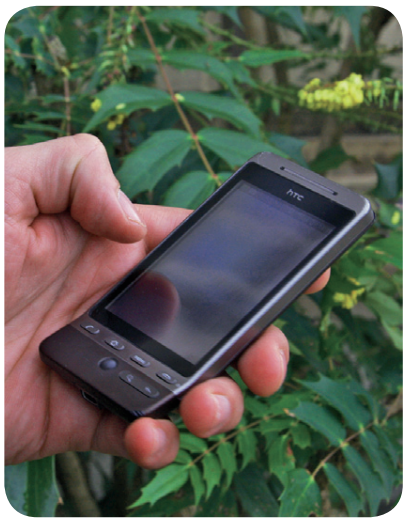
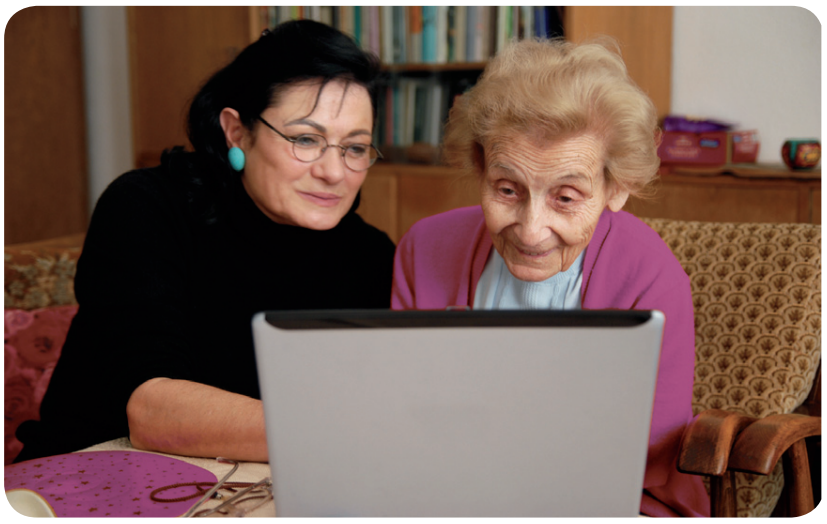
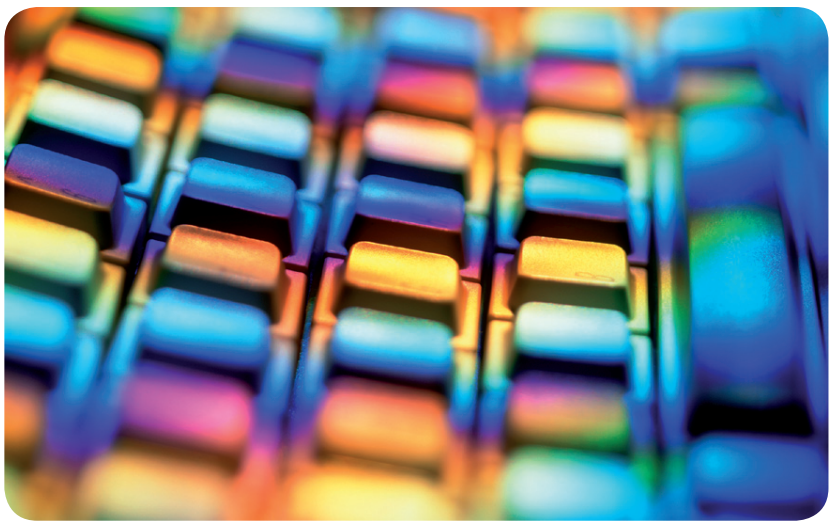
Wiltshire Council

Information Services Technology Plan 2011–15







Wiltshire Council

Where everybody matters

Foreword

This is the first revision of this technology plan that was originally published in March 2011.

Since it was formed in 2009, Wiltshire Council has undertaken a significant transformation programme that will continue for many years. This transformation is taking place in a challenging economic environment for local councils. At the very beginning of this programme of change Wiltshire Council recognised that ICT was a key tool for Local Government to improve and transform service delivery and to drive greater productivity and informed decision making.

I am so pleased that Wiltshire Council has made such progress with its ICT structure since it was insourced in early 2011. This proved to be the lynchpin and motivation for our staff to take forward significant improvements to the network infrastructure, coupled with our homeworking provision and movement into 'Cloud' computing. The added benefits have been the significant savings that have ensued, as well as giving us the opportunity for rapid decision making and innovation. In these respects we have been well supported by the Overview and Scrutiny function which has proved to be a critical friend.

In summary, I am pleased to present and endorse the IS Technology Plan that details a clear strategy for addressing the needs of the council.

In addition, I believe this IS Technology Plan reflects and underpins the council's strong business goals and will enable Wiltshire Council to continue to provide an efficient and cost effective service to our partners and the local community.

John Noeken
Cabinet Member for Resources
July 2012

"The role of Information Services is to get the right information to the right people in the right place at the right time – every time. This document sets out in detail the strategic and design considerations by which we will achieve this aim within Wiltshire Council over the period 2011 – 2015."

Contents

Introduction

Wiltshire Council's Business Plan 2011 – 2015 sets out three goals[1] as follows:

1. **Provide high quality, low cost, customer focused services**
   We must provide the services Wiltshire needs, to the standard that residents want, and give value for money. Our customers must be the starting point for our services so that we know that what we are providing is what they want and need and those services are provided in a way that our customers can easily understand and access.

2. **Ensure local, open and honest decision making**
   We want people to have a real say on decisions that affect them and their communities. They must be able to influence those decisions and be part of the decision making process. We are committed to doing things not 'to' people but 'with' them. Our 18 community areas have been a success and we will build on that success over the next four years.

3. **Working with our partners to support Wiltshire's communities**
   We will work closely with our customers and communities to resolve issues and challenges. We will also work with the voluntary sector, businesses and other public organisations such as the NHS, the homes and communities' agency, emergency services and the justice system. By doing so, we can be more effective and achieve so much more.

Wiltshire Council's Business Plan 2011 – 2015 describes the Information Technology that will be necessary to achieve these goals and to contribute to the achievement of the long-term vision outlined in Wiltshire's Community Plan (2011 – 2026); that is: **"creating an economy that is fit for the future; reducing disadvantage and inequalities; and tackling the causes and effects of climate change."**[2]

[1] http://www.wiltshire.gov.uk/council/focuson.htm?aid=113088

[2] http://www.wiltshire.gov.uk/communityandliving/communityplan.htm

Wiltshire: a perspective from 2015

Looking back, it is hard for the Information Services veterans of early 2011 to comprehend just how much Wiltshire Council has changed. In 2011, the opportunities for rationalisation presented by in-sourcing Information Communication Technology (ICT) added to the pressures faced by a council trying to do more for less simultaneously. It put organisation of ICT and Information Management (IM) under great pressure. Indeed, in the early days of 2011, most people were more worried by a fear of the future than energised by the possibilities. Yet four years on that fear has gone, replaced by a confident, dynamic organisation at the heart of business change within Wiltshire. So what has changed?

In 2015, most Wiltshire Council staff work at home for at least a part of their week, and many staff are more or less permanently based at home, or out on the road delivering services directly to their customers. Much of our key customer-facing infrastructure and applications have moved to a cloud-computing environment.

Apart from reducing costs, such a move has increased resilience. Nationally, the 2013 heat wave was initially treated as a bit of light relief after four consecutive hard winters. However, when the weather finally broke on 'Stormy Monday', 12 August 2013, the ensuing catastrophic storms dumped 200mm of rain on Wiltshire in just six hours. The flexibility of remote access devices and the resilience of the network enabled the council to direct care workers to the most needy, even though both Salisbury and Trowbridge town centres were largely cut off by flood waters, preventing access by staff to those offices.

The subsequent repair programme of roads and facilities has been made easier by the ability of mobile repairs teams to access job lists on the move. And Wiltshire's citizens play their part: the council has received hundreds of photographs showing the state of bridges and roads, helping to prioritise where to send resources.

Modern camera and GPS-equipped mobile phones means that most of these photos are automatically geo-tagged and can be loaded directly into the council's Geographic Information System (GIS) with a minimum of intervention, providing a simple and fast method to identify exactly where the problems are located. Common data formats mean we can easily share this information with colleagues in the emergency and health services with minimal translation problems between systems.

It isn't only during emergencies that the new streamlined Information Services is proving its worth. Connection of the Public Sector Network and accreditation to ISO27001/2 will make such contracts even easier to deliver in future; by 2015, Wiltshire Council is delivering payroll and transactional HR services to much of the public sector in Wiltshire, as well as some bodies elsewhere in the country.

A trial of delivering the whole information service for a neighbouring council has gone well, and there are further opportunities to expand that service, bringing with it economies of scale for Information Services. The focus on first-time fix and the quick resolution of the most common ICT requests – such as password resets – using transactional self-service facilities have been key selling points in demonstrating the capability of Information Services to other organisations.

Sarah's story

Sarah is 41 and lives in Pewsey. She works as an Elections Officer for Wiltshire Council.

"When my second child was born in 2012, I found it very difficult to juggle childcare and work responsibilities. The elections team had moved to Chippenham in 2009 meaning I had 45 minutes journey to work each day. However, when the Pewsey Campus was built, I could easily log in there after dropping my children off at the nursery. The new Windows 7 laptops were far more reliable than the old WoW connections, and the centralisation of information meant I could always find the information I needed to do my job. At first I thought I'd feel cut off from the rest of the team, but the new equipment came with a video conferencing system, so now if ever I need to talk to my manager, I can just flick that on and have a conversation, almost as if she's in the room with me. Now I find I need to go to Chippenham only once or twice a fortnight – much better than going every day. Saves me money on fuel, and helps me do my bit to reduce our carbon footprint!"

The public has also been better served and this has been illustrated by increased customer satisfaction levels measured by the council. Applications rationalisation, delivered to a challenging timescale, was a hard slog and involved much burning of midnight oil, but the benefits were immediate: processing times for planning applications decreased and, for the first time, residents were able to see immediately all the developments going on in Wiltshire.

After a slow start, the public also embraced 'opendata'.

When the council made its first tentative steps, publishing financial data at the end of 2010, there was some interest in searching the system, but very little use was being made of the raw data. The council has seen organisations increasingly mashing-up the data in new and creative ways

Indeed, it was a mash-up of travel time data from the Department for Transport and areas identified for future housing provision from Wiltshire Council that was instrumental in convincing the local rail operator that there was a business case in running a regular 'trans-Wiltshire' train service from Salisbury to Swindon, via the little-used Westbury – Melksham – Chippenham link.

The campaign to improve the link was driven at a community level and co-ordinated by the area boards affected, making extensive use of the organising capabilities presented by social networking tools. The initial analysis had actually come from an interested citizen, on the back of 'opendata' made publicly available by two different public sector bodies.

Registrations to ‘MyWiltshire’ have steadily increased from its launch in 2012, allowing users to be alerted to changes in their area. Telephone call volumes to Customer Service always used to peak around bank holidays when people phoned to ask when their rubbish would be collected; now users of MyWiltshire can be alerted by text message or by a message to their FaceBook page whenever there are service changes.

Moreover, the same service is being used to drive revenue, such as early-bird booking of shows at Salisbury City Hall, or discounted late availability of facilities at leisure centres.

The development of social care packages, allowing recipients to pick and choose the care package that best suits their needs, sled to major cost savings within the Social Care service –made possible only by virtue of an upgraded social care IT system.

All these developments have had a single underlying purpose: getting the right information to the right people in the right place at the right time – every time. Doing so made the transformation happen.

So much for the history of the future. Can it happen? This document sets out in detail the strategic and design considerations by which we will achieve this future within Wiltshire Council over the period 2011 – 2015, while reducing the Information Services budget by 25%.

It should be read in conjunction with the **Programme Roadmap**, which has a detailed timeline of the projects necessary to deliver this strategy. The roadmap will develop over the lifetime of this strategy as projects are completed and new projects started.

Rob’s story

Rob is 54 and lives in Chicksgrove, near Tisbury. He used to work in London for a systems integration company, but five years ago he moved to Wiltshire and set up his own consultancy specialising in helping small businesses exploit IT. In his spare time, he is a parish councillor and an active participant on the local area board.

“We moved to Wiltshire for the quality of life, and because I was tired of trudging up to London every day just to work for someone else. I must admit, one thing I was unprepared for when we moved was the erratic performance of our broadband connection. The provider said I’d have a 2MB line, but that was never true. Fortunately, this changed a couple of years ago with the Superfast Broadband project – does what it says on the tin! It certainly makes communication with my clients easier. I’m impressed with how the council has embraced opendata as well; not just doing the minimum but really opening up service data for scrutiny. We were able to use the data to show that the roads in this part of South Wiltshire were worse than in other parts of the county. The issue was taken up by the Tisbury Area Board and we were able to use some of our grant funding to tackle the issue – a real example of using data to highlight and address a local need. I suppose my background helped me to manipulate the data, but actually it wasn’t complicated, just using a spreadsheet and Google Maps. The key step was for the council to publish the raw data.”

Document structure

The document is in five main sections:

- **Business drivers of the Information Services Technology Plan**
  This section considers the major internal and external pressures on and changes to the service. The development of this strategy, and the changes to the historic ICT and IM Service, are as a direct result of these drivers.

- **The Information Services model**
  This section presents a framework for thinking about how information drives the business and the relationship between the core infrastructure, applications and information.

- **Design criteria for new systems and services**
  This section outlines how we will approach the design of new systems and services so that they meet the demands placed on us by the business drivers. Included in this section are the quality measures applicable to our infrastructure, applications and information that enable us to judge whether the service is delivering what the business requires.

- **Technology and data roadmap**
  This section gives high-level overview of the infrastructure and applications technologies and data services we will be investing in over that period.

- **Summary programme plan**
  This section covers the major thematic areas of the programme plan, by which we will deliver the objectives in this strategy. It also covers the relationship between the programme themes and the Wiltshire Council Business Plan priorities, and the impact carrying out the plan will have on the business.

Throughout the document, words in this bold blue are defined in a **glossary**.

Business drivers

The key business drivers that shape this strategy are as follows:

Cost saving

Context:

Along with the rest of the Public Sector, Wiltshire Council is undergoing a significant reduction in its operating budget. Within Information Services, the budget for 2011/12 has fallen by £2.4m; we are anticipating further falls of £1m in both 2012/13 and 2013/14. Overall, this represents a fall of 25% in our budget over three years, leaving a budget smaller in absolute terms than the budget held by just Wiltshire County Council in 2008/09, before the formation of the unitary council. Therefore, we must reshape the information service to deliver with a lower budget – while at the same time still meeting the expectations of the business and the public for provision of information and services.

How we will deliver:

We have brought the service desk in house, reducing the cost of that service without decreasing service levels. We will continue to rationalise our infrastructure and applications, decommissioning duplicated and redundant equipment. We will continue to investigate more efficient and cost effective services and other technologies where it makes sense to do so.

What we have delivered so far (30 June 2012):

- Information Services has achieved additional savings of £1m over and above the £2.46m budget reductions for 2011/12
- We have agreed to provide increased savings of £1.3m in each of following financial years (2012/13 and 2013/14).

Changing organisational structure

Context:

Coupled with the reduction in budget, the shape of Wiltshire Council is also evolving rapidly. It is likely that over the lifetime of this strategy, the services offered by Wiltshire Council and the balance between which services are directly run, which are commissioned by third parties, and which are devolved to community ownership or management will change significantly. In many cases, an external organisation may act as a processor of data of which Wiltshire Council is the legal data controller, or we may act as data controller for another organisation's data. Therefore, as an organisation we need to be resilient and adaptive to those changes.

How we will deliver:

We will change the mix of skills within Information Services, capturing specialist knowledge within the information base and encouraging Information Services staff to develop broader skills. We will ensure we have robust technologies, policies and procedures in place to allow, for example, all staff, volunteers and residents access to relevant information when it is operationally necessary, without compromising our requirement to protect sensitive information.

What we have delivered so far (30 June 2012):

- We have significantly restructured the former ICT service, transforming the ICT programme team into a corporate function within transformation, whilst forming two, more integrated, functional units within the remaining Information Services (delivery and solutions) team.

Campus and Operational Delivery Programme

Context:

Wiltshire Council's Campus and Operational Delivery Programme (ODP) is dramatically changing the way staff work. The large number of buildings owned or operated by Wiltshire Council is being reduced to four main hubs and a series of smaller 'campus' buildings in each community area; our workforce will become significantly more mobile with an expectation that they can carry out their jobs from any location – at home, on the road, or in any Wiltshire Council owned building. We anticipate that more than 1,200 council workers will become mobile or home workers.

How we will deliver:

We will continue to roll out new ICT equipment that provides VOIP telephony, instant messaging and video conferencing, allowing our users to connect to the Wiltshire Council network from any location.

We will further develop technologies that allow us to offer staff and partner organisations the ability to access the appropriate council systems securely from their privately owned devices.

We will use these technologies to help foster collaborative working so that information can be shared without teams necessarily being geographically co-located.

We are rationalising electronic data stores and applications to assist previously geographically dispersed services to come together, and to ensure that each service can see the same data and application regardless of their original source.

We are rationalising and sorting our holding of paper files, leading to approximately 30% reduction in the overall volume stored, and moving the remaining paper into locations where access is maintained for files that are needed frequently, while ensuring that rarely-requested files are stored in cost-effective, secure and environmentally-controlled ways.

We will ensure that information is always appropriately maintained, secured, retrieved, and ultimately archived or disposed of.

What we have delivered so far (30 June 2012):

- Windows 7 laptops have now been rolled out across the organisation allowing staff to work securely from not only various council hub offices around the county, but from anywhere an accessible internet connection is available.
- Windows 7 laptop owners benefit from instant messaging and video conferencing facilities via the Lync system.
- Some staff are now using Lync to make and receive phone calls via their laptops.
- We have decommissioned a number of electronic data stores moving the data to faster, high capacity storage systems.

Greening IT

Context:

Wiltshire Council, as a signatory of the Nottinghamshire Declaration, is committed to reducing its own impact on the environment and, in particular, reducing the council's carbon footprint by 20% of its 2008/09 footprint by the end of 2013/14. (See the 'Energy Change and Opportunity Strategy'[3], which was adopted by Wiltshire Council Cabinet on 25 January 2011).

How we will deliver:

We are amalgamating the networks of the five former authorities, reducing the number of data centres from five to two. We are virtualising servers, reducing the amount of power needed and realising carbon savings from decommissioning physical machines. We will provide advanced print facilities that reduce the number of printers required around the organisation.

We are investigating mechanisms to ensure screens and computing devices are powered down when not in use, reducing their energy consumption. We are investigating using waste heat from our new Primary Data Centre to provide heat to the building.

We dispose of obsolete equipment, either through recycling or sale, and are able to provide a quarterly report of carbon and trace metal savings achieved.

We will use Cloud technologies, whenever possible, to reduce our requirement for large numbers of servers hosted in our own 'datacentres'. Public Cloud datacentres are now much more energy efficient, benefitting from the latest cooling technologies, power and lighting reduction, and placement near green power creation sources such as wind farms and hydro electric plants.

We will develop and implement applications that provide the community with services via the internet to reduce their need to travel to council offices.

What we have delivered so far (30 June 2012):

- We have decommissioned the Bradley Road datacentre.
- We have virtualised 65% of our server estate.
- As part of the Windows 7 rollout we have provided staff with much more energy efficient laptops, using improved management facilities to reduce power consumption.
- We have provided secure remote working, video conferencing capabilities and teleconferencing facilities via Lync, reducing the need for staff to travel, saving on fuel and carbon emissions.
- We have implemented the Canon Uniflow print solution in four main office locations, significantly reducing the number of printers in use.

[3] http://cms.wiltshire.gov.uk/mgConvert2PDF.aspx?ID=13581

‘Opendata’

Context:

A key strand of the government’s drive to improve public engagement in services and accountability by the public sector is to push public service bodies into giving citizens access to their key service information. Data must be published both in a format that makes it easy for users to comprehend (‘human readable’ data) and also in a format, and with open licensing conditions, that enables it to be extracted by other websites and ‘mashed-up’ with other data to present new analytical opportunities (‘machine readable’ data).

The ethos is that service data is owned by the public, rather than being owned by public service organisations. Examples include the requirement on councils and other bodies to publish spending data online, allowing the public to audit spending, and the recent publication of online crime maps, allowing the public to assess the effectiveness of their local police force.

There is a particular concentration on financial data (such as spending, salaries and contracts); democratic accountability (such as minutes and agendas, election results and councillor expenses and interests); and geographic data that matches service delivery to specific locations. These initiatives collectively go under the name ‘opendata’.

How we will deliver:

We have already published online spending data and salaries of key officers, councillor expenses and council minutes and agendas, and we will continue to meet such requests as they are introduced (see **www.wiltshire.gov.uk/opendata**). We will specify new applications to ensure they provide human and machine-readable outputs of their key non-personal data and we will engineer existing systems to provide such data.

What we have delivered so far (30 June 2012):

- We have continued to expand the data we publish in line with changing government requirements.

ICT in-sourcing exploitation and restructure

Context:

At the beginning of 2011, Wiltshire Council successfully in-sourced its ICT service desk and support provision. For the first time in more than 15 years, the entirety of ICT provision within the council was provided by a single organisation, accountable directly through the management structure of the council.

Not only did the in-source allow us to provide an enhanced service at reduced cost, but it also provides a once-in-a-generation opportunity to reshape ICT support and development according to the needs of the business, without the constraints imposed by a long-term contract.

How we will deliver:

We will continue to streamline service desk procedures, concentrating on the three major goals of finding a first time fix of faults, a clear focus on customer satisfaction and having clear and open communication with our customers.

We will ensure we have staff with the necessary skills, knowledge and motivation to deliver the Information Services operations and programme objectives. We will develop job roles to ensure that service desk and field technicians rotate jobs, so that all service desk technicians develop a deep understanding of how information and communications technology is used in the business.

Within the constraints imposed by the available budget, we will also ensure that contracts for key Information Services staff (including those on the service desk) allow us to offer out-of-hours support at times that are useful to the business.

What we have delivered so far (30 June 2012):

- Permanent staff have been recruited to replace temporary or contract staff following the departmental restructure at the end of 2011.
- Staff have begun agreed training plans to ensure their skillsets are in line with business requirements.
- Information Services support staff now provide out-of-hours emergency standby cover.
- We have implemented a self service password reset function to reduce one of the main service requests we receive.

New technology

Context:

Information technology is a rapidly changing field. It is difficult to imagine work in a modern organisation without access to email, the World Wide Web and mobile telephones. Yet only 15 years ago, all these technologies were in their infancy. Fifteen years ago, no council in Wiltshire had a website; now the Wiltshire Council website is used for millions of pounds of financial transactions every year, as well as being a primary information source for our residents. Five years ago, online video for most users was grainy and jerky; now it is possible to film an event in high quality on a mobile phone and upload it instantly for distribution over the internet.

Websites such as Google (founded 1998), FaceBook (2004), YouTube (2005) and Twitter (2006), did not exist, or were in their infancy, 10 years ago; now they boast hundreds of millions of users and Google is one of the largest companies in the world. The Apple iPhone was launched in 2007; by the end of 2010, 73.5 million iPhones had been sold worldwide and more than 300,000 ‘apps’ were available for download.

Our users expect us to be adopting these technologies to service their needs in ever changing ways. Yet this pace of change presents its own problems: the ability to store information is outstripping our ability to find that same information, and there are significant privacy concerns to be addressed as we upload more and more of our personal lives to the web.

How we will deliver:

We will investigate new technologies as they develop, and adopt them on their merits. Examples include moving some services to a ‘cloud computing’ environment, as well as developing more mobile services and ‘apps’. In partnership with corporate communications, we will exploit social networking technologies such as FaceBook and Twitter to help us reach key segments of our population who may be difficult to reach in other more traditional ways. We will also use those tools to help develop community engagement in our community areas.

We will develop new storage and search solutions to ensure users can always locate information on our network, while at the same time maintaining a rigour of deleting or archiving redundant information. Information Services has invested considerable time and effort in reducing risk and cost in its infrastructure.

As our external and internal customers demand to consume information and access services through an increasingly diverse range of devices at any time of day, we will continue to investigate the opportunities presented by hosted solutions or ‘cloud computing’. We will consider and mitigate the security implications of moving services outside the council’s boundary and identify services which would best benefit from solutions which are hosted by third-party suppliers and partners.

The advantages and risks of exploiting Software-as-a-Service (SaaS) and Infrastructure-as-a-Service (IaaS) will also be considered. The council has a successful track record of exploiting hosted solutions: for example, its SAP solution is a managed, hosted service and the Choice Based Lettings (CBL) system is accessed through the cloud. Our website is hosted externally, ensuring we could continue to provide most information over the web even during an emergency that disrupted our internal systems.

We will work with the telecoms industry to increase the coverage of superfast broadband across the county to enable, over four years, 85% of premises to receive this service. This may potentially rise to 95% if it is possible to secure additional funding from Broadband Delivery UK (BDUK). Capital investment over the four years will be used to attract matched funding from the telecoms industry. Our approach will be based on partnership working involving the council, the telecoms industry, local communities and businesses.[4] We will seek to work with Wiltshire-based businesses to identify common areas of infrastructure development.

New technology

What we have delivered so far (30 June 2012):

- We have migrated 20% of the user base to Microsoft's Office365 Cloud environment.
- Bus timetables and some of the Wiltshire website are now operating from the Microsoft Azure Public Cloud.

[4] http://www.wiltshire.gov.uk/council/focuson.htm?aid=113088

Applications development

Context:

Wiltshire Council has inherited a suite of several hundred applications. These applications have a complex set of licensing conditions and, in many cases, equivalent functionality is duplicated – often, though not exclusively, because the five original councils that merged into the unitary council had chosen different applications to help them manage the same function.

This complicated mixture acts as a brake on service development within the business; for example, it is often not possible for service owners to use a single application to present a single view of their service. Moreover, the desire of services to change their service boundaries – for example, moving from a north / east / south / west service model to a top / middle / bottom model is made complicated by the presence of legacy applications tied to the north / east / south / west areas

Having so many applications is also expensive in licensing, and presents complex support issues. In many cases, it means we need to cover a much greater range of application skills and knowledge

Finally, though by no means least, the split of applications means we cannot provide user-friendly service information on the Wiltshire Council website in some key areas of customer demand, particularly for planning enquiries and information about waste services.

How we will deliver:

We are engaged on a programme of simplifying and rationalising our applications, with major rationalisations of the council tax, planning and regulatory system and Geographical Information Systems taking place in 2011/2012.

We have identified a core platform and suite of core applications (including Microsoft Office, Exchange, SharePoint, SAP and the GIS) and core datasets (including the Local Land and Property Gazetteer, background mapping and Active Directory) and we will concentrate skills in development on that core where possible. In general, we will evaluate all requests for new business functionality against that core data and application platform before looking to the market for a new application.

Concentrating on a core suite of applications from major suppliers brings significant benefits in addition to financial savings. Reducing the number of suppliers gives a more consistent user experience, reducing the need for training in individual applications; for example, a user can transfer knowledge between different Microsoft products as they have similar user interface standards and designs. This would not be the case if we chose separate suppliers for office tools, email and document sharing, even if each individually represented the market-leading software for that function.

Consolidating applications makes patching simpler, leading to significant support savings while enhancing the overall security of our estate. Larger suppliers tend to be more responsive to the latest developments in underlying computer operating systems, simplifying application deployment on our chosen Windows 7 standard operating environment.

Having a smaller number of core applications makes sharing data between them simpler, for example by managing user permissions from the corporate Active Directory; or extracting information from back-end systems to present on the website or intranet. Having a smaller number of systems simplifies support, reducing the breadth of technical knowledge required and eliminating single points of failure in our support team.

Applications development

What we have delivered so far (30 June 2012):

- We have reduced the number of major applications in use from 500 to 396 so far.
- We have implemented a new council tax system allowing the four previously diverse applications to be decommissioned.

Enabling secure partnership working

Context:

Wiltshire Council is subject to an evolving security requirement as a result of its dealings with other government agencies and commercial companies, particularly the requirement for Payment Card Industry (PCI) compliance imposed by the financial industry. Historically, this has resulted in a variety of security protocols that are all similar, but not quite the same. For example, we have different protocols governing our connection to the Department of Work and Pensions DWP) for benefits processing, the police and the NHS.

This environment is changing and in due course will be replaced by a single connection to the Public Sector Network (PSN). This will have its own security arrangements, but will considerably simplify our task by virtue of being a single set of controls to meet.
Simplifying and rationalising our security environment in this way will make it easier to share information with partner organisations, including carrying out support services on behalf of other organisations, and make it easier for other organisations to carry out work on behalf of Wiltshire Council. It will also make it easier to strike an appropriate balance between enabling the flexible working patterns increasingly demanded by the business, and complying with our duty to protect the personal and sensitive information with which we are entrusted.
Broadly, our security strategy is designed to prevent two major risk areas: firstly attacks on our system designed to degrade our ability to function, for example, virus, malware and trojan attacks, denial of service attacks etc; and secondly preventing accidental or deliberate disclosure of sensitive information to non-authorised recipients. It is notable that the Information Commissioner (IC) is taking a considerably tougher line with organisations that do not uphold their duties under the Data Protection Act.

How we will deliver:

We have achieved acceptance status to 'Government Connect' under the current code of connection standard, which enables the council to access DWP services and data. A compliance programme is continuing to develop the council's security framework to comply with the forthcoming Public Sector Network, which replaces Government Connect. We will achieve compliance with ISO 27001/2, which will drive complexity and cost from our security environment and make it easier to bid to run services for other organisations.

We will roll out a protective marking scheme for all information held by Wiltshire Council along with an associated training programme, making it easier for users to understand the security implications of the information they are handling. We will carry out an audit of information held within line-of-business systems (including physical records) to understand the Impact Levels inherent in such information.

We will use this Impact Level assessment to refine the security framework for access to such information in different situations. We will re-write our acceptable use policy to cover access to both electronic and physical information in a pragmatic way, yet ensuring we meet the requirements to protect the privacy of our service users and staff.

Enabling secure partnership working

What we have delivered so far (30 June 2012):

- During the migration from Desktop PCs to laptops we have provided all Windows 7 devices with encryption to prevent data loss.
- We have helped the Police Authority to develop a laptop software build that has allowed them to co-locate in our offices.
- We have implemented an electronic information data Protective Marking (PM) scheme in line with government schemes.

Key areas of focus for 2012 and 2013

1. Cloud Computing

1.1 A common analogy is to liken Cloud Computing to utilities. For example, most people do not generate electricity at home, preferring to consume and pay for electricity from the grid. Generation is managed more cost effectively on a central basis, a distribution network delivers it to everyone who needs it and the usage rate varies with consumer demand. By using Cloud services the council can, therefore, consume as much as it needs, vary that usage and have access to the latest technology, without having the cost of the storage and infrastructure.

1.2 Email service in the Cloud will be provided to 5,000 members of staff by the end of August 2012. A small group of users have already migrated (50+) as a pilot group as at June 2012.

1.3 New software purchases are now evaluated as to their ability to be provided in a Cloud environment. We are currently working in partnership with Microsoft to enable us to migrate more sensitive information securely into the Cloud in the near future, using the government's data security standard Impact Level 3.

2. Public Services Network (PSN) and working with partners

2.1 At present, even when sharing buildings, separate public service agencies tend to prefer to provide their own data connections into those premises leading to duplication of data links. The Public Service Network (PSN) will enable single secure data links to be installed at each campus site. This will allow previously separate agencies, with different information security levels, to transmit data over that shared network line.

2.2 We plan to equip each new or refurbished campus office with a PSN connection to ensure that multi agencies have the capability to utilise the same line. This will allow NHS, police, courts and probation services to work alongside each for the benefit of the local community and the PSN will be rolled out alongside the campus programme.

3. Information Management

3.1 Currently the council stores a large amount of paper-based documentation, as well as preserving similar data in electronic format. To overcome the difficulties of providing access to information by a workforce now accustomed to working in a flexible, non-office bound location, it is essential that we alter the way we deal with our data. The current proposals being considered by the organisation are to move to a paperless office environment by implementing a plan to:

- archive the paper data that is required to be held for 100 years or more
- create a paper archive store for data up to seven years old
- require any future data to be generated or provided to the council in electronic format
- scan and distribute all incoming mail and associated paper data.

3.2 Ensuring that data is digitised where possible will also ensure that users of that data are no longer tied to geographic locations. This approach is being applied to the teams scheduled to move into the new County Council building known as NMECH. It is expected that NMECH will have 90% occupancy by the end of 2012 and that teams based there will have completed their base document cleansing as part of the move. It is anticipated that, if successful, this approach will act as the model for expansion across the authority.

4. Bring Your Own Device (BYOD) staff and councillors

4.1 Currently, Wiltshire Council provides staff with laptop devices that we own and control. Since 2010 we have provided laptops to enable staff to work flexibly. However, to meet our security obligations and data protection obligations we have adopted the approach that we own and control the device that is used to access our systems and the data they hold.

4.2 The effect of this approach is that laptop, slate, phones and devices we provide must undergo a stringent design, test and build process. Wiltshire Council already uses technology that allows staff to access their emails, calendar and outlook contacts via their own personal Smartphone in a government certified secure application. This application can easily be installed on any iPhone or Android device and activated for connection to the council systems via an authorisation code that we provide. This application itself is encrypted on the device without requiring the entire device to be encrypted. It then communicates via a secure link encrypting the traffic between the device and the server.

4.3 This same approach to application provision continues to be developed and can be used for staff or councillor owned devices. By removing the requirement to control the end point device and instead providing secure applications to be easily installed on any staff o councillor owned Windows, Android or Apple device, the council can not only reduce the cost of its expenditure on hardware, but also reduce its resource costs in developing and supporting the hardware.

4.4 This approach would also help us to work more effectively with our partner organisations who would no longer be required to access our systems from Wiltshire Council owned devices e.g. at the moment some staff working with the council from partner organisations are issued with a council device as well as their own organisation's equipment.

Staff – A new release of the 'Good Secure Application' is expected to be available by the end of July and it will enable work to begin on testing the provision of secure applications (other than email) to staff owned computers and devices.

Members – Currently we are working with our provider, Good Systems, to allow us to migrate our existing Smartphones to the Microsoft Office 365 Cloud-based email system. Our intention is to develop a solution that can be offered to new council members in time for the May 2013 elections. This will allow them to choose between receiving a Wiltshire Council specified and supplied device (laptop/phone etc) or, would enable councillors to use their own phone, slate, tablet, laptop, Pad or computer to access their necessary council files and emails.

5. Reducing the cost of shared support with partners

5.1 Currently in Wiltshire the council, police, fire service and NHS all provide their own individual support functions and contractual agreements with service providers even though the majority of the systems being supported are similar products, invariably purchased through the same government procurement frameworks.

5.2 As the Campus project expands, seeing more public sector organisations co-locating, there will be an opportunity to reduce support costs by considering the amalgamation of the disparate support functions that traditionally supported only one organisation. With this amalgamation of information support services will come further cost reductions as single service desk and network support functions could potentially be provided to support multiple agencies.

5.3 The council is currently looking into its position in traded services and the balance between trading a service, or commissioning from external providers. It is proposed that discussions take place to consider the merits of sharing services in this way as may be appropriate.

6. Document management for core services

6.1 SharePoint is a data storage application that makes it easy for the council and its partners to store data in one place, manage projects and project documentation together and share ideas. It gives everyone access to the same documentation (one version of the truth) and helps people to locate the right information quickly to make good decisions.

The application also helps the council to manage its storage with features like document types, retention polices, and automatic content sorting which helps reduce the amount of storage needed and integrates fully with Microsoft Office.

It is intended to develop SharePoint to meet records management needs, enabling us to automatically employ data retention policies and assign document security settings that will allow greater usability of information whilst still protecting appropriate access and modification rights.

6.2 A records management function for SharePoint will be deployed over the course of an 18 month period from June 2012 onward.

7. Applications for public reporting of issues

7.1 As part of the Cloud project we are working with an organisation called MyCouncil to develop a web-based portal that will allow the general public to report Highway and StreetScene issues, such as potholes and graffiti.

7.2 Allied to the work to provide a web portal, we are also working with a specialist company to develop and issue a Smartphone application that will allow the general public to report the same issues easily via their own mobile devices.

7.3 This approach to providing web and Smartphone enabled services will reduce the resource requirement involved in answering phones calls and emails relating to StreetScene and Highways service requests

7.4 It is intended to have initial reporting services available for the general public by the end of July 2012 with full automated workflow integration into the Exor Highways system available at the end of August/beginning of September 2012.

Corporate priorities

The relationship between these drivers, the programme themes that have arisen as a response to these drivers, and Wiltshire Council's corporate priorities are explored further later in this document.

The Information Services model

Information

Information is at the heart of everything we do as an organisation. Every decision taken by an officer of the council will be taken in response to information supporting that decision., from a simple transaction such as collecting a payment from an individual for council tax, through to the most complex strategic decisions such as deciding on the future locations of schools or housing. The role of Information Services is to get the **right information** to the **right people** in the **right place** at the **right time – every time**. By doing so, we will support the delivery of high-quality, low-cost services, improve our democratic accountability and ensure we comply with legislation concerning the processing of information.

The **right information** means any information needed to support decision making within the council, whether that information is held electronically or in paper, and whether it is permanent such as a record, or essentially transitory such as a telephone conversation.

The **right people** means anyone who has a legitimate reason to access that information, which could be a member of the public, an officer, a councillor or an employee of a partner organisation. Equally, it means preventing access to sensitive and particularly personal information from those people who should not see it.

The **right place** means accessing information when it is needed to support the decision being made. This could be in a hub or campus location, at home, or, for some service information, out on the road. Our Customer Access Strategy (CAS) sees an increasing focus on going to the customer to deliver services, rather than expecting the customer to come to us. This will require the ability to access service information away from our own premises.

The **right time** means having access when the user needs the information to support the task they wish to accomplish. Increasingly, Wiltshire Council is developing services and fostering a working culture that requires information to be available outside core hours. Facilities such as leisure centres are open from early in the morning until late into the evening, Monday to Sunday. Our website sees public information requests every hour of every day of the year – even on Christmas Day. Our systems need to support information provision to meet that demand.

Doing it **every time** means that the systems and support processes we put in place accomplish the above in a resilient and reliable fashion.

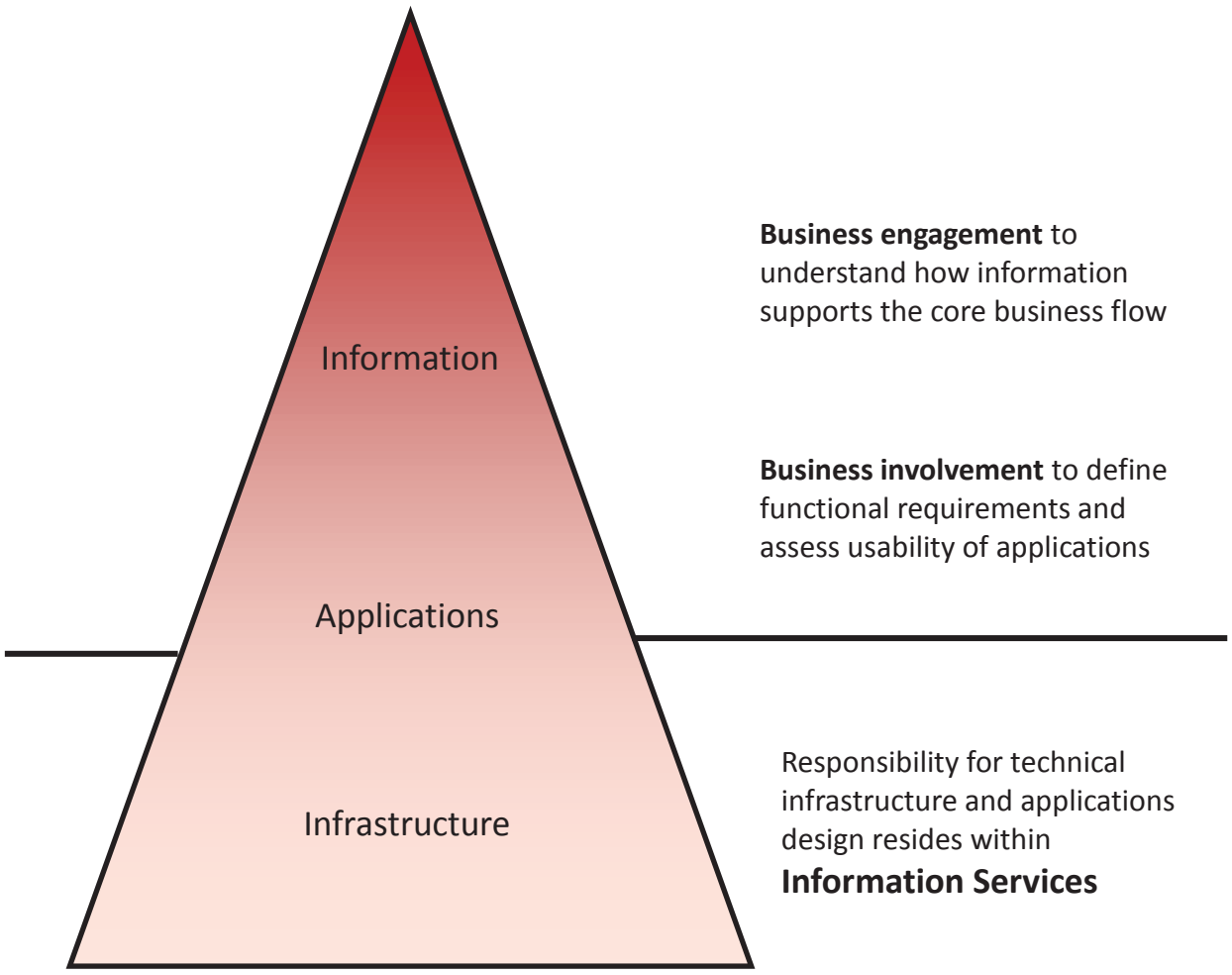
Applications

In order to achieve that goal, we need a robust suite of applications and a standardised application platform to process the information and facilitate its flow between all the parties involved in making a decision. The more smoothly information flows between all the parties involved in making a decision, and the less re-keying and duplication that takes place along the way, the faster and more reliably decisions can be made. This reduces costs and improves customer satisfaction.

Infrastructure

The applications run on an infrastructure. The reliability of this infrastructure is of crucial importance in allowing applications to be supported wherever there is a business need. For example, if we wish to meet the needs of serving customers in their own homes, then we will either need an infrastructure that can support such remote working, or else we will have to process application forms in hard copy and transpose the text at a later time, slowing down the process and introducing transcription errors.

This hierarchy is represented by the diagram below. Service users will have a key stake in defining their information requirements (and will be responsible for ensuring that the maintenance of their information is adequately resourced). They will also have some input into design of applications, particularly around the required functionality and usability. However, the proper functioning and design of most of the applications suite and the entire infrastructure is within the professional expertise of the Information Services team. Therefore, Business engagement will take place wholly to define the requirements for accessing information to support the business.



The relationship between Information Services, knowledge management and systems thinking in Wiltshire

The primary role of every officer and member of Wiltshire Council is to make wise decisions - and then act on those decisions – on behalf of our residents and businesses in respect of the services for which each officer or member is responsible.

It is possible, athough not advisable, to make decisions without any supporting knowledge; however, making a **wise** decision is fundamentally reliant on having knowledge about all the factors that could potentially influence that decision.

Knowledge in turn derives from information: it is essentially a synthesis of available information to determine the underlying patterns. In its turn, information depends on the underlying data – data themselves are simply random unconnected fragments with no meaning: it is the process of understanding the relations between data points that generates information.

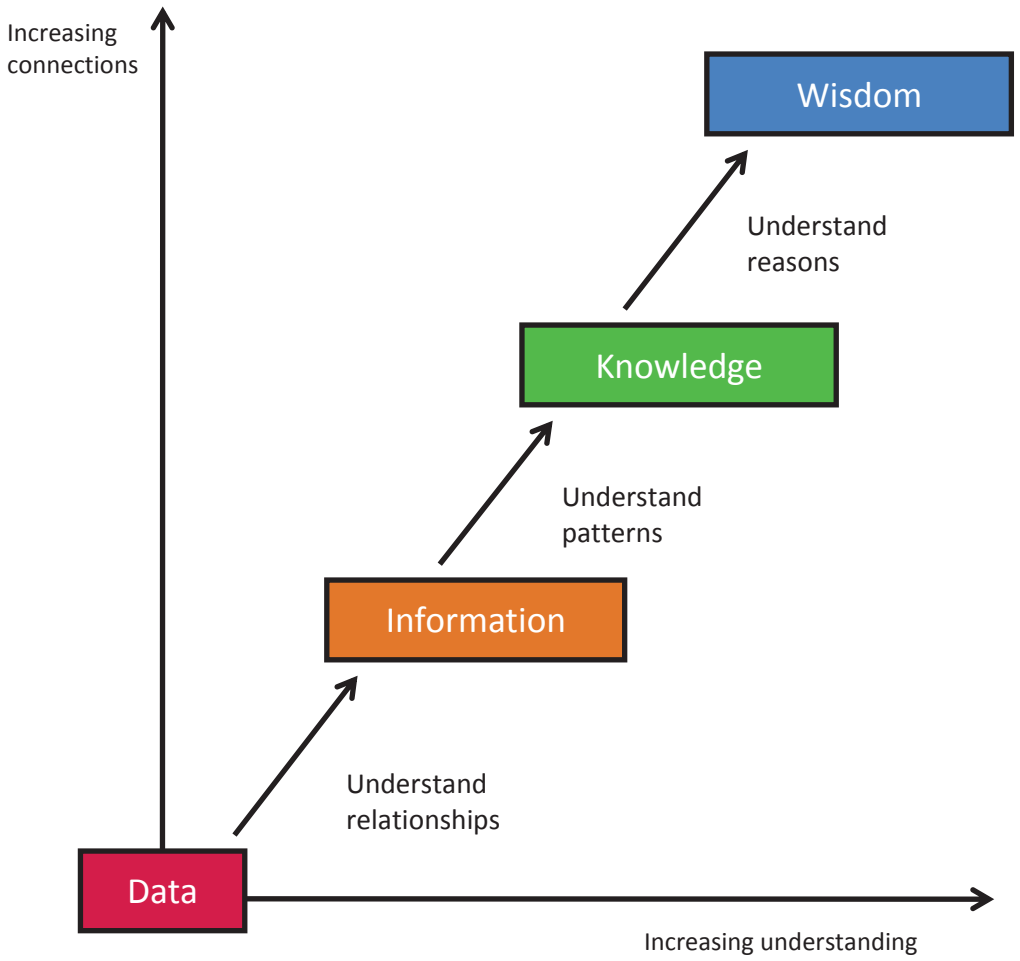
Accurate, good quality **data** is the bedrock of any organisation. Understanding the relationships between those datapoints provides the context to create **information**, which allows us to use those data to answer questions such as 'what?', 'where?' and 'who?' Understanding the patterns in information creates **knowledge**, allowing us to answer questions such as 'how?' and 'why?' Using such knowledge of the past, and the answers to those questions 'what happened, to whom and where? How did it happen? Why did it happen?', we can make decisions about what we should do in the future – that is, we will be able to make **wise, informed** decisions.

A simple example illustrates this process:
51.33, -2.28, 51.34, -2.25, 51.34, -2.25 represent data – essentially meaningless entities.
The **relationship** between these individual datapoints is that they are actually the geographic locations (in terms of latitude and longitude) of individual car parks in Wiltshire. By using this relationship to add context to the data, it has been transformed into **information**, and could be used to answer a 'where' question – Q: Where are the car parks in Wiltshire? A: at latitude 51.33, longitude -2.28; latitude 51.34, longitude -2.25 etc).

If these individual locations are plotted on a map, a **pattern** emerges in the information: the car parks are not evenly distributed, but instead are concentrated in the major towns. This constitutes knowledge and understanding that **knowledge** can be used to answer a 'why' question –
Q: Why are the car parks in the locations they are? A: Because those locations are in the centres of our major towns.

Ultimately, that understanding can be used to make a **wise** decision about future service provision –
Q: Where should we build a new car park? A: there will be lots of factors, but a good place to start would be to look for any major population centre that doesn't have an existing car park.[5]

[5] Note that increasing amounts of data are required to generate the information that leads to knowledge and ultimately wisdom. In this example, actually to demonstrate the truth of the assertion that the car parks are located in the major towns, you not only require one set of information – made up of many individual pieces of data about the location of car parks, but a second set of information about the locations of major towns. Similarly, to make a wise decision about whether a new car park should be put in a certain location, you not only need the knowledge that existing car parks tend to be situated in large towns, but other knowledge about patterns of use of existing car parks and the demographics of people likely to visit a proposed new car park.



This approach is fully aligned to the systems thinking approach to understanding and improving service performance. The systems thinking approach depends on accurate and timely data: to define problems correctly, to analyse type and frequency of customer demand; to measure service and process performance; and to make wise, information-based decisions about the optimum design of processes and work flows and, further, the flow of work through a process necessitates an underlying flow of information.

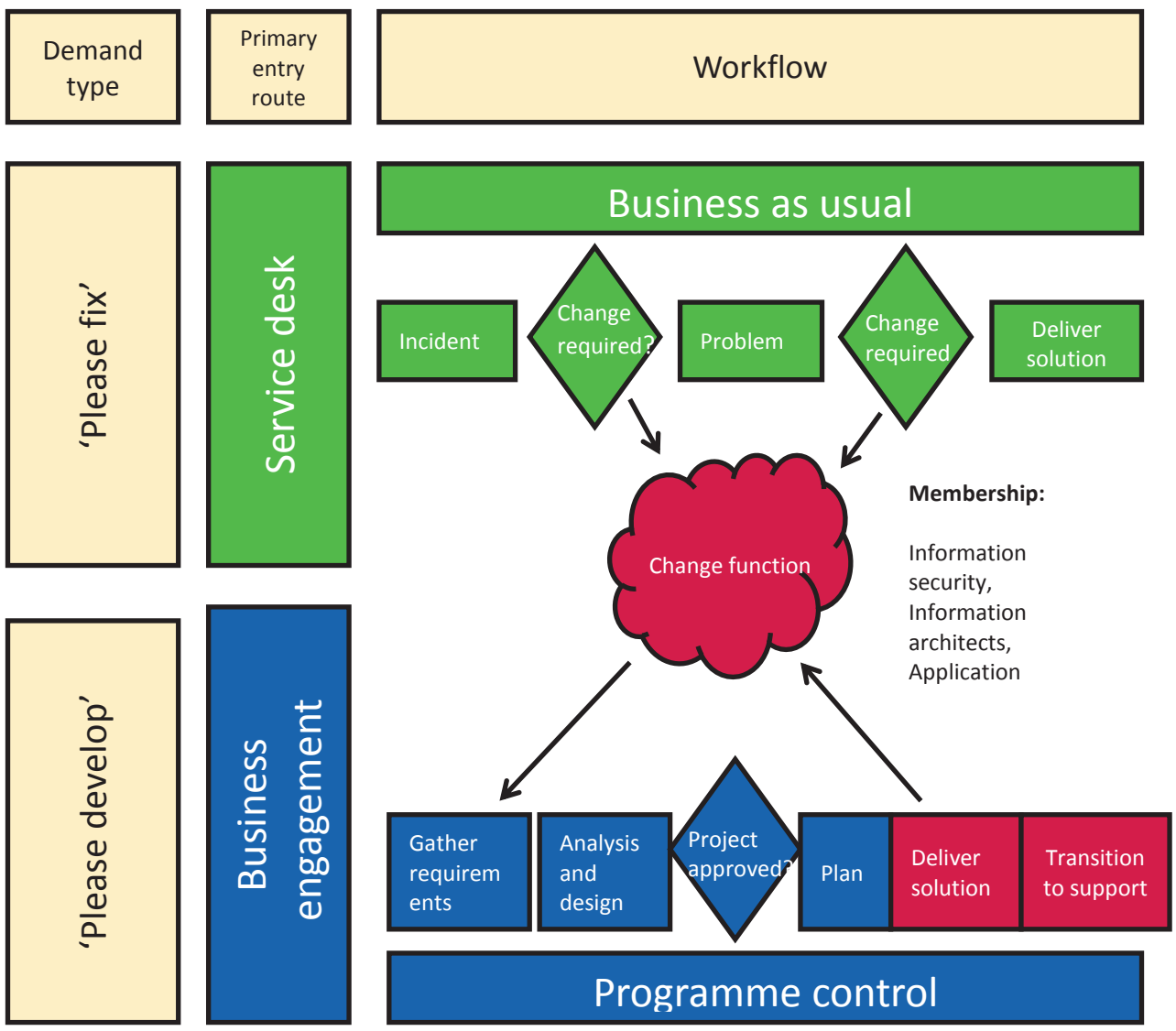
Demands on Information Services

Broadly, there are two major demand types into Information Services that generate work:

- "**Please fix:** The infrastructure, applications and information support for what I want to achieve are not currently working as specified." This is a typical fault request. Normally, though not universally, such requests will enter our system via the service desk and will be resolved using the service desk processes.
- "**Please develop:** The infrastructure, applications and information are working as specified, but do not meet my business requirements." This is a typical service development request. Normally, though not universally, such requests will enter our system via the business engagement process. They will be analysed using the model below; if, after analysis, it is deemed that there is a project that is viable in business terms, this project will be managed as a development activity via the programme.

Some service desk demands may flag up a recurring incident that requires a more fundamental change to the system to fix. These will be managed by an intermediate change process. When making the change has a significant resource impact, this will be managed as part of programme control arrangements.

This process is represented diagrammatically:



Service desk

The service desk will be the primary mechanism for receiving and handling 'please fix' type requests. The service desk processes are based on the ITIL framework. The service desk will prioritise its service and continuous service improvement on the following model:

1. **Focus on first-time-fix of faults**
    - We will employ more technically focussed staff at the first point of contact with users. This approach will allow staff direct contact with an individual capable of resolving their issue.
    - We will allow service desk staff to use customer authorised remote control facilities over customer's machines to repair faults or demonstrate fixes.
    - We will provide our customers with access to a knowledge base of fixes for common faults that they can access to attempt to rectify their own issues themselves.
    - We will provide automatic call ticketing facilities so that staff can raise their own non-urgent service requests thus allowing service desk staff to deal with urgent calls.
    - We will proactively monitor core infrastructure and back office systems to alert us to any failure as soon as they occur.
    - We will employ fault management techniques to bring about faster resolution of incidents.
    - We will update a knowledge management database to enable sharing of fault resolutions to enable faster resolution.

2. **Focus on customer satisfaction**
    - At each call closure customers will receive the chance to comment of the level of service they have received.
    - Staff will also be surveyed regularly and at random to allow them the chance to give their opinion of the service that Information Services provide.
    - Clearly defined escalation routes will be published for staff to ensure that issues are caught and dealt with as soon as possible to ensure they do not mutate into a major problem that involves a large amount of resource replying to complaints.
    - We will review and refine the Service Level Agreements (SLAs) to introduce more flexibility in what is interpreted as a high priority service call. As an example, prime customer facing services should have a raised priority rather than merely concentrating on large-scale outages as in the present position which is based on more than 50% of users of a critical service being affected.

3. **Clear and open communication with our customers**
    - The service desk function will be the point of contact for all ICT related requests for fault reports and requests for routine new service requests of catalogue items.
    - Service desk staff and automated systems will give regular updates to customer as to the status of their request.
    - The service desk system will be set to generate call-back or escalation alerts.
    - A change schedule will be provided for all staff to see to ensure that planned works are publicised before those works take place.
    - Staff will be advised when emergency work needs to be undertaken on systems that may affect them.
    - A service catalogue detailing expected levels of support, delivery schedules,supported equipment lists etc. will be published for all staff to see.

Business engagement

The business engagement function will be the primary mechanism for receiving 'please develop' type requests.

Business engagement will take place with each service department in identifying and understanding individual business aspirations using the Processes, Organisation, Technology, and Information (POTI) model. As far as is practical, business engagement will be aligned with the wider service engagement taking place as part of the campus and operational delivery programme, with the aim of making better use of information, property and staff.

The outline process for business engagement will adopt the following:

a) Baseline strategic assessment

b) Alignment to the future direction of organisation goals

c) Gap analysis

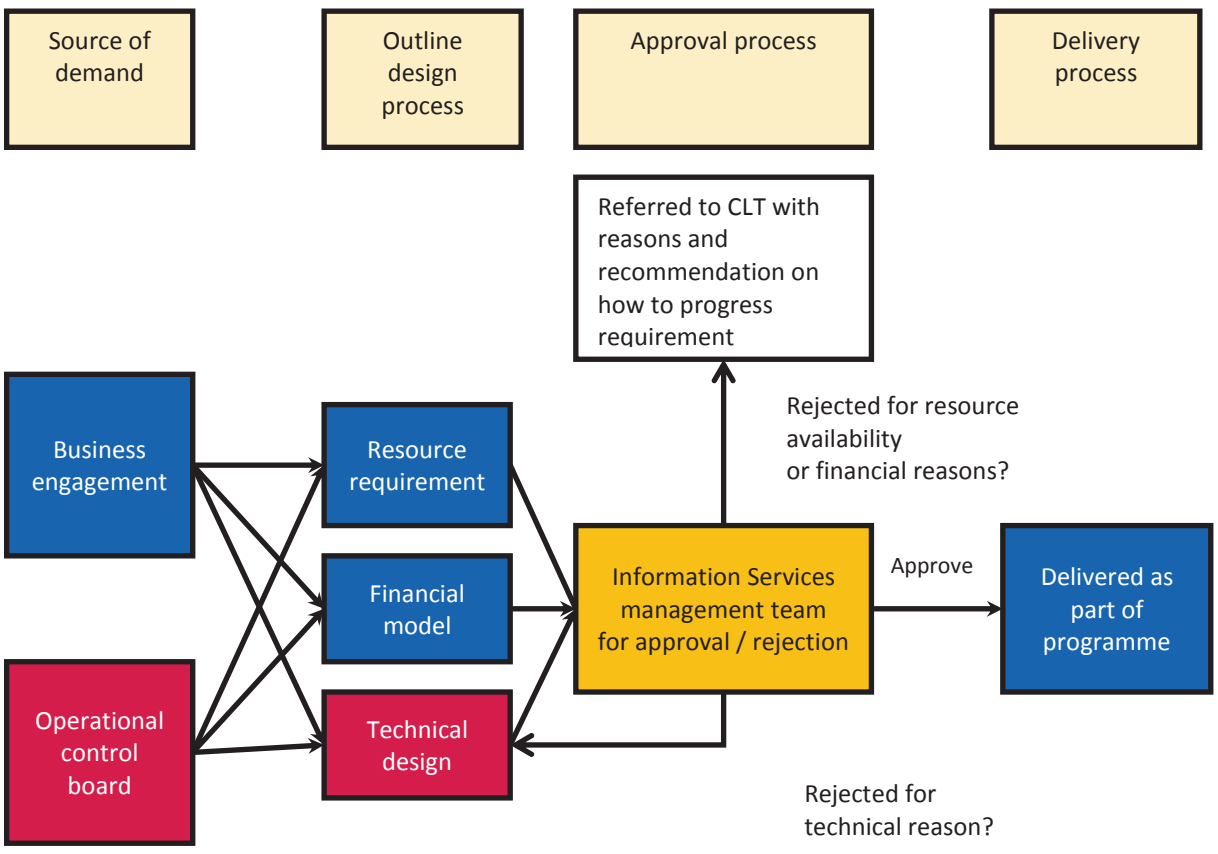
d) Delivering the new capability

e) Changing and supporting the new capability

f) Measuring outcome and benefit improvements.

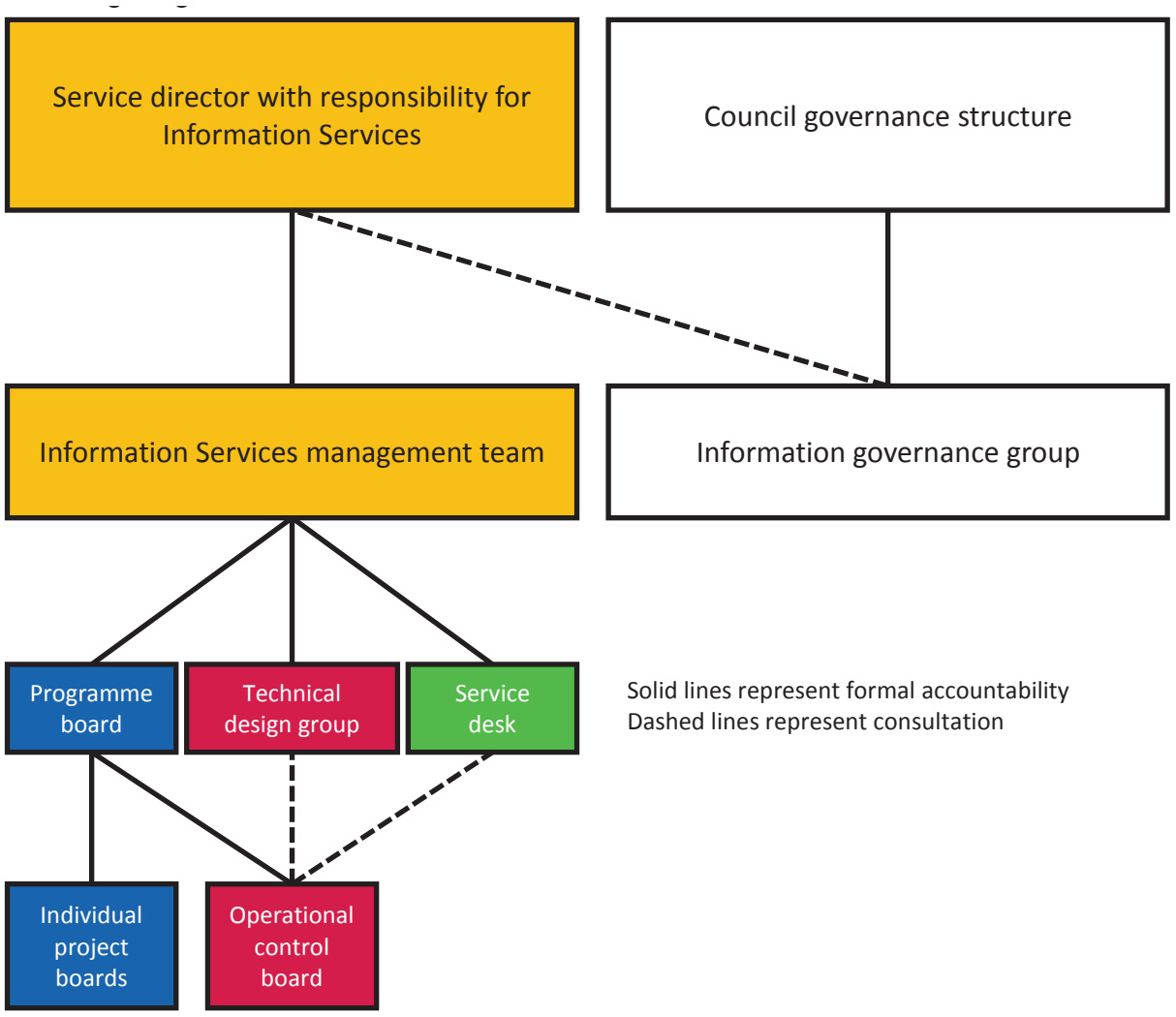
Each service department may go through several iterations of the above process as the level of change required will differ across each department.
When the outcome of business engagement is the likely need for a new Information Services project, authorisation for the project will come from the Information Services management team. Approval to progress will be granted on the basis of a satisfactory outline understanding of the proposed technical solution (and its fit with this roadmap); the financial impact to Information Services (both capital and revenue) and the availability of resources to deliver the project.

This is illustrated diagrammatically:



Information Services governance model

The overall governance structure within Information Services is shown in the following diagram.



The specific remit and membership of each group is as follows:

Information Services management team	
Membership:	Heads of service within Information Services
Remit:	Overall delivery of the Information Services pperations and programme objectives. The Information Services management team will have complete discretion to add new projects to the overall Information Services programme, acting on advice from appropriate specialists concerning the technical soundness, affordability and resource impact of a particular project. Where the Information Services management team declines a technically sound project on the basis of its ongoing affordability, or the ability to resource the work within an acceptable timeframe, the project will be referred, with appropriate documentation on the resource and financial implications, to Wiltshire Council's Corporate Leadership Team (CLT) for a decision concerning the viability of the project. A decision by CLT that such a project should go aheadwould need to be backed by an agreement to provide additional resources – either money, staff, or an agreement to slip some other part of the programme, as appropriate.

Information Services management board	
Membership:	Heads of service within Information Services; portfolio managers, other staff by invitation.
Remit:	Operational delivery of the information programme. Project boards for individual projects or groups of projects within the programme will be convened on an as-needed basis.

Technical design group	
Membership:	Senior infrastructure, applications and information specialists
Remit:	The technical design group will be responsible for signing off all designs before they are handed over to an implementation team to deliver. The criteria for sign-off will be that the proposed design is consistent with the overall Wiltshire Council technical, applications and information architecture and design goals, as set out in this document or subsequently amended.

Operational control board	
Membership:	Change manager, service desk manager, incident manager, release manager, desktop manager as permanent members; other virtual resolver group managers and the project managers as required by items on the agenda.
Remit:	To approve all non-standard changes to the technical infrastructure and applications, and any information changes that have a profound effect. For example, a change to the data within Active Directory, such as updating the permissions of an individual user, would not have a profound effect and, therefore, does not warrant a request for change being approved by the operational control board. However, a change to the field headings within Active Directory would represent a profound change to the information architecture as it may have unintended consequences on many systems, and therefore would need approval. Changes which have an impact on programme resources require permission from the head of business engagement to agree when they should take place. The operational control board has the role of a change advisory board as defined within ITIL.

Information governance group (This group is not hosted by Information Services)	
Membership:	Head of governance services (chair), head of business engagement, information security manager; representatives from Wiltshire Council internal audit, HR, communications, legal services and performance / risk teams.
Remit:	1. The group will develop and promote good practice in information management throughout the authority. 2. The group will identify vulnerabilities in the authority's arrangements for information management and: • conduct risk assessments of identified vulnerabilities • prepare action plans to address vulnerabilities • be responsible for ensuring that action plans are implemented by appropriate colleagues at any level in the authority • ensue that serious risks are escalated to the Corporate Risk Register (CRR). 3. The group will develop and disseminate procedures for good information management across the authority. 4. The group will review lessons learned from failures in information management processes and/or security breaches and ensure that the learning is used appropriately to reduce the risk of recurrence.

Design criteria for new systems and services

When designing new information solutions to meet business requirements, we will base those solutions around the following design criteria.

Key design objectives

- Ease of use and accessibility by staff and members
- Ease of support by Wiltshire Council (for applications and hardware replacement)
- Maximum flexibility of where and how people work
- Value for money
- Standardisation of equipment and applications
- Security, including continued compliance with evolving government standards such as the Public Sector Network
- Support for applications and infrastructure: getting the right information to the right people in the right place at the right time – every time.

Information

- There must be a properly resourced process for managing the lifecycle of information with named individuals responsible for each stage in the lifecycle. This means the commissioning, creation, editing and ultimate deletion or archiving of information.
- There must be proper control of access rights to the information, so that information is not seen by people who should not have access to it, but is accessible to those people who have a legitimate right to see it.
- The information must be structured and stored in such a fashion as to make it easily findable

We will ensure that all our information is:

- useful to a defined audience, helping them to solve a defined business problem
- presented in a way that is useable, helping users solve their business requirement
- accessible, regardless of the user's location, technology or any physical handicap
- stored in systems that are technically and procedurally resilient
- managed in one place. We will aim to remove duplicate information sets, defining the best owner for any information and ensuring this can then be shared corporately and, where appropriate, publicly.

We will ensure that information owners are identified for proper management of the information generated by their service. Information owners will need to be of sufficient seniority to make sure that the key processes established for the provision and flow of information within their service are adequately resourced.

Applications

- Where possible Cloud-based provision of services will be sought when seeking new applications.
  Where this is not possible, all other application services will be installed on managed hosts (PC and server).
- Ease of use will be considered when purchasing new applications and services.
- Simple, standardised and service-oriented application infrastructure will be developed.
- Appropriate security measures will be embedded within each application and its support model.
- Commercial off-the-shelf (COTS) applications software will be given preference over bespoke developments.
- In-house software build will adhere to application standards.
- All software licenses will be purchased under the most advantageous terms.
- Applications will be selected that support information management and information security policies, as well as corporate strategy and objectives.
- Applications may be hosted either internally or externally.
- All unsupported and / or obsolete applications will be promptly removed from the infrastructure and separate arrangements made to access archived outputs from them.
- When a business need can be met using existing core systems at equivalent or near-equivalent cost and quality to purchasing a new system, we will utilise existing core systems rather than increasing the number of separate systems.

We will ensure that any applications we choose are:

- **useable**, allowing the core business process to be carried out easily and efficiently
- **cost effective**, with licensing and support conditions that will adapt over time with the organisation
- assessed for their **development potential** to meet future requirements, not just current business needs
- **capable of publishing core, non-personal information to the web**, meeting current and future ‘opendata’ requirements
- **able to meet accessibility requirements** so that they can be used by users with disabilities
- compliant with our **security requirements**
- able to **operate on the council’s infrastructure**.

Infrastructure

- Systems are backed up to meet our customer’s requirements.
- Systems will be designed and configured to be available in line with customer requirements.
- Systems will be secure, protecting customer information, but fully able to support the campus and operational delivery programme.
- Disaster recovery and business continuity requirements are met.
- Solutions are designed with a five year life cycle and known costs.
- Infrastructure is based on standardised equipment and services.

We will develop the underlying infrastructure to ensure that it:

- is **resilient**, meeting our business continuity and disaster recovery requirements
- **supports access to our information** from all locations required by the business
- has the **flexibility to be adapted** as the shape of the organisation changes
- is **cost effective**
- complies with our **security requirements**
- enables us to meet the core information requirements of maintaining the **confidentiality, integrity and availability** of information
- supports **partnership working**.

Analysis and design

Taking the criteria and model above into account, our analysis and design function will approach problems in the following order:

1. What is the business need expressed by the service? What information is needed to support that service need? Does the information already exist – in whole or in part – either in the service or elsewhere, or will it need to be created? Is the information well managed (lifecycle, rights, findability understood) and of sufficient quality? In what situations (office, home, remote etc) will the information be needed? What volume of information will be created and how will this change over time?
2. What is the functional requirement for an application to support that information? Does a suitable application already exist within our existing suite, or can one of our core applications be developed to meet the requirement? If we do need to purchase a new application, is there a commercial off-the-shelf application available? We will investigate new applications only when we have exhausted the possibility that the functionality cannot be developed in a cost-effective manner on existing systems.
3. What infrastructure is needed to support the requirement? Will users be able to access the application in the locations they need to? Will the network support the necessary traffic and will there be sufficient storage space? Can we ensure an appropriate level of security over access to the information? How will the new application be supported once it is built?
4. Taking into account the above, is there a business benefit in delivering the new service? How will the service be financed or funded, both to implement and support? How will implementation of the project be managed?

It is inherent in this model that our analysis function draws on the resources and skills of information specialists, application specialists/technical support officers and technical architects.

Technology and data roadmap

The following section details the core data, applications and infrastructure that will support Wiltshire Council over the lifetime of this strategy.
For all technologies, we will plot their lifecycle against the categories 'monitor', 'experiment', 'core use', 'legacy use', 'actively phase out'.

Core data

The following data sources represent core data for use within Wiltshire Council. Therefore, if any project arises that has a need for data within this set, such as holding address data, the assumption is that the data will come from this central source rather than being created anew.

- Address information: Local / National Land and Property Gazetteer (LLPG / NLPG)
- Street networks: Local / National Street Gazetteer (NSG)
- Background mapping: Ordnance Survey maps as supplied under the terms of the Mapping Services Agreement (MSA) and its successor agreement the Public Sector Mapping Agreement (PSMA). The following mapping products are incorporated within the MSA/PSMA, or will be additionally procured as a corporate resource:
    - OS MasterMap Topography layer
    - OS MasterMap Integrated Transport Network (ITN)
    - 1:10,000 raster (colour and black and white)
    - 1:25,000 colour raster (PSMA)
    - 1:50,000 colour raster
    - 1:250,000 colour raster
    - OS Street View
    - OS VectorMap Local (PSMA)
    - OS VectorMap District (Ordnance Survey Opendata)
    - Boundary-Line
    - Address-point/MasterMap Address layer 2
    - Code-Point/Code-Point with polygons
    - Land-Form PANORAMA (Ordnance Survey Opendata)
    - MiniScale (Ordnance Survey Opendata)
    - Strategi (Ordnance Survey Opendata)
    - OS On-demand datasets

Under the terms of the MSA, these products can be made available to third parties acting as contractors to Wiltshire Council. From April 2011, other public sector organisations, such as parish councils, have had the facility to sign up to the PSMA directly.

- **Aerial photography:** We will make available aerial photography with datasets flown at five-year intervals. Currently, available data includes 1961, 1971, 1981, 1991, 2001, 2006 and

we are planning to procure data for 2011.

- **Core GIS layers:** We will publish and police a central directory of all geographic information,both internally developed derived data and data available from third parties (e.g. Environment Agency, Utility Companies etc) as required by the directive from Infrastructure for Spatial Information in the European Community (INSPIRE) directive (). We will assess all requests for new development against our catalogue before making a committment to a new data capture exercise, or purchasing additional datasets.
- **Staff directories**, including access permissions to systems and data: Microsoft Active Directory
- **Financial data:** SAP, including extracts published to the website under 'opendata' initiatives
- **Physical records:** Space allocation database
- **Electronic information:** We will maintain a directory of key electronic datasets to ensure we understand the impact levels associated with inadvertent disclosure of information within each system.
- **Opendata:** From time to time, new datasets will be published under our 'opendata' initiatives. These will be considered key definitive corporate datasets in the areas they cover. A list of data currently published is available at **www.wiltshire.gov.uk/opendata**

Applications

Development platforms

Database

- Microsoft SQL 2012 (implementation will begin in 2012)
- Microsoft SQL 2008
- Microsoft SQL 2005
- Oracle 10g or above
- MY SQL

Application platforms and tools

- SharePoint 2010
- Microsoft Azure
- Microsoft .NET framework
- PHP/MYSQL
- Web content management system
- ASP
- Java
- Java script/Ajax
- HTML/XML
- SQL/XSLT queries
- Flash
- Microsoft Active X
- Microsoft Reporting Services

- Android, Apple IOS and Windows mobile

Application deployment mechanisms

- Citrix XenApp/Microsoft Remote Desktop Services
- Internet Explorer for internal browser-based apps – systems should be operable in the current stable version and the previous stable version.
- Vendor software deployed through System Center/manual software installation
- Application virtualisation (AppV)
- We expect public-facing applications and content (both third party and developed in-house) delivered by web browser to be fully usable in the browsers listed as 'A Grade' or 'A Grade (upon GA release)' in Yahoo!'s Browser Support Chart, detailed at **http://developer.yahoo.com/yui/articles/gbs/**.

Yahoo's browser grading is the industry standard when determining support, and provides continuity with the development strategy used to build our current web estate.

Corporate applications

Function	Application
Office automation	
(Word processing, spreadsheets, notes etc)	Microsoft Office
PDF reader/writer, web document creator, optical character recognition, document archive.	Adobe Acrobat
File compression	7-Zip
Web browser	Microsoft Internet Explorer
Email, calendar, task list, personal / external contacts	Microsoft Exchange/Outlook
Internal instant messaging / voice calls and video conferencing	Microsoft Lync
Spatial and geographic information system	ESRI UK ARC GIS suite
Cash receipting / payments	Civica ICON
Enterprise Resource Planning	
(HR, finance, procurement, payroll)	SAP
Telephone and contact centre management software	Mitel ICP 3300 / 6000 series software and Enterprise suite
ICT service desk and systems management	Microsoft Systems Center
Reporting	Microsoft SQL Reporting Services
SAP Business Intelligence	
EDRMS	Microsoft SharePoint or using functionality embedded in line-of-business systems
Search	Internal: Google Mini (will be replaced by Microsoft Fast Search in 2011)
External: Google Mini (will be reviewed in 2011/12)	

Strategic line of business applications

Department	Service area	Function	Application
Children and education	Education	Education pupil records	Under investigation
		Education special needs records	Under investigation
	Social care	Case management	OLM Carefirst
Community services	Social care	Case management	OLM Carefirst
		Domiciliary care	Under investigation
		Emergency Duty Team (EDT)	Under investigation
Neighbourhood and planning	Planning and regulatory services	Planning Building control Trading standards Food health and safety Public protection Pest control Licensing Land charges	Northgate
	Transport	Route management	Under investigation
		Highways management	Under investigation
	Housing	Choice based lettings	Abritas
		Housing stock management	Tender in preparation
Resources	Customer Services and shared service centre	HR	SAP
		Recruitment	Tender in preparation
		Finance	SAP
		Procurement	SAP
		Payroll	SAP
		Customer services	Under investigation
		Registrars	Under investigation
	Legal and democratic services	Legal case management	Under investigation
		Legal time recording	Under investigation
		Elections management	eXpress
		Committee management	Modern.gov
		Governance	SharePoint
	Finance	Finance	SAP
	HR	HR	SAP / SharePoint
	Pensions	Pensions	Hosted solution
	Revenues and benefits	Council tax and benefits	Northgate SX3/ Northgate@Work
	Learning and development	Learning management system	Under investigation

Infrastructure

Telephony

- Build on current investment made in Mitel equipment.
- Implement VOIP to maximise use of existing network infrastructure and reduce call costs
- Remove main legacy telephony switches (thus saving support costs)
- Use unified messaging to bring greater flexibility to a mobile workforce
- Retain mobile telephony for key workers where necessary.

Server platform

- Twin data centres
  - Primary Data Centre = County Hall, Trowbridge
  - Secondary Data Centre = Monkton Park, Chippenham
- Virtual servers to be used for low resource requirement servers
- Clustered Virtual Server farms across twin data centres will be provided for standard servers giving better resilience
- Critical SQL database servers will be provided on a clustered platform for better performance and resilience
- Low importance SQL databases can be installed on standalone servers with a lower speed restore function
- Critical Oracle database server services will be provided on a clustered platform (Oracle databases tend to be used for Critical Applications)
- Email will be migrated from the existing on premises exchange systems to Microsoft's Office365 cloud based solution.

Data storage

- All data will be saved to Storage Area Network (SAN) based data shares, saved into an Electronic Records and Document Management System (EDRMS) linked to a line of business application, or into Microsoft SharePoint.
- SAN strategy will be based on iSCSI technologies
- HP Lefthand clustered SAN equipment will be used for virtual server farms and critical data storage.
- Other SAN equipment such as HP EVA (ex Salisbury District Council), Dell Equalogic (ex North Wiltshire District Council and West Wiltshire District Council) etc is to be re used as archive, backup or test devices.

Network connectivity to remote sites and home workers

- Twin Internet lines have been provided, one into each data centre, to provide resilience for staff utilising browsing facilities.
- Staff who conform to the homeworking policy are eligible to be provided with end-to-end supportable broadband home worker solutions to improve support functions and meet our security requirements.
- Twin home workers MPLS bearers have been provided, one into each data centre, to provide resilience for those accessing the corporate network via their home worker connections.

Printing

- Local team and personal print solutions will be replaced with a managed solution centred on the use of multi-functional devices that provide printing, fax, scanning and copying facilities.
- Multi-functional devices will be networked.
  - Users will print to the ‘nearest’ devices.
  - Secure printing will be enabled.
  - Specialist printers and scanners will be provided in cases where a clear business requirement warrants this e.g. scanning A0 plans for planning applications or large format GIS maps.

PC equipment

- Laptops will now be provided to all staff unless an agreed business case is submitted for specialist needs for a desktop, such as a scanner connection requiring a specialist driver card to be installed. This will be by exception only.
- Swan neck docking station stands will be provided for those staff wishing to use the dual screen facility with their laptop

Programme themes

The detailed Information Services Programme consists of more than 170 discrete projects, detailed in the accompanying programme plan document. Moreover, over the lifetime of this strategy, the programme will develop as projects are finished and replaced by new developments. However, to meet our key drivers, the programmes can broadly be grouped into a number of key themes:

Programme control and governance

Our programme governance will ensure that we maintain control over the overall programme, while being responsive to rapidly evolving business requirements; and we will ensure that the programme is delivered on time, to budget and to quality. Our programme governance is based on Managing Successful Programmes (MSP). Our project management framework is based on PRINCE 2.

Infrastructure and applications rationalisation

We will reduce the estate of legacy systems and applications to simplify support and improve reliability of our systems. We will concentrate application development on a strategic suite of applications, including SharePoint, MS Office, MS Exchange, SAP, ESRI and the corporate web environment, moving towards the goal of 'one function, one application'. When applications or infrastructure are decommissioned, we will ensure this occurs fully so that we are not left with residual ongoing revenue costs.

Access to information

We will simplify and rationalise our stores of paper and electronic information, ensuring that information has proper controls over its lifecycle, can be easily found, and access is open to anyone with the necessary permissions. We will ensure that services can have access to all their electronic information in a single location, rather than scattered over many different servers and file stores. At the same time, we will ensure that key corporate information, such as the Gazetteer, background mapping and Active Directory, are as widely disseminated as possible and linked into corporate systems, maximising our reuse of information and reducing the need for different services to collect and store duplicated information separately. Increasingly, services that are heavily reliant on paper files will transform to electronic storage of records, making it easier for their staff to access information from a variety of locations, while at the same time reducing the requirement for expensive long-term storage of paper documents.

Campus and operational delivery programme

We will deliver solutions that support new ways of working, in particular allowing a user to connect to all their systems and data from any location. We will ensure that our policies governing the handling and storage of information reflect the desire of the business to have a more mobile, flexible workforce.

Application development on core applications

We will develop expertise in a series of core applications. Requests for new business functionality will be assessed first for their development potential on that core application platform, before a presumption is made to purchase a new application.

Streamlining business processes and business transformation

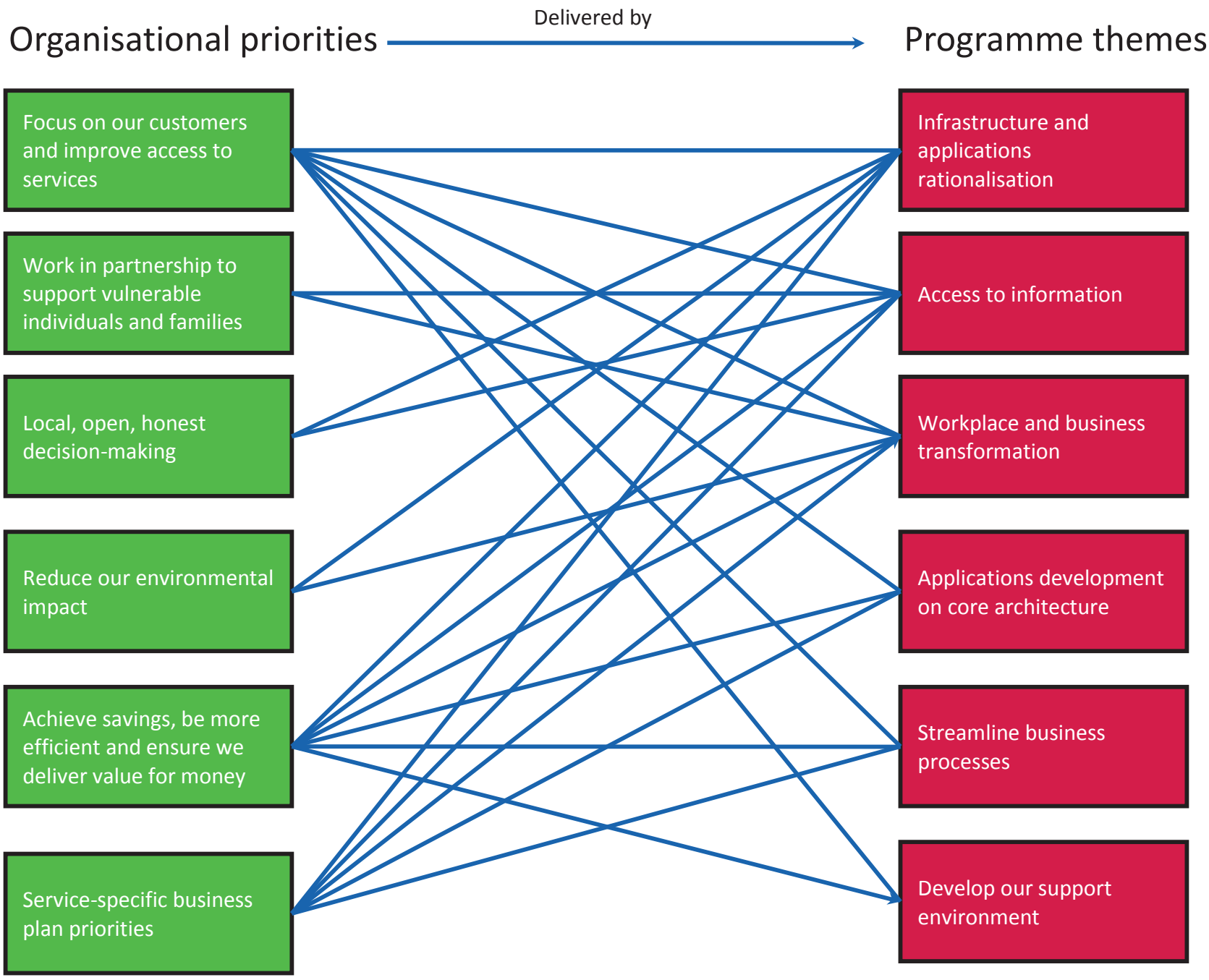
We will streamline business processes - particularly key HR, Finance and ICT processes – using a combination of SAP, e-Forms and internal websites, to remove bureaucracy from our internal processes. We will use a systems thinking approach when looking to streamline business processes.

Developing our support environment

We will monitor service performance and continue to improve the support we provide through the service desk, training and maintenance arrangements. We will ensure that staff have the skills and knowledge and contractual flexibility to deliver the level of support demanded by the business, at the times demanded by the business, within the overall constraints of finance available to pay for support.

An Information Services strategy to support corporate priorities

The following diagram summarises how the programme themes help with the delivery of the Wiltshire Council Business Plan priorities.



Business impact of the Information Services strategy

At any moment in time, resources available to the Information Services team are broadly fixed. However, there is flexibility in how these resources are deployed. In particular, the more resilient and standardised we can make our infrastructure, the fewer resources will be required to resolve problems, and more become available for service development.

Therefore, our programme objectives will change over time, with increasing resources available to drive service performance by exploiting our information, applications and infrastructure. Broadly, this will occur in three overlapping phases:

- **Phase 1 – Drive IS performance by building in resilience**

  During this phase, we will concentrate on projects that will improve the overall reliability of ICT infrastructure. This phase will reduce the number of incidents caused as a direct consequence of the current fragmented infrastructure, and make problems quicker to resolve when they do occur.

  Projects in this phase include rationalisation of our Active Directory, removal of legacy domains, rollout of machines built to the Windows 7 standard operating environment and continual service improvement of the service desk.

- **Phase 2 – Drive down IS cost by consolidation and standardisation**

  During this phase, we will concentrate on standardising and rationalising our applications and information. This will reduce direct application costs, for example by replacing five legacy systems with one single system on more flexible and advantageous licensing terms, as well as reducing ongoing support costs, for example by reducing the need for specialist knowledge on different, but overlapping, systems.

  Projects in this phase include single systems for revenues and benefits, planning and public protection, housing and GIS, and rationalisation of storage of electronic and paper information.

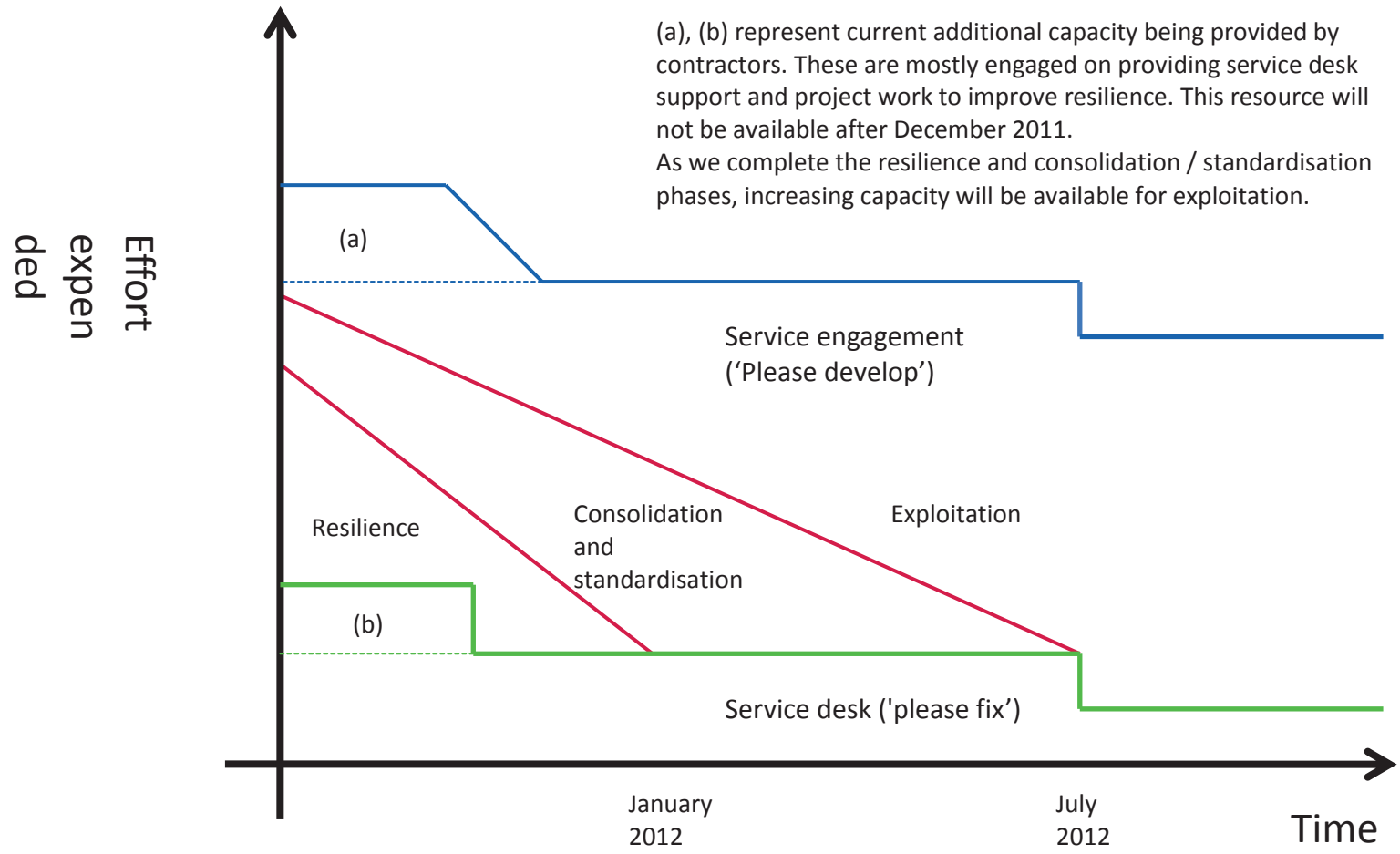
- **Phase 3 – Drive service performance by IS exploitation**

  During this phase, the extra capacity freed up by the development of a resilient and consolidated information and applications architecture will be available to drive service improvement on the back of that architecture.

  We expect to support the delivery of new services defined by systems thinking in response to changing patterns of need. We also expect there will be projects in this phase defined by the Digital Inclusion (DI) programme.

These dividing lines between phases are not rigid. For example many of the application rationalisation and data consolidation projects are also key enablers driving service performance within their respective service.

This shifting availability of capacity is illustrated schematically below:



Overall delivery of this strategy will be by completing the projects within the Information Services programme and an ongoing continuous service improvement plan for the service desk.

Glossary

Active Directory	Active Directory is a system used to store information, such as name, email address and permissions to systems, about every user, group of users and generic mailbox in use within Wiltshire Council. Information within Active Directory can be used both to provide information to users, for example an online contact directory, and also to control access to systems, for example, all users within the planning group can have access to the planning system.
AD	See **Active Directory**
App	In mobile computing, an app is small application designed to allow completion of a single task.
Cloud computing	Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources such as networks, servers, storage, applications, and services that can be rapidly provisioned and released with minimal management effort or service provider interaction. From a business perspective, resources in the cloud are typically leased as required and paid from revenue as a utility service, with responsibility for support, backups, disaster recovery and capacity planning being the responsibility of the provider. This contrasts with a more traditional model in which resources are purchased using capital, with responsibility for support, backup, disaster recovery and capacity planning lying with the organisation.
Denial of service attack	A Denial-of-Service attack (DoS attack) or Distributed Denial-of-Service attack (DDoS attack) is a concerted attempt to make a computer resource unavailable to its intended users, temporarily or indefinitely. Typically this involves co-ordinating a large number of users to request network connectivity simultaneously. An example is connection to a website with the effect of shutting down the service by swamping the available resources of the target system.
DirectAccess	DirectAccess is a technology that allows automatic connection to the council's network from any suitably equipped computer whenever it is connected to the internet. It thus provides equivalent functionality wherever a user is connecting from, unlike previous remote working solutions (such as WoW) which required an explicit login whenever the user was not connecting from a council location.
EDRMS	See **Electronic Document and Records Management System**
Electronic Document and Records Management System	An Electronic Document and Records Management System (EDRMS) is a system for storing files such as word documents, spreadsheets, presentations etc in a structured fashion. Typically, an EDRMS allows management of such files, for example deletion of files beyond their retention period and preventing changes being made to certain types of document which constitute a record of an action.

Geographic Information System	A geographic information system (GIS) is a system that integrates, stores, edits, analyses, shares, and displays location-based information for informing decision making. Nearly every service delivered by Wiltshire Council is delivered to a location, such as an address, or in an area, such as a parish. Therefore, geographical information is at the heart of decision making in nearly every service within the council. Wiltshire Council has a legacy of several GI systems covering different services and areas within Wiltshire; a major project in the 2011/12 programme will see these systems, and the data within them, consolidated into a single application and datastore.
GIS	See **Geographic Information System.**
Home worker	A home worker is a user whose contract requires them to spend some or all of their time working from home. Such users will be provided with suitable equipment, including a dedicated broadband line, to enable them to work from home.
Impact level	Impact level refers to the potential impact caused to the organisation / or to individuals following the unauthorised disclosure of the information within the system. The security controls required to protect a given system are dependent on the impact level of the information within that system. There are six impact levels defined for UK public sector information, ranging from IL1 to IL6. Most information within Wiltshire Council would be classified as IL1 – IL3. However, we note that when large volume of data of a specific level are stored together, the overall system itself may need a higher level of protection: 'aggregation of risk'.
Infrastructure-as-a-service	Infrastructure-as-a-service is a part of a cloud computing model, whereby responsibility for infrastructure is devolved to a cloud computing supplier, rather than being provided by the organisation concerned.
INSPIRE directive	INSPIRE is a Europe-wide directive requiring public sector organisations to publish information about their spatial datasets in a common format so that data can be viewed and shared between different organisations; data required to ensure good governance should also be readily and transparently available.
Instant messaging	Instant messaging is a collection of technologies used for real-time text-based communication between two or more participants over a network. Instant messages are typically ephemeral, in that if the recipient is not available to receive the message, then the message disappears; in this way it differs from email, when the message is permanent, but not necessarily real-time.
iSCSI	Internet Small Computer System Interface (iSCSI) is a protocol for linking dispersed data storage systems. It enables information to be located and retrieved independent of its physical location.
ITIL	The Information Technology Infrastructure Library (ITIL) is a set of practices for managing an IT service, based around the concepts of strategy, design, transition, operation and continual service improvement. Wiltshire Council manages its service desk function using ITIL processes.
LLPG	See **Local Land and Property Gazetteer**

Local Land and Property Gazetteer	The Local Land and Property Gazetteer (LLPG) is a database of every unique address within Wiltshire, maintained to a standard format. It includes items not conventionally thought of as addresses, but which have a defined location; for example, plots of land available for development, or tank crossing points on Salisbury Plain. Each and every addressable point has a location which enables it to be located on a map, and for us to show the spatial distribution of services according to their address. It is thus a key component of the business plan objective to provide online postcode-based lookup of service information for key services. The consolidation of four separate LLPGs, one from each former district, into a single LLPG for Wiltshire took place during 2009/10. The LLPG acts as the data source within Wiltshire for the National Land and Property Gazetteer (NLPG) which provides the same service nationally.
Local Street Gazetteer	The Local Street Gazetteer (LSG) is a database of every unique street within Wiltshire. It forms the Wiltshire component of the National Street Gazetteer (NSG) which is the definitive list of all streets in England and Wales.
LSG	See **Local Street Gazetteer**
Malware	Malware, or Malicious software, is software designed to access a user's computer system secretly, without the informed consent of the user. Typically this access is used for some kind of harmful intent.
Mapping Services Agreement	The Mapping Services Agreement (MSA) is a framework procurement agreement between local authorities and the Ordnance Survey for the provision of a set of mapping data. By signing the MSA, each authority received the right to use a variety of maps within their organisation for any business purpose (except for resale). Authorities could also allow free access to the mapping to any organisation acting as a contractor on behalf of the authority. In exchange, authorities had the legal requirement to maintain a gazetteer of addresses (the LLPG). From April 2011, the MSA is being replaced by the Public Sector Mapping Agreement (PSMA).
Mash-up	A mash-up is a web application that combines data from two or more different sources (that may come from entirely different organisations) to present new functionality or analysis that would not be possible by looking at either source independently.
Mobile worker	A mobile worker is a worker whose job requires them to connect for some or all of their time in locations away from council offices.
MPLS	See **Multi Protocol Label Switching**
MSA	See **Mapping Services Agreement**
Multi Protocol Label Switching	Multi Protocol Label Switching (MPLS) is a mechanism for carrying data on a network. The primary benefit is to allow seamless transmission of data across multiple networks that have different underlying technologies.
National Land and Property Gazetteer	See **Local Land and Property Gazetteer**
National Street Gazetteer	See **Local Street Gazetteer**

NLPG	See **National Land and Property Gazetteer**
NSG	See **National Street Gazetteer**
Opendata	Opendata refers to a philosophy of making data available, freely and with non-restrictive licence conditions for its reuse, in a format that promotes reuse of the data to create new analytical and service models, and public scrutiny of an organisation using that data. Examples include the release of our spending data, allowing the public to scrutinise our spending, and also potentially allowing a mash-up of the data with an online mapping service to show – for example – the geographic spread of our spending. These examples demonstrate use of opendata to promote scrutiny, and to allow a new service or analysis to be performed outside of council control.
PRINCE 2	PRINCE 2 (standing for PRojects IN Controlled Environments) is a specific methodology for controlling projects. It is widely used in the public sector and has been chosen by Wiltshire Council for running major projects.
Protective marking	Protective marking is a system of classification used to indicate the actions required to appropriately protect the information contained within. The level of protective marking is usually a reflection of the information's Impact Level.
PSMA	See **Public Sector Mapping Agreement**
Public Sector Mapping Agreement	The Public Sector Mapping Agreement (PSMA) is the successor agreement (from April 2011) to the MSA. The most significant practical difference between the two agreements is that under the MSA, Wiltshire Council could provide mapping free of charge to each parish by signing the parish up as a contractor to Wiltshire Council; the responsibility for ensuring that the mapping was used correctly and according to the licence conditions thus lay with Wiltshire Council. Under the PSMA, parishes can sign up directly to receive mapping. They still get the mapping at no charge, but the responsibility is now with the parish to ensure that they use it according to the licence conditions that they have signed.
SAN	See **Storage Area Network**
Service desk	The service desk acts as a single point of contact between Information Services and the rest of the organisation, through which users can log faults (such as 'the system isn't working') and requests for standard new infrastructure and equipment (such as 'I need a mobile telephone.').
Social networking	Social networking refers to a website that promotes social interaction between groups of individuals sharing common interests. Typically social networking websites have the majority of their content provided by a large number of individuals of equivalent status, rather than a more traditional editorial model in which a small number of 'experts' provide content that is essentially passively consumed by a large number of 'readers'. Typical social networking sites include FaceBook, Twitter, Flickr etc
Software-as-a service	Software-as-a-service is a part of a cloud computing model, whereby responsibility for software applications is devolved to a cloud computing supplier, rather than being provided by the organisation concerned.

Storage Area Network	A Storage Area Network (SAN) is a network of linked storage devices providing a large volume of available storage space, but which appears on the network as a single location.
Trojan	A Trojan is a piece of software that appears to the user to carry out a desirable function, encouraging the user to run it, but which secretly carries out a malicious function.
Virtualisation	Virtualisation refers to the separation between the logical building blocks of an IT infrastructure (such as servers) and the actual physical reality of those building blocks. For example, traditionally an IT environment that had two different systems may have required two different physical servers on which to run; in a virtual environment both logical servers run on a single machine of greater capacity. The primary advantage is that the use of resources can be optimised, for example, when one system is running at maximum capacity, the other may be idle. In a real environment, this requires two servers each capable of running at maximum load, but which most of the time will be sitting idle and unused. In a virtual environment, the peaks and troughs tend to cancel each other out, such that the virtual machine can be smaller and cheaper to run than the sum of the two machines, but will spend more of its time running at optimum capacity.
Virus	A virus is a computer programme typically designed to carry out malicious intent on a computer that can replicate itself and thus spread from computer to computer.
VOIP	See **Voice Over Internet Protocol**
Voice Over Internet Protocol	Voice Over Internet Protocol (VOIP) refers to a technology in which voice traffic from a telephone is carried over an organisation's data network, rather than over an entirely separate telephony network. The benefits include avoiding having two network infrastructures, integration with data systems, for example, allowing dialling a number held in a user's online telephone directory and location-independence of the phone line, allowing a user to have the same phone number wherever they are physically based.