, etc). While there are some security challenges there is no security obstacle that cannot be resolved to implementing home working and remote access. Clearly home working can be this will be more efficient and effective. There is a further value of home working supporting the green agenda.

It is anticipated that extensive home working & remote access should be implemented throughout the lifetime of this strategy.

Technology aids

Some elements of the council have technology aids to support their work away from offices. It is generally seen that these have been worthwhile and efficient.

Almost every aspect of all of the front-line services would benefit from additional technology support. From computerisation in vehicles, to the use of data gathering devices, to digitised forms on hand-held devices, to the use of digital pens, to the wide range of opportunities raised by Radio Frequency Identification (**RFID**): the realm of different technical solutions is almost endless.



Therefore the deciding factor is not can it be done, but should it be done and can it be afforded. The efficiency gains should balance the cost in most situations; however these are decisions that can only be made on a case by case basis.

It is a strategic decision that ISB will assist departments advance computerisation to front-line staff at all levels. This will improve effective service delivery to citizens, it will demonstrate commitment to the front-line staff, and will establish a class mark within the Northern Ireland Councils.

Technology Services

Services such as Graphical Information Services (**GIS**) are making dramatic changes to the delivery of services. Combined with Business Intelligence overlaid onto GIS maps can demonstrate a wealth of information that could not be easily understood as a numerical report. Services such as Google Maps can be effectively used where the granularity of definition is not paramount.

Dudley Council
has improved library services through the use of RFID tags which allow better stock control and book reserve features

The use of **SMS** (Text) services is the most common communications method used by a growing sector of the public. The council have to be able to provide SMS for information delivery, appointment reminders, etc. The cost of providing a SMS-based appointment reminder service will be covered by the reduction in wasted visits, rework, and a reduction in complaints.

As a significant number of **mobile telephones** have combined cameras, it is feasible (and workable) for this feature to be used to assist frontline staff. Using photographic images of faults (e.g. restaurant health & safety, graffiti, factory pollution, etc) can add beneficial values in quicker problem resolution, rework, etc.

1.7.3. FOCUS 3 - Delivering improved Citizen Services

A purposeful element of this strategy is that the net result is a real and accepted benefit to the Belfast City citizen. A key aspect of improving Citizen Service delivery is the incorporation of many of the initiatives in this strategic framework. Aspects such as:

- The improved development of wide range of online services
- The improved range of services supplied via the contact channels
- The incorporation of citizen self-care as a driving concept
- Consideration to the use of different information channels such as SMS, citizen community networks, blogs, SMS, etc
- The service improvements obtained from the Process Improvement programme that translates internal improvements to external benefits
- The focus on citizen social value within Project Governance and Business case development

Improve Web services

It is accepted that the current web services may not be meeting the growing needs of the citizens to match the service ethic of Belfast City. This report recommends that particular focus is given to **citizen online services**. It will be very beneficial where citizens can undertake a range of online services and re-enforce the concept of self-care. This will be an area of continual growth and expansion for many years.

Not all web services need to be developed in-house. With the advent of Web 2.0 functionality web sites can be created from web components freely available.

ISB have created some web features and functions still to be implemented.

Web Facilities

The following list represents facilities that have been provided by other UK public bodies:

- Online booking (Squash Courts, Football Pitches, etc)
- Online Payments (Event tickets, payments, special pickups, etc)
- My City community function – moderated services (Social Networking, Online discussions, etc.)
- Articles & Event Calendars
- My City uploaded citizen photographs
- Information Requests
- Web Seminars & Consultation
- E-Books & City Research
- City benefit calculators
- E-Forms
- Elected Members Forum

All new web services will comply with the recommendations of the Disability Discrimination Act and W3 Web Accessibility Initiative (at least double-A standard).

Elected Members

Elected Members make a strong contribution to all communities throughout Belfast. These communities have different issues and different solutions. The use of information technology across the council and communities can provide opportunity, advice and guidance, and real-world support to citizens.

ISB will maintain active links with the elected members and will actively seek to assist them in the use of technology where appropriate.

1.7.4. FOCUS 4 - Improving internal services

The main action in this segment will be to instigate parallel courses of action within the first three years (2009-2011).

Improved ISB Operations

ISB recognise the change factors of the Council direction and will support these by improving and refining ISB operations.

- ISB will reduce the number of computer servers to less than half the current number (130+) by introducing virtualisation techniques. This will make a strong contribution to the environmental green agenda with a 50% reduction in the power requirements for the servers.
- ISB will improve the management of the growing network by the implementation of the international standards (ITIL¹) up to level 2 by the end of 2010. This will maximise the current infrastructure and lead to reduced downtime.
- ISB will improve the Disaster Recovery processes, utilising the mirror site at Duncrue, to ensure high levels of systems availability at all times.

Consolidation of CRM services

Currently BCC run at least 3 separate CRM systems. The move to a single citizen focus will require degrees of homogenisation. However the benefits will provide considerable flexibility in providing new services in new ways.

Citizens will require a range of access methodologies including web, text, telephone, and walk-in service points. All of these services will require a standardised approach to information delivery.

The Council should operate a style of a central **information hub** to all Council information and services. Other department's systems should have access to the information hub. The consolidation of the CRM systems should be undertaken during 2009-2010.

Digitisation and electronic records

The council has hundreds of thousands of documents and records. Where these documents are in hard-copy format there are a number of issues with filing, space, and retrieval. Additionally there are issues around duplication, multiple copies, and ambiguity on the latest or official version of a document. Some electronic records are being stored however this is not a commonly used function within BCC.

Southampton City Council

Saved approx. £2 million with
Electronic Records
Management

This report suggests that a **single** electronic records management strategy (ERMS) is evaluated and that a policy of a single Council-wide ERMS is implemented during the years 2010-2012. This will produce savings and efficiencies in every department.

Collaboration Facilities

ISB will supply the council with extensive user-driven collaboration capabilities to support cross-departmental themes. Collaborative software (also referred to as groupware or workgroup support systems) is software designed to help people involved

¹ Information Technology Infrastructure Library

in a common task achieve their goals. This capability will allow multi-department virtual teams to be created, to operate on a multi-location basis (including external experts), and to foster participation and innovation across the Council.

ISB Organisation

ISB will, over the four years of this strategy, make internal organisational changes to reflect a different style of operation. To date ISB has been a facilitator of systems developments and implementations. This role will continue but also move towards proactive assistance in the exploitation of technology for every department. By creating “centres of excellence” teams jointly with user department personnel there will be three continuing objectives:

- To maximise the current IT investment in every department
- To actively promote the beneficial use of technology where efficiencies can be identified
- To operate in synchronisation with the Core Improvement Team, especially in the area of process improvement

Role of ISB within the Council

The role within the Council becomes central to three main responsibilities:

- The effective provision of IT services and facilities on behalf of the Council
- To assist the drive through real process improvements
- To implement and maintain the role of information management

To maximise these capabilities and to ensure efficiencies of IT provision it requires a centralisation of IT budgets from 2009/10 onwards.

1.8. Improvement programme

The Council is committed to an Improvement Programme throughout all departments. The Value Creation Maps are a key element in establishing tangible directions and commitments.

During the consultation phase of the strategy assignment it was determined that there is a strong need for improvements to the processes and information flows used through out the council. Some operational processes had not been reviewed in many years. In other areas there were elements of built-in inefficiency and complexity that are no longer relevant.

Birmingham City Council
Birmingham CC went live in October 2008 with cashable savings realised to date of **£247m** through the redesign of back & front office functions and processes which included procurement savings

Council Experience

BCC has experience of a successful process improvement exercise. This process improvement exercises should be repeated throughout the all of Belfast City Council departments. The beneficial results are not just an element of the process but equally by a strong contribution and cooperation of the staff involved.

Process Improvement Objective

The Process Improvement objective should be that during the next five years every process in every department is reviewed and streamlined as far as possible wherever possible. An example process improvement objective may be to reduce or refine the volume of different forms used throughout the Council, and these should be replaced with electronic forms wherever possible. The Process Improvement programme should also look to improve the interfaces between and across departments (i.e. not silo constrained).

East Lothian Council
50% increase in citizen satisfaction through Process Improvements

Process mapping

The Council has undertaken some elements of process mapping as a technique. This report fully supports that decision. As the first stage of the process improvement programme it will be necessary to map many of the existing processes before improvements can be made. Therefore this report recommends that this mapping task is completed as a matter of urgency.

ISB Role in Process Improvements

ISB will support the Process Improvement programme by allocating a team with a wide range of business analysis and technology skills. This will be driven in the first instance through the Business Relationship Managers at a department level but this will also require a more focussed team of internal specialists.

Process Improvement Team

To undertake a council-wide process improvement strategy ISB will work with the Core Improvement Team to implement real streamlining of processes and maximise the resulting information. Process improvement will be a continual process therefore it is an objective that the Process Improvement initiative is **organisationally shared** between the Core Improvement Team and the Information Systems team.

1.9. Implementation of the RPA Agenda

While it is agreed that the RPA initiatives are strategic, long-term, and valuable, the current level of imprecision makes it difficult for BCC to undertake sensible detailed planning at this stage.

Inasmuch that there is a lack of clarity BCC cannot actively pursue the government agenda issues at this stage. BCC should maintain a general watching brief, with 6-monthly reviews, before embarking on a government compliance programme. BCC should continue to undertake programme planning within the general spirit of those government initiatives, and BCC should not undertake any long term systems work that may be contrary to the RPA and associated policy proposals.

There are three **caveats** to that position:

- If external funding becomes available that will justify undertaking development
- If the government proposals coincide with BCC local requirements (e.g. aspects of the Shared Services or the Definitive National Address)
- If a regulatory authority mandates a change or a policy must be implemented.

However the general stance will be to maintain primary focus on BCC needs and benefits.

1.10 Application and Technology Strategies

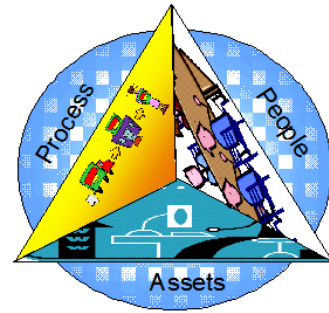
This SIMF strategy sets the direction and objectives for the next 4 years. Two supporting strategies (an Application Strategy and a Technology Strategy) are included in the appendices. These give more detail on specific actions and projects that will be carried out and the software and hardware environments to be put in place to enable the SIMF strategy to be achieved.

2. TRANSFORMATION

Introduction

In order to achieve the Council's objectives, within which this strategy is founded, there will be a number of key transformation projects. These projects may, in the main, not be IT projects but will result in changes to the way that the Council operates.

Traditionally projects are separated from the day to day management of the organisation. This strategy proposes a different approach to running and managing change within the Council. The over-riding principle is that change to a business process is only actioned to support meeting the stated objectives of the Council. A change team will include the users and managers of the business process being modified. The process will include the council assets. These assets will include people, finance and physical assets such as buildings, vehicles and IT.



When deciding or planning a change the team must take into account the measurable benefits to be realised from the project and the budget available. Each proposed process change will be measured by three factors: effective, efficient, and economic.

2.1. Project to Develop Transformation Capability

The operational departments have the skills in delivering services to the customers however in a business change project other skills will be required. These include:

- Project and Programme management using PRINCE II
- Ability to describe, document and reconcile business processes
- Analysis of options trading costs to benefits
- Matching of technical options to business needs.

Many of the operational departments would benefit from the ISB insights to process change and the formalised analysis approach. Therefore the transformation teams will require joint skills between ISB and the departments. This close integration of the team will not immediately happen; specialist skills need to be developed and relationships and methods of working must be developed.

This project will establish the approach to be followed on succeeding projects. It will focus on a relatively simple change and will concentrate on establishing the business case for the change bringing together the objective to be met, the expected benefit, the process which will change and the assets required.

Focusing Effort and Achieving Consensus

It can be recognised that there is not enough resource available to do everything that should be done. Projects tended to be either local, addressing a small set of objectives or corporate and imposed by an external group.

By focusing on the agreed business objectives and the agreed outcomes rather than on the implementation of a specific solution, consensus about what has to be achieved and how to measure it and what value can be placed on the successful change can be achieved before moving to the proposed solution.

This initial project should be restricted in time to no more than one month and should deliver both the specific project plan and the approach to be followed by other Project Planning exercises.

Transformation Projects

Transformation (Change) Projects look at the way a service is delivered and are driven by a need to change or improve the delivery of a service. Change can operate at the macro level or, more usually, at the micro process level. Online booking of facilities is a macro level change, and removing the need for a manual form may be a micro level change.

There are many potential projects these will be expanded which will be identified during the planning process. **Examples** will include:

- Removing as many physical forms as possible and replacing these with electronic forms (e-forms) so that the information can be easily processed.
- Aligning all information delivery channels to ensure that the content is consistent irrespective of the delivery channel. In particular the web channels must align with the information held on the back office systems.
- To establish all of the back office processes that will be required for on-line bookings and on-line payments.
- To plan and design the procedures necessary to provide comprehensive information repository to allow interaction between services across and within departments.
- Providing SMS reminders to improve attendance at appointments with citizens
- Implementing hand-held & mobile computing supporting leisure facilities maintenance.

2.2. Infrastructure Projects

Many projects will address single point solutions to a single need however in order to support these projects there are infrastructure projects which will build capabilities to support known and expected requirements.

Virtualisation of Servers

One of these infrastructure projects is the planned development of the new facilities providing a virtualised server facility replicated on two sites. This will support disaster recovery and will facilitate the management of information sharing and service development.

Disaster Recovery

The move to greater computerisation also requires a greater need for safety and security within the provision of IT services. This dependency on ISB is a **critical** resource. Therefore the need to have state-of-the-art data recovery will be essential.

2.3. External Services

ISB has very successfully supplied services to councils and public bodies in Northern Ireland and in England. This has operated over many years. The experience that ISB has obtained by providing these services will establish ISB in a strong position to assist RPA with the Shared Services Agenda.

The nature of the external services will change and ISB will provide additional focus to those external clients that are critical within the NI environment.

3. IMPLEMENTATION OF THIS STRATEGY

3.1. Implementation Considerations

Interlinked Strategies

This SIMF strategy is one of many Council strategies being created by different departments (e.g. Customer Focus Strategy, Communication Strategy, etc), and the Review of the Centre approach will provide an ‘over-arching’ and unifying approach. There is the need to ensure that all of the separate strategies interlink and interface appropriately in a coordinated management programme. Further work is required to mesh these separate strategies into a single, but multi-layered, plan of actions by each department.

Governance

With multi-department and multi-strategy initiatives there will be the need for strong governance at **Chief Executive** level if the benefits are to be realised, budgets are to be wisely invested, and outcomes are to be achieved within a multi-year timetable. There will be the need to manage the competing objectives of the stakeholders and therefore it may be desirable to conduct a series of explanatory workshops, prioritising and contributing to the planning of the Transformation Programme.

Financing

All of the elements in this strategy will provide a socially beneficial and real-world economic return, especially the Process Improvement Programme; however there will be the need to ‘invest to save’ initially. The Review of the Centre report will be able to structure an overall investment plan, and this plan will have rolling investment/benefit realisation methodology where benefits received will fund the next level of investment. It would be reasonable for BCC to aim for a neutral budget impact within three years from the initiation of the programme.

London Borough of Redbridge
Over three years Redbridge achieved over **£15 million** in efficiency savings through process improvement.

Call to Action

Both the economic climate and the increasingly radical changes within the Northern Ireland executive structures will require Belfast City Council to achieve efficiencies across the board, and quickly.

Within the Corporate Plan Strategic Theme 6 is to provide better value for money which will be achieved by:

- Ensuring resources are fully aligned to corporate priorities
- Ensuring the organisation delivers value for money services
- Attracting and developing people who will work together to deliver the best services
- Develop the organisation for the future
- Lead the organisation through the challenges and transition of RPA.

This will require considerable and sustained effort. To achieve this strategic theme by 2011 (as outlined in the Corporate Plan) will necessitate an immediate start. The Review of the Centre report should be viewed as the programme initiation point. During January to March 2009 detailed planning and strategy synchronisation will be essential.

3.2. Implementation Timetable

The SIMF operational timetable is in four overlapping phases:-

Phase 1	2009 - 2012	Implement a Process Improvement programme across all departments in BCC ISB service improvements through virtualisation
Phase 2	2009- 2010	Implement collaborative operations through technology Provision of technology assistance to front-line staff
Phase 3	2009 –2011	Implement online services for citizens in every department
Phase 4	2010 –2012	Implementation of the further citizen services including the government initiatives such as Shared Services, RPA, etc.

3.3. Implementation Projects

The list of potential projects below represents examples of the significant projects included in this strategy. There will be other projects and the competing cases will be resolved at Project Board level.

Information Management

1. Establish an Information Management team structure
2. Develop an Information Catalogue
3. Homogenise the information held in the current CRM systems
4. Establish information requirements with the Core Improvement programme through to each department
5. Establish a management information data collection & delivery facility
6. Implement an Council wide Electronic Records Management System (ERMS)

Front-line staff

1. Build Collaboration facilities using Sharepoint
2. Undertake pilot service using cameras and mobile communications for Pollution & Environmental services
3. Expand the use of home working / remote access within operational departments

Citizen Services

1. Develop Online Booking module
2. Develop Online Payments module
3. Create Online booking facility pilot website for 1 service
4. Create Online payments facility pilot website for 1 service
5. Establish roll-out plan for other services.
6. Redevelop new web site to include citizen involvement and elected member services.

Internal Improvements

1. Implement virtualisation of servers sets in Belfast and Duncrue
2. Implement improved Disaster Recovery
3. Create internal Process Improvement Team
4. Undertake pilot Process Improvement project

3.4. Budgetary Cost of Strategy

The estimates here are for guideline purposes only. The figures do not represent actual costs as BCC will require further specification, competitive sourcing, and negotiation. It has also been assumed that efficiencies will be identified and taken into account.

Budget Category	Lower estimate	Upper estimate
High	£150,000	£250,000
Medium	£75,000	£149,000
Low	£20,000	£74,000

Projects		Guideline Budget	Year
Information Management			
1	Establish an Implementation Management Team	-	2009
2	Develop an Information Catalogue	High	2009
3	Homogenise the information held in the current CRM systems	Medium	2010
4	Establish information requirements with the Core Improvement programme through to each department	Medium	2010
5	Establish a management information data collection & delivery facility	Medium	2010
6	Implement an Council wide Electronic Records Management System (ERMS)	High	2011
Front-line Staff			
1	Build Collaboration facilities using Sharepoint	Low	2010
2	Undertake pilot service using cameras and mobile communications for Pollution services	Low	2010
3	Expand the use of home working / remote access within operational departments	Low	2009
4	Expand front-line services throughout other departments	Medium	2012
Citizen Services			
1	Develop Online Booking module	Medium	2009
2	Create Online booking facility pilot website for 1 service	Low	2009
3	Develop Online Payments module	Medium	2009
4	Create Online payments facility pilot website for 1 service	Low	2009
5	Establish roll-out plan for other department services.	Low	2010
6	Redevelop new web site to include citizen involvement and elected member services.	Medium	2010
Internal Improvements			
1	Create internal Process Improvement Team	Low	2009
2	Undertake pilot Process Improvement project	Medium	2009
3	Implement virtualisation of servers sets in Belfast and Duncrue	High	2009
4	Implement improved Disaster Recovery	Medium	2009

Median Budget if all Projects are implemented is £1.9 million.

Financial Year	High	Medium	Low
2009	2	4	4
2010		4	3
2011	1		
2012		1	
Count of Projects	3	9	7

4. STRATEGY BENEFITS

Belfast City Council has clear objectives in making efficiency and service improvements through every department. The spotlight is on improved services to the citizen, better value for money, and increased effectiveness across the board.

Technology advantage is happening everywhere, in every council, and in every part of the country. The benefits that will be gained by the successful implementation of this Strategic Information Management Framework will be felt both internally by BCC staff and externally by BCC citizens. Additionally some aspects of the strategy require change to the style and methodology of delivering services and supporting staff.

The opportunities for council-wide improvements are there to be obtained. Numerous other councils and public bodies have achieved significant advantage through improving processes and the delivery of 'e-services'.

This strategy establishes both a technological and a process improvement direction. This strategy provides the opportunity to deliver greater levels of efficiency within the council and improved services to the citizen. Both the citizen and the Council employee have a common interest in making their lives worthwhile and fulfilling.

The attainment of these benefits requires a strategic commitment from Belfast City Council.

- Improved operational flexibility
- Improved assistance to front-line staff
- Improved efficiency within the Council
- Improved information delivery
- Improved service delivery to citizens
- Conformance with government initiatives
- Extended services from ISB department

5. PUBLIC SECTOR EXAMPLE CASE STUDIES

The case studies shown in this section have all been implemented in 2007/8 and are a small sample of the different approaches and success undertaken by other public bodies. These examples are for illustration purposes only.

Tonbridge & Malling Council

Trials mobile devices for staff to access inspection

Tonbridge and Malling Council's Building Control department is piloting a trial of mobile devices to allow staff to access inspection records away from the office, improving working practices and customer service. The technology works by linking handheld devices directly to the back office software, which allows the team to access live data and update it simultaneously.

Lewisham Council

SMS cuts missed appointments by 27 per cent across 16 surgeries

In order to receive the service, patients register their mobile phone number at their surgery in order to receive appointment reminders and health information direct to their mobile phones. The service now reaches 43% of the population covered by the participating GP surgeries. As a result, the mobile channel has now become the key electronic channel for patient interaction throughout the area. The service has proven to be hugely popular among patients as indicated by the 27% reduction in missed appointments.

East Dumbartonshire Council

Flexible working

East Dumbartonshire Council has launched an innovative flexible working solution, which enables council employees to work securely from any location, boosting overall efficiency and enhancing service delivery. Absenteeism has dropped by more than 50%.

Fishery Protection

Fishery Protection Officers save time & cost by switching to digital pens

The officers are using the pen as part of their regular duties monitoring the catches of fishing fleets across the north east of England, both on the dockside and offshore. Data captured using the system can be transmitted back to the central database. The officer can be anywhere from the quayside, to actually out on the boat and instantly send the data captured on a form back to the central database using a combination of Bluetooth technology and a standard mobile phone.

The efficiency savings that the digital pen and paper system brings are obvious and it's implementation means that our Fisheries Protection Officers can spend more time in the field rather than completing paperwork.

The technology works by linking handheld devices directly to the back office software, which allows the team to access live data and update it simultaneously.

6. DOCUMENT CONTROL

This document was produced by Sopra Group on Behalf of ISB, Belfast City Council.

Document Title	Strategic Information Management Framework
Status	Final
Version	1.1
Date	1 st December 2008
Author	Robin Lee
Reviewer	Sandy Thomson

APPENDICIES

Appendix 1 Application Strategy

Background

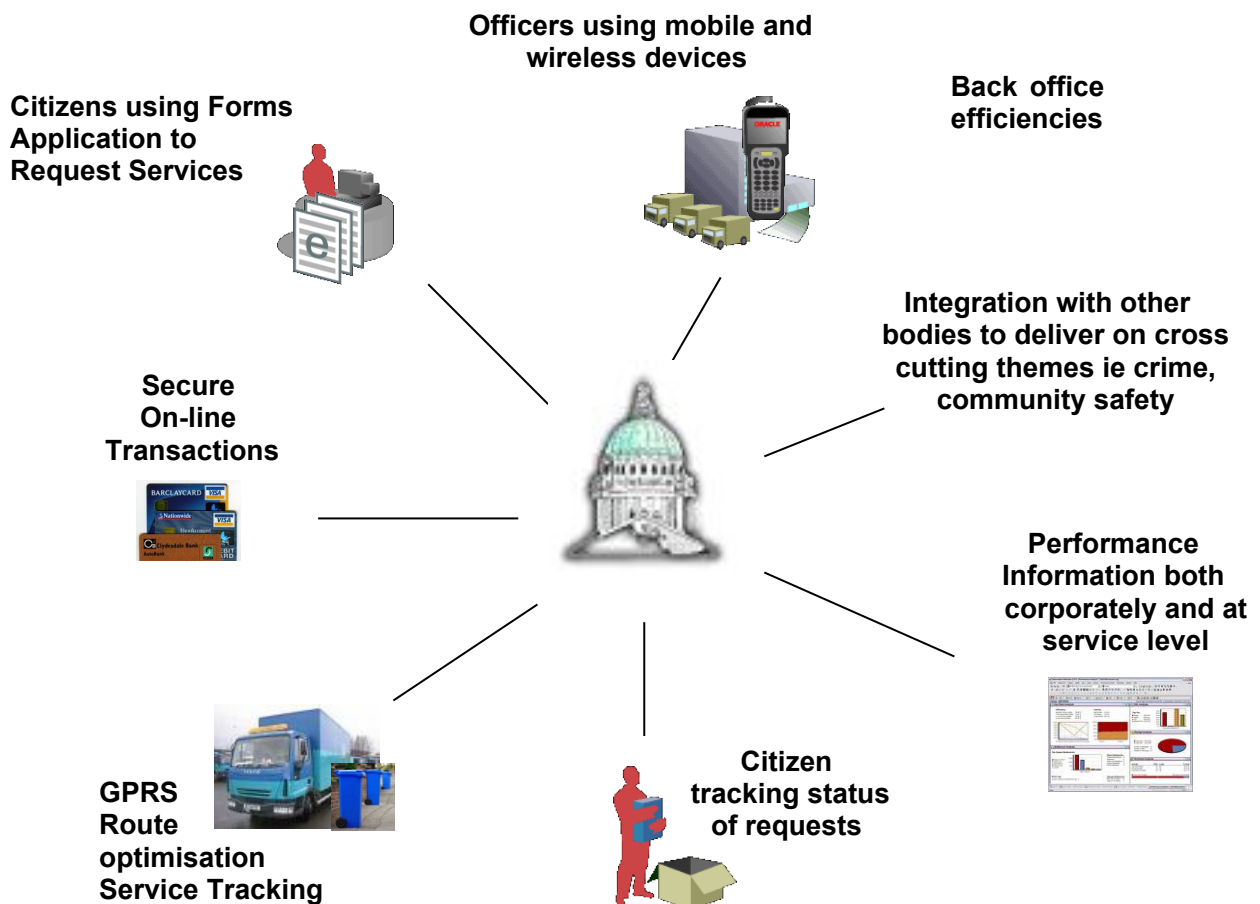
This document outlines some of the challenges facing our applications strategy and associated migration roadmap that will be required to support both our in-house developed applications and acquired solutions over the next three years.

The research and conclusions were drawn from consultation with senior developers and technical consultants within ISB in order to bring to bear the experience that exists within the Service as well as information gleaned through meetings with Oracle and Microsoft.

What are the application requirements for 2008 and beyond?

Some of the key issues we face to ensure a robust and safe environment in which the Council can interact with outside bodies, government agencies and with the citizen include:

- increased online services,
- mobile working and increased remote access to information,
- increased utilisation of GIS services,
- identity management,
- security,
- and systems integration.



Corporate Systems

Most organisations think of their business as being composed of a small number of key processes. The corporate VCM indicates that these are:

- Financial management (SAP)
- Human resources
- Information Management
- Performance management

Other key processes include customer relationship management and corporate business intelligence.

These should then be considered the priorities in terms of application implementation and as such our application strategy will focus on these key applications.

SAP

There is a renewed focus to address issues that have arisen since the initial implementation in October 2007. It is likely that in the push to achieve compliance of purchasing processes further management information will be required and any changes to processes will also result in configuration changes that ISB will have to implement and support. It is likely that the overall support burden of our SAP team will increase as system and organisational changes take place. The knowledge of the SAP team must be enhanced as we reduce the reliance on third party support and integrate acquired knowledge from the SAP project team. We will also push to implement full disaster recovery facilities at our second site in Duncrue.

HR

We have an operational HR service that is trying to move to one that also supports strategic human resource management and the management of change and organisational development in the council. The licensing arrangements for our current HR and Payroll systems expire in 14 months. In order to enable the self-service and management information requirements of a strategic HR system we will review our HR and Payroll systems to ensure that they can achieve the future requirements of the Council's Strategic HR framework.

Information Management

The Strategic Information Management Framework (SIMF) sets out objectives for the next 4 years. The main focus will be to lay firm foundations for the use and management of information based on current and future operational needs.

Through improved use and management of information, the Framework will enable the Council to realise the following aims:

- To deliver increasingly effective services
- To optimise access to those services by the general public and Council employees
- To inform, involve and engage key audiences including the public and partners

The emphasis of the SIMF is on ensuring that the current infrastructure and systems are robust and secure, rather than investing in new technology, except where this can be shown to create cost-efficient benefits. The strategy will extend the Council's investment in Intranet and web technologies, and incorporate an Electronic Document Management System (EDMS), Geographic Information System (GIS) and other corporate systems.

Projects will include:

- Establishment of an Information Management team structure
- Development of an Information Catalogue
- Homogenisation of the information held in the current CRM systems
- Establishment of information requirements with the Core Improvement programme through to each department
- Establishment of a management information data collection & delivery facility
- Implementation of a Council wide Electronic Records Management System (ERMS)

Performance management

We are currently implementing the Corvu performance management system in order to provide performance information at a corporate, departmental and service level, enabling Council officers to easily provide analysis and reports on performance to Service and Departmental Management Teams and Chief Officers (Directors) on a monthly basis.

This will enable the review of progress against targets, helping to illustrate progress against higher level objectives. This information will also be used for Service, Departmental and corporate planning.

The system will be implemented in a phased approach and will require ISB involvement in technical implementation, system configuration and training.

Corporate CRM

One of the biggest problems we face is how best to respond to the challenge of achieving a better focus on using IT to support the customer experience. The need to listen to, anticipate and respond to the changing way in which our citizens interact with council services requires an improvement in our customer relationship management processes and technologies. Citizens now expect multichannel capabilities that include consistency of experience.

Customer Relationship Management (CRM) is already used in a few areas within BCC e.g. waste management, complaints and CTU. These implementations are disparate and when customer interactions span various departments or services we currently focus on providing a service before handing over to another area.

A corporate CRM system would enable the focus to move from hand-offs to outcomes focusing on improving the customer's experience of BCC. It would enable customer insight e.g. who our customers are, segmentation and satisfaction levels and would foster a culture of collaboration that delivers customer centric solutions.

Business Intelligence

Investments in BI tools underpin successful business transformation and strategic change which require significant information requirements to improve decision support

Information requirements from corporate and operational applications are increasing and will continue to increase as the council strives for operational efficiency and seeks to achieve its strategic objectives.

The council currently has several BI tools used to report on operational and corporate applications plus hosted services provided to other organisations. Our aim will be to standardise Business Intelligence tools (BI) to achieve the following benefits:

- Maintenance cost efficiency gains
- Procurement savings.
- One council approach
- Decision support
- Improved management information
- Ease of access to information
- Corporate governance
- Strategic use of information

Current Development Platforms

The current development tools used for both internal and externally marketed products are:

- Oracle 6i forms
- Oracle 9G and 11G databases
- Oracle Application Express (Apex)
- Visual Studio – external systems
- Sql server 2000 – external systems

We also support legacy systems written in Oracle 4.5 and 5.

Oracle

There are a number of systems in use within the Council that are written in oracle forms versions that are no longer supported. There are also current development projects that are using Oracle Apex in order to build GIS and browser based mobile functionality.

Visual Studio

Visual Studio is currently being used to develop web services for online transactions. Examples of these include the web services that integrate with the government gateway payment service, our online achieve forms and Crest back office functionality.

Our new Intranet is currently being developed using Windows SharePoint Services. SharePoint web parts and customisation are best supported by Visual Studio. Microsoft Office SharePoint Server (MOSS) is also being considered as a potential means of document management especially when there is a requirement to collaborate on the creation and maintenance of documents and it is likely that as our Intranet grows we will migrate to a full MOSS environment.

Visual Studio is also being used for new website development and it integrates well with our new Content Management system.

External development

From experience it appears that the majority of our external customers prefer to manage SQL server as their database of choice. Visual Studio development allows the creation of a front end interface that can connect to either a SQL server or an Oracle database back end, which will broaden our potential market base. An example of this is the redevelopment of Crest for Wakefield where we are using Visual Studio to develop the front end which connects to an Oracle 11G database to make use of the inbuilt Oracle spatial features.

Options Identified

Two options were considered for our development strategy. These were to use Visual Studio together with a SQL server 2000 database or Oracle Apex and Oracle 11G databases.

Options were evaluated using the following criteria:

1. Ability to Support Service Oriented Architecture
2. Builds on existing investment
3. Harnesses Current Skill sets
4. Cost to upgrade
5. Cost for training
6. Supports Integration
7. Supports Web Services
8. Interoperability
9. Ease of upgrade
10. Future of the Product

Proposed Strategy

It is envisaged that for the next two years there will be a requirement for applications to be developed using both Oracle and Visual Studio. There is a strong pool of Oracle forms and PL/SQL knowledge within our development team lending itself to the Oracle

Application Express (Apex) development platform. It also has to be recognised that there is a growing requirement to utilise Visual Studio to supplement our Intranet and online transactions. SQL and XML skills are core skills that all our developers must have as a pre-requisite for any development platform.

Service-oriented architecture has become one of the most important concepts in modern application design. It is an architectural style for business applications that are modular, distributable, clearly defined, swappable and sharable. Application development tools from all the major software vendors enable and encourage the use of SOA and Oracle Apex and Visual Studio are no different. ISB intends to look at SOA as a development approach by starting small and addressing areas that could be used to pilot the approach.

The suite of tools we will use for future development is as follows

- Oracle Apex
- Oracle 11G Databases
- Visual Studio
- SQL server database

Proposed Principles to be applied

- As each new development and system request is received an assessment will be made as to whether this is a product that is potentially marketable and then a decision on whether it should be developed using Visual Studio or Oracle will be made.
- All new systems developed in Oracle will use Oracle Apex
- The database will be Oracle 11G or SQL server 2000
- Existing systems developed in 6i such as Crest that are still subject to change and enhancement should be re-compiled and upgraded to a supported Oracle version.
- Systems developed in Oracle 4.5 or Oracle 5 are more than likely to be over 4 years old and will be reaching the end of their life. They should be considered for re-write or upgrade on an individual basis as and when new business requirements arise.
- Visual Studio will be used to develop web services that integrate with our back office applications and will be used to enhance the current Intranet as it moves to a MOSS environment.
- Visual studio will be used for all new website developments
- As our knowledge of Visual Studio matures and the current Oracle Apex developments are completed a decision will have to be made on the development platform of choice for ISB.

Recommendation Summary

1. Our short term development strategy will be to upgrade our development tools to Oracle Apex and Oracle 11G databases. This recommendation is based on the current skills which lend themselves to this technology, the investment to date in the Oracle technology, the cost to re-skill and the current work demands that need to be satisfied within the next 12 months.
2. The greater demand for Visual Studio development around new website development, intranet development and online transactions will require us to enhance our skills in this area.
3. Continued evaluation of Visual Studio Vs Oracle Apex will be carried out over the next year to ensure that we choose the best long term development environment that will suit our business needs.
4. As each new development and system request is received an assessment will be made as to whether this is a product that is marketable or not. A decision will then be taken to develop the application using Visual Studio or Oracle.
5. An evaluation of how a Service Oriented Architecture could be adopted and an SOA maturity assessment will be carried out in order to assess our readiness and highlight areas that would be suited to pilot this approach.
6. Development will take a modular, de-coupled approach to ensure that services can be developed once and re-used in other systems.
7. A programme of work to upgrade our legacy systems to supportable versions will be planned.
8. Existing systems developed in 6i that are still subject to change and enhancement will be considered for re-compilation and upgraded to 10G.
9. We will promote greater integration between web and back office system developers so that our systems will be planned and developed from end to end.
10. It is likely that systems developed in Oracle 4.5 or Oracle 5 are over 4 years old and will be reaching the end of their life. These systems will be reviewed and options for their replacement or demise will be presented to the IT governance panels.

Software Standards and Process Improvement

Background

A project team has been established to look at the standards to be applied to the software engineering processes across the Council and External Solutions Team.

The aim of this project is to ensure that there are quality processes built into the development cycle to ensure products and solutions are fit for purpose as specified in the user requirements. A key element will be how we can increase our capacity to deliver within the constraints of time and budget.

Whilst it is recognised that there are pockets of good practise within the development teams this project will facilitate the transfer and consistency of good practise across the team.

A Project Board has been established to drive forward this initiative, give direction where required, approve recommendations and facilitate the implementation of any new ways of working.

Scope

Standards in the following areas are to be identified and implemented:

- Managing requirements and business process challenge

There is acknowledgment that there are business improvement opportunities and that productivity or performance gains may hinge on examining processes as a whole, rather than on automating functional tasks.

This group will review the role of its business process analysts to improve how they discover, validate, document and communicate business-process-related knowledge through modelling, simulating and analysing current and future processes. It will be necessary for business analysts to have reporting relationships to both the process owner and the relevant governance panels.

The most important functions of this role should include:

- Demonstrating to the process owner opportunities for best-in-class process development and control.
 - Serving as a liaison between the business community and governance panels.
 - Performing reviews to align processes with changing business conditions.
 - Maintaining and sharing process knowledge by embracing new methods, techniques, standards and best practices.
 - Showing process owners how to identify and solve process challenges by simulating different scenarios, analysing performance metrics and through advanced optimisation techniques
- Development standards to include security and access audit trailing
 - Standards to include look and feel of systems

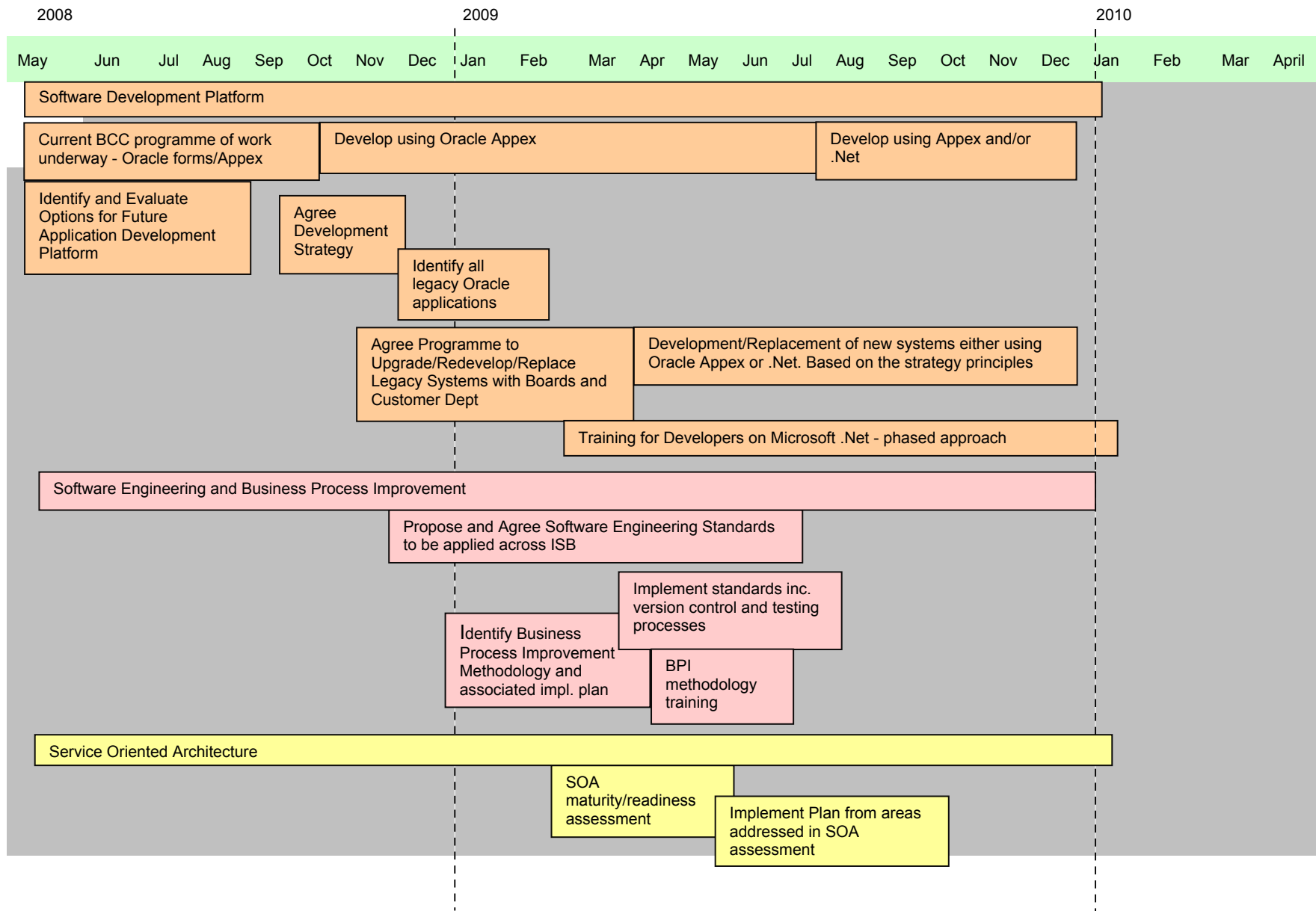
- Accessibility guidelines incorporated – ensure that the government accessibility guidelines are applied where appropriate
- Testing software is an integral and important part of the software development process. Testing processes need to be implemented to ensure that bugs are recognized as early as possible. This element should not only identify testing procedures’ but also whose role it should be.
- Defect detection
- Error Identification
- Version control – this will include the level of version control to be applied. It should be noted that version control is also being looked at in relation to the ITIL programme. Further definition of how this strand will dovetail into the work of the Software Standards group will be discussed further.
- Standards in relation to the environment for development, testing and live deployment of systems.

Deliverables

- Documented set of standards and processes
- Project Plan for the implementation of new processes or transfer of existing good practise across the team

Timescales

- Due to various commitments for new development projects both for Belfast City council and for external customers there are requirements to have the proposed standards defined and proposed to the Board for recommendation by end of June 2009.



TECHNOLOGY STRATEGY

Background

Here we outline the technology required in order to continue to deliver the current portfolio of services offered by ISB while establishing an infrastructure that will enable the work in the proposed strategic themes.

What are the technology requirements for 2008 and beyond?

Some of the key issues we face to ensure a robust and safe environment in which the Council can interact with outside bodies, government agencies and the citizen include:

- increased availability, flexibility and resilience of information and systems,
- enabling mobile working by increased remote access to information and systems,
- providing new and efficient ways of communicating and working together
- ensuring that corporate information is safe, consistent, and available to only those with the right to view it.

There are three main themes around which technology will be implemented:

- (a) Virtualisation
- (b) Unified Communications
- (c) Supporting Mobile and Flexible working

Running through these three main themes is the theme of security; which ensures that the information delivered and managed by each technology is secure and available to only those with the authority to access it.

Virtualisation

Virtualisation applies to three pieces of technology – storage virtualisation, server virtualisation and desktop virtualisation.

Storage Virtualisation

Storage virtualisation is a technology that rationalises the Council's data storage capacity. Instead of having a large number of different storage devices either attached to servers or residing inside servers as shown in Figure 1, a single central storage repository is created that holds all of the information belonging to the Council. This scenario is shown in Figure 2 where the council's servers are all connected to the same storage repository and have access to the information that they require at any particular time. An important part of this technology is that which allows the replication of information at a second site and also the efficient use of storage minimising duplication of data while delivering a fast and reliable means of information backup and restoration.

While ISB has already implemented a central storage repository that holds all council documents and the core financial system databases, it does not have the capacity to hold all of the council's information and is nearing the end of its operational life.

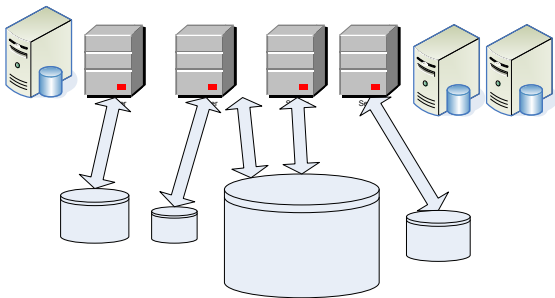


Figure 1

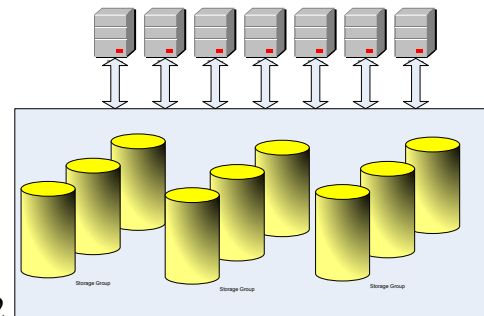


Figure 2

Benefits of Storage Virtualisation

The benefits of virtual storage are that all of the council's data is stored in a purpose built data centre in as efficient a manner as possible, and that information can be delivered wherever and whenever it is required. It also ensures the security and integrity of the council's data through reliable data backup and restoration and also data replication at a second data centre.

Server Virtualisation

Server virtualisation is a technology that takes advantage of storage virtualisation coupled with the power of modern servers. Modern servers are so powerful that they are under-utilised; a recent survey commissioned by ISB shows that on average six percent of the council's server computing capacity is typically in use at any one time. Server virtualisation allows a single physical server to behave as if it were a number of servers (called virtual servers); thus using its computing resources as efficiently as possible. This allows us to move from the scenario outlined in Figure 3 showing a number of physical

servers; each delivering an information system, to that shown in Figure 4 where a smaller number of servers are delivering the same number of information systems, each one delivered by a virtual server.

Virtual servers can be created and moved between physical servers in seconds and can be given as many resources as is required at any point in time. This can include information held in the centralised storage repository. In the scenario illustrated in Figure 4, each server could deliver all four information systems should the need arise if one of them failed.

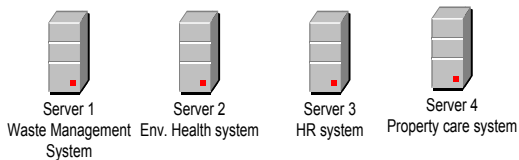


Figure 3 – Four servers delivering four information systems

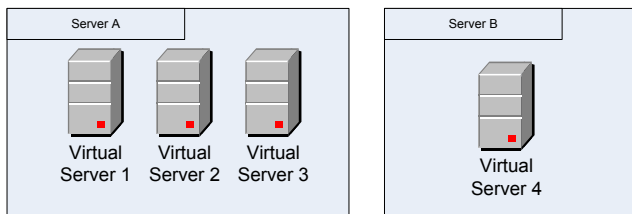


Figure 4 – Two servers delivering four information systems on four virtual servers.

Benefits of Virtual servers

One of the main benefits of virtual servers is that information and systems can always be available provided sufficient spare capacity exists - the failure of physical servers simply results in the movement of virtual servers to working physical servers; maintaining availability of service.

Using virtual servers means that the Council's current informational requirements could be served by a smaller number of physical servers (from 50 to 80 percent less) with the result that the energy and air conditioning costs associated with running servers is reduced.

Virtual servers are easier to manage – the current server administration staff in ISB are overloaded but virtualising servers would mean that the current resources employed in this work would be sufficient to manage the current workload and also allow them to concentrate on work related to improvement and development instead of just day-to-day administration.

Desktop Virtualisation

Desktop virtualisation is a technology that removes computing power and storage from the desktop or laptop computer and places it in the corporate data centre, where it can be centrally managed and kept secure.

In much the same way that a number of virtual servers can exist on one physical server, a considerable number of corporate desktops can exist as virtual entities on physical servers. The traditional PC on the desk can be replaced by an inexpensive solid state device (called a thin client) that consumes only 10% of the energy of that consumed by a PC. To minimise the up front costs and to protect recent investment in PCs, it is proposed that current PCs are repurposed to run as a thin client device by

replacing all currently installed software with a single application that emulates a thin client. Any PC that subsequently experiences a hardware failure would be replaced by a thin client.

Benefits of virtual desktop

There are a number of benefits of this technology. The considerable amount of information currently stored on PCs and laptops can be moved to the central storage repository where it will be safe and properly managed and accessed in a controlled way.

Thin clients consume roughly 10% of the energy PCs use which will deliver savings on council-wide energy costs. Thin clients can last for at least 10 years, are cheaper to purchase and have no user-serviceable parts greatly simplifying support of the physical devices.

Thin clients are supported by staff in the data centre which means that time spent travelling to sites to resolve problems will be minimised. Software can be installed, problems can be resolved, and information made available to users all from a central point.

Virtual desktop technology supports hot desking, remote and mobile working – information and systems are delivered from a central point to wherever the device exists. There is no data or systems resident on a thin client so staff are not tied to one PC at a particular location.

While it is accepted that some users will require a traditional PC, it is anticipated that the vast majority of users' requirements will be met by a thin client. This includes most laptop users who can use a thin client laptop that connects to the corporate network using mobile computing technology that delivers information and systems to wherever the user is.

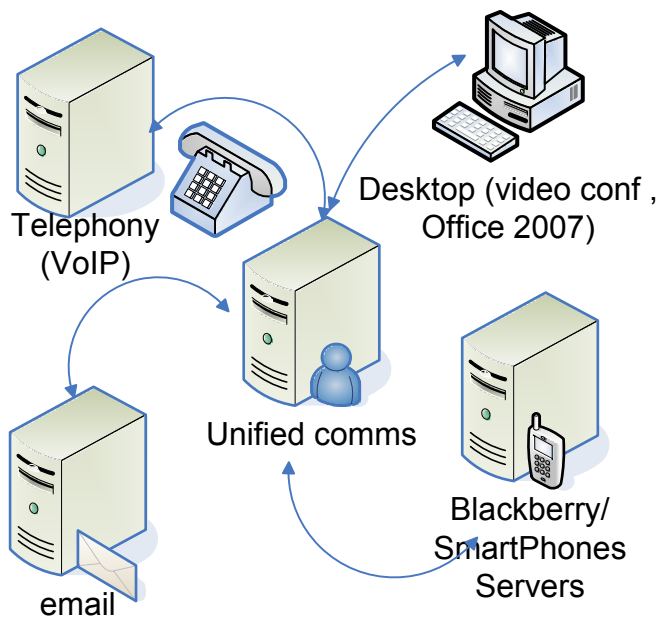
Strategic alignment of virtualisation

The use of virtualisation technology will have an impact on the energy requirements both in the data centre and throughout council sites where PCs are currently located and is in alignment with strategic Theme 3: Better care for Belfast's environment. The reduction in resulting energy bills and overall investment in hardware while still delivering services is in alignment with Theme 6: Better value for money.

Virtualisation technology provides resilience and flexibility in enabling the delivery of relevant information and systems to the point of service delivery wherever and whenever required; in line with Theme 4: Better support for people and communities and Theme 5: Better services – listening and delivering. There are no restrictions as to where services are delivered.

Unified Communications

Unified Communications refers to technology that integrates and simplifies different forms of electronic communication. Specifically, it allows an individual to send a message on one medium and receive a message on another. For example, you can receive a voice mail message held in the corporate telephone system and get notification of it via email and even hear the message played as a sound file on the PC. It also allows the integration of mobile voicemail and the corporate telephone system voicemail which along with email integration delivers a single source of integrated messages that can be accessed in a variety of ways.



The communications leveraged by this technology can include telephone, e-mail, instant messaging (IM), voice mail, fax and web/video conferencing. Software unifies these communication mediums so that any activity or message can be easily transferred to another.

Telephony

A recent decant of staff to Adelaide Exchange offered the council the opportunity to trial modern telephony technology (VoIP) that utilises the capacity of the corporate network instead of a separate telephone network. A review of this resulted in the decision to procure and implement a corporate VoIP system to deliver telephony to all council sites served by the council's network. A modern telephony system is a key part of unified communications as it is more readily integrated with other communication media.

Email

An upgrade of the current email system to Exchange 2007 will enable better email integration and enhance the experience provided by unified communications. Users will be able to interact with their email and diary in many ways, including by telephone.

Desktop

Software on the desktop, namely Office 2007, takes advantage of unified communications by presenting messages from different sources such as email, voicemail, SMS text messages, and instant messaging through a single user interface which also delivers functionality such as video conferencing and virtual meetings featuring desktop and document sharing.

Mobile Devices

Modern mobile devices such as smartphones and Blackberrys can also be integrated with unified communication technology providing access to integrated mobile communications and messaging, and participation in meetings, at any location.

Benefits of Unified Communications

In summary, unified communications provides the means of getting people to collaborate and communicate in new and better ways enabling savings arising from minimising travel costs and the administrative burden around the facilitation of meetings.

Meetings can be set up quickly because physical presence is not required by all attendees and the decision making process can be streamlined as result of the utilisation of technology that enables quick and easy information sharing and communications.

This technology also opens up possibilities for improving how the council engages with the public; for example information kiosks could allow the citizen to interact with council staff ; enabling them to speak with and see council staff – even allowing council staff to help a citizen with a form or some other type of transaction.

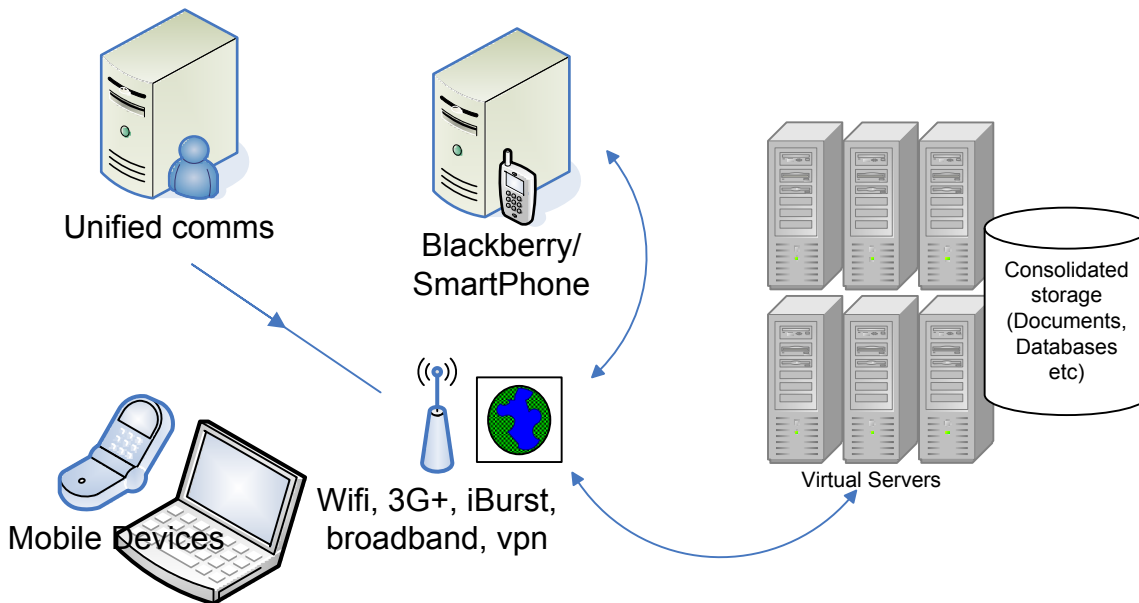
Strategic Alignment of Unified Communications

The opportunities that unified communications offers for video conferencing can result in savings arising from the reduction in travel, both locally between buildings but also across the region and the UK. This is in line with Theme 6: Better value for money.

The enabling of new ways of citizen engagement and service delivery is in line with Theme 4: Support for people and communities and Theme 5: Better services – listening and delivering.

Mobile Computing

Mobile computing is the technology that provides the delivery channels through which information and systems can be delivered to the point of service delivery when it is needed. It also enables communications and access to messages held in different systems such as email and voicemail in a single integrated way from anywhere.



The above diagram shows how wireless technology can deliver information stored in a robust, highly available virtualised architecture to the point of service delivery. There are a variety of ways of doing this and an approach is adopted whereby the solution is selected depending on the business requirement and position of the point of service delivery.

WiFi

This technology provides short range (usually same room or building) connectivity to the network and frees users from the restriction of only being able to access information from their desk when on council property. It is envisaged that this technology will be limited in its application. For example wireless access to information is to be provided to areas where councillors work in the City Hall.

There is an option to provide WiFi access to the corporate VoIP system that would route mobile phone calls made inside council properties with WiFi access over the network and out through the council's fixed telephone lines in order to reduce mobile phone calls costs. However the complexity of the handsets required to do this, and the increasing competitive mobile telephone tariffs, means that a cost benefit analysis of implementing this would be required.

3G

This is a technology that carries data using a mobile telephone network. Portable computing devices are equipped with a data card that connects to the mobile telephone network. Data carried over this

network is routed at the mobile telephone providers' network control centres to a private connection into the council's network which enables the delivery of information. ISB are currently testing this technology.

iBurst

This is a technology that carries data over a private network using directional radio signals. Antennas are installed at strategic points in order to provide coverage over a target area which covers the inside of all buildings and also in vehicles moving at up to 60mph. This technology is currently being offered to the public sector on trial for free over the next two years. ISB are in communications with the central government funded company that is creating an iBurst network in the Belfast area.

Broadband (ADSL) and virtual private network (VPN)

Where access to council information is required at either a remote location where it is not cost effective to expand the network to or in the home working situation, ADSL technology provides connectivity to the council network.

For remote council sites, the BT Central IP Stream service provides connectivity to the council network over a private broadband connection that is specifically reserved for business use. This delivers a robust connection with enough capacity for many applications at remote sites.

ISB is continuously looking for alternative services in order ensure value for money.

For home working, some council staff use the BT Central service while others access the council network from their own domestic broadband connection. A virtual private network (VPN) is used to connect those using their own domestic broadband over the internet, through the council's internet connection and onto the corporate network. All data on the VPN is encrypted as a measure against unknown parties accessing the information while it travels across the internet.

Benefits of Mobile Computing

In summary, mobile computing technology provides a selection of channels through which information and systems can be delivered to the remote council sites, home workers, and mobile workers accessing information when and where it is required.

Such technology, when married to a virtualised architecture and unified communications will challenge service providers to think how they can increase the quality of their service delivery and productivity of staff; especially those who deliver services directly to the public not on council property. It enables minimising the requirement for staff to be on council property and can have an impact on the style and capacity of accommodation that the council requires.

Strategic Alignment of mobile computing

By enabling better services directly to the public, this technology is an enabler of activities that would arise from alignment with Theme 4: Better support for people and communities and Theme 5: Better services and listening.

Savings arising from opportunities to reduce accommodation and increases in service delivery staff productivity are linked with Theme 6: Better value for money.

Information Security

The theme of security must consistently run through each of the technological themes previously discussed. A strategy that aims to make information more available and accessible must also ensure that information is safe and accessed only by those who have a right to access it. It is vitally important that there is a robust authentication scheme in place whereby only a user with a certain set of credentials will gain access to information pertinent to them.

In addition to this there may be regulatory requirements such as compliance with PCI requirements for electronic payment processing or CoCo; the conditions of connection for interfacing with networks belonging to other government bodies.

Some of the technology discussed such as desktop virtualisation will increase the security of data. A thin client laptop that is lost will have no information stored on it and it can only be used to access information by a council staff member with the correct credentials.

However, full virtualisation of the desktop and laptop estate may not be feasible due to limitations of the technology and special requirements of information systems used by some council staff. At the very least, such an implementation will take time and arrangements should be put in place in the interim period than can continue to help secure information held on desktop and laptop machines that are not suitable for virtualisation.

Encryption and media control.

ISB have been given permission to tender for a solution that will encrypt data that is held on laptops and will also control access to media devices on PCs and laptops such as writable CDROM/DVD drives and USB ports that can be used by memory sticks and portable storage devices.

Password control and single sign-on.

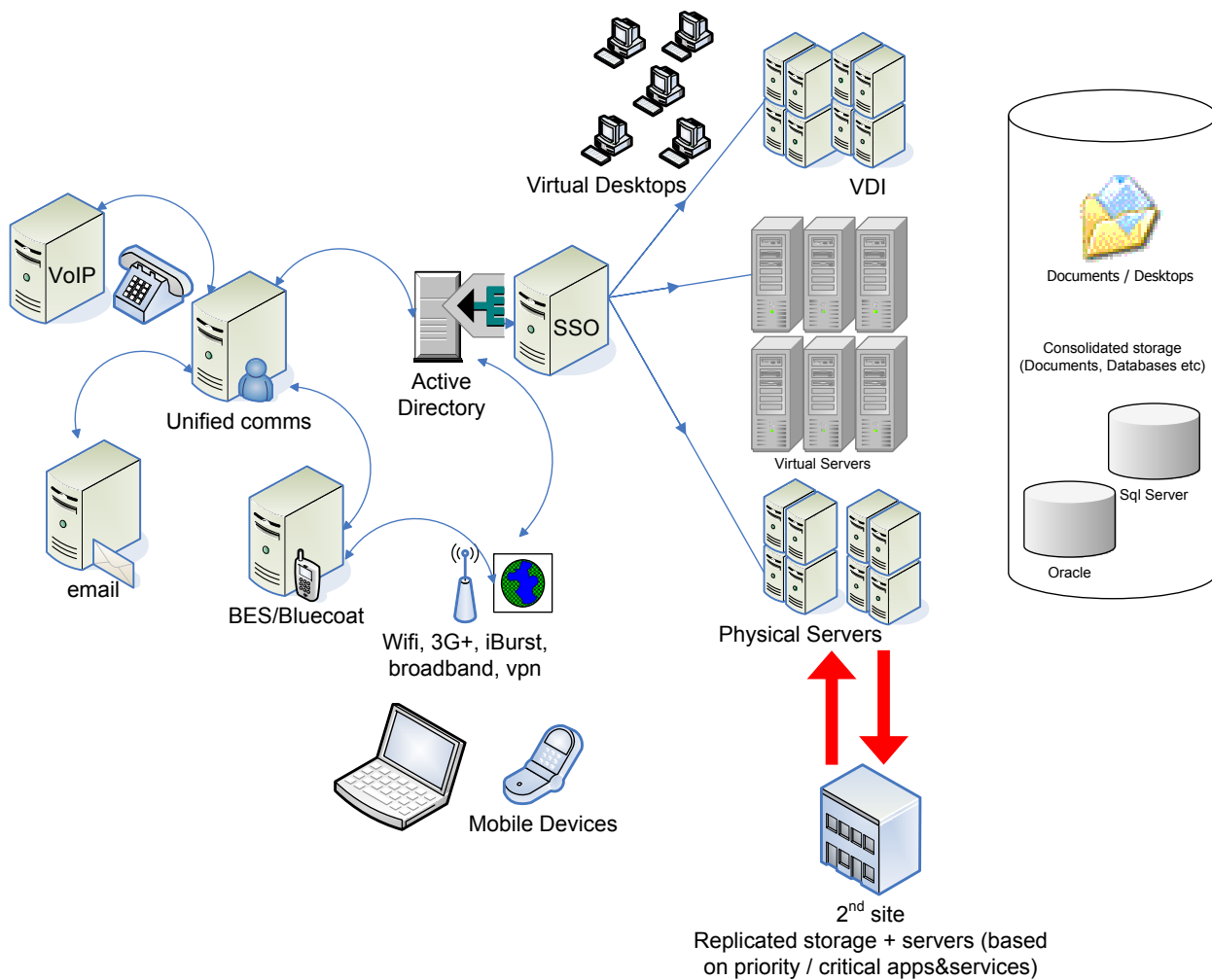
The main technique of authentication is the provision of each member of staff with a unique username and password. Password control is a vitally important issue when protecting information. Passwords must not be shared, easily guessed or written down.

Many modern information systems enforce what is called strong passwords where a password must be of a certain specification such as minimum length, a mix of upper and lowercase, will have an expiry date and limitations on reuse etc. All of these measures result in passwords that are more secure but difficult to remember. This increases the risk of people writing down passwords especially if they have several to remember.

Single sign-on technology delivers a system whereby the user only has to remember one password which grants access to all of the pertinent systems and information. ISB have been given permission to tender for and implement a single sign-on solution.

Active Directory

At the core of a great many of the technologies discussed with respect to access to information, it is vitally important that the council creates and maintains a single source of truth about all of its employees who access electronic information. Active directory is a technology that can store key pieces of information about a user – their name, working location, contact details and also details on what information they have access to.



Active directory (AD) takes a central role in the authentication of users and allowing access to whatever information they have a right to access. The diagram above shows how it fits into the strategy outlined in this document. ISB have established a project to ensure the accuracy of the active directory in order to ensure accurate and relevant user authentication and information access.

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