

South Worcestershire ICT Strategy 2011 >

Unlocking Value in ICT

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INTRODUCTION

Every service the South Worcestershire councils provide is dependent on ICT. A step change is underway in how our customers expect to do business and interact with us. At the same time the model for delivery of ICT systems is also rapidly changing to one based on virtualization and web technologies. The ICT service needs to modernize and be fully integrated into the business to maximize the potential benefits of these changes.

All councils are experiencing reduced funding; they are also locked into ever rising ICT costs as a consequence of running legacy systems for specific service areas. The costs of maintaining these systems are largely fixed and cannot be easily reduced in the short term. Very few of these systems are web based and so are barriers to the provision of on-line services.

To provide modern service delivery at an affordable cost requires a strategy to re-engineer the application software platform. **The vision of this strategy is to enable end to end self-service for the councils' customers, members and staff.**

Another consequence of the funding restrictions is that more effective use has to be made of property and staff resources. The reduction in office space and need for staff to work at multiple locations has already started a move to provide standardized desktop hardware and virtual desktop software. Once complete, this enables staff members to access their desktop from any of the councils' sites or from home. Now telephony, printing and mobile working need to be included in this 'hot-desking' package. **The second aim of this strategy is to ensure an infrastructure platform that reduces costs, provides greater flexibility and scalability, and is not location dependent.**

The two initiatives outlined above form the main strands of this strategy as they represent the best options to enable significant transformation of business practices to meet customer needs and reduce costs. There are further threads that will be progressed such as the consolidation of systems across South Worcestershire, ensuring value for money, improved business resilience, procurement standards, information management and compliance.

To realize the full value from this ICT strategy, the districts need to use it to focus organizational transformation to maximize the improvements possible for both customers and staff.

CUSTOMER 'END TO END' SELF-SERVICE

“Enabling a modern **end to end customer self service** platform will allow the most significant transformation of service delivery and back office practices since the introduction of the PC.”

DELIVERABLE OUTCOMES

External Focus

- End to end on-line self service for all possible transactions
- Choice of channel, location and time
- Inclusion - access for all
- Targeted communications
- Timely, accurate and useful information
- Payment flexibility
- Credibility

Internal Focus

- Channel shift customer interaction to reduce transaction handling costs
- Enables transformation and resource efficiencies in back office
- Reduction in annual software license costs

BACKGROUND

There are 104 software applications running in the three districts that contain information that may form part of an on-line transaction or be useful to customers. All but a couple of these were designed prior to the adoption of the World Wide Web for commercial transactions. They were designed around the needs of council officers and not customers, are mostly built on proprietary technologies and have very restrictive licensing arrangements. As a consequence, they are not suitable as the basis of a large scale migration to an end to end customer self service environment. The vendors of them are willing, at a high cost, to enable them to have some on-line functionality. For customers there are many shortcomings to this approach; inconsistent look and operation, multiple accounts and logons required, and transactions limited to a single application. For the districts the shortcomings include; high cost of implementing and maintaining on-line transactions and little flexibility in designing services to suit customer needs. Therefore, a new approach is required.

THE VISION

The aim of this strategy is to enable council customers to interact via the internet so that they can complete the transaction they require. This goes beyond providing the ability for customers to request services as it includes payment and fulfilment. Apart from providing customers with the ability to connect with the council at a time and location of their choosing are two other main objectives: to reduce transaction costs and to enable reduction in back office resource requirements.

The introduction of end to end self-service transactional facilities enables data entry and payment to be handled without staff resource involvement. The reduction of in person payments at customer service centres, cheques in the post and the processing costs associated with these are direct savings. The greatest financial benefits will come from the associated transformation of business processes. This will allow the elimination of most of the data entry by officers into back office applications and the reduction of avoidable interaction

with customers. The potential gains from these changes are therefore, potentially of greater significance.

The more transactions available on-line the less resource is required in the front offices. When customers telephone or come in to a service centre our agents can use the web based forms. There is then the opportunity to re-model the service centre operations to allow able customers to serve themselves with our agents advising on how to use the system. Once familiar with the on-line offering many of these visitors may then choose to serve themselves from home in the future.

DESCRIPTION

The solution proposed is designed to work with the current environment including service area back office applications, the Hub, the County hosted web site, other shared services and third party portals for hosted services. This will be achieved by the use of a number of software tools that enable interfacing with the current back office applications in order to present information from them on-line and update them with transaction data. To assist this some of the applications and data sources used for many transactions (payments, address, maps etc) will be consolidated. Over time there will also be a consolidation of back office applications with the ultimate goal of their replacement by a single database management system.

The solution re-models the presentation of services to customers as transactions available from the councils rather than from specific departments. The current service area based on-line presentation often obscures and deters customers from using what is available on our web sites.

The technical task is complex due to the number of and proprietary nature of most existing back office applications. There is also a necessity for many transactions to integrate with multiple applications to complete a single transaction. The complexity will be mitigated by breaking down the work into discrete building blocks each of which has a defined purpose:-

- Presentation layer
- Customer Authentication
- Web Payments
- Core data systems
- Business Logic
- Back Office Applications

True self service across the whole scale of our services will not be achieved until significant progress has been made on each of these tasks.

The relationships between the component parts and how they will change during the project are illustrated in Appendix 1.

In addition to the above two other significant changes will be needed:-

1. The councils' web sites will need re-designing around transactional capability rather than service areas. This falls outside the agreed scope of the ICT shared service. The

Worcestershire Hub and the Cabinet Office also see this new web site model as the way ahead. Collaboration between the districts, the Hub, central government and the web hosting team at County Council would be the preferred way forward.

2. Adherence to software procurement guidelines that mandate the technical standards and contractual requirements. See Appendix 2. This is essential to ensure that any new procurement contributes to the goal rather than tying the councils to out dated and inflexible technology.

Work has already commenced within ICT to prepare for these developments both in terms of the selection of tools and training of Project Officers. Although, some transactions will go on line this year and more next, the project will take a number of years to complete. The exact timescale is dependant on resource capacity and resolution of contractual issues with the existing back office software providers. Even with funding for extra resource capacity the project will take a minimum of three years to get to the position in the Appendix 1 Phase 3 illustration.

Presentation layer

The aim here is to present information to and collect data from customers through a standard interface for all transactions. The alternative of using application vendor's on-line interfaces leaves customers to cope with a variety of looks and modes of operation. There are two main components required; a web portal and electronic forms systems. These tools facilitate the construction of a fully featured transactional web presence. The look of the existing County hosted web site will be maintained. The portal and forms systems are already in place and both conform to widely supported open standards. The use of standards compliant tools aids development for other channels including smart phone apps and automated phone systems.

Customer authentication

The aim is to make accessing council services as easy as possible for customers by integrating with external portals that have already identified and authenticated them. This may be Direct.gov, the County single sign on service and third party portals in use for submission of planning and licensing applications.

Customers will not expect or want to have to remember multiple authorisations for doing business either between separate parts of the same Council or indeed between Councils or shared services nor be forced to authenticate where it is not necessary.

The intention is to implement an identity and access management (IAM) system that controls access to the presentation layer where necessary. This will consolidate logons from both internal and external systems to enable the customer to use a single logon for any valid transaction. This approach has only recently become viable through the introduction of identity and rights information exchange standards.

Web Payments

The aim is to consolidate on a single solution for handling payments on-line and through other web service channels. This will enable on-line payment transactions to be set up easily in-house without either one off implementation costs or on-going licensing cost increases. There are currently two different customer payment systems employed in South Worcester-

shire. Neither is inexpensive or easy to integrate with our web sites and services to receive payments for transactions.

The project is complex due to the number of existing integrations between the “cash receipting” systems, financial ledgers and other back office applications.

Core data systems

Property addressing, geographic information (GIS) data and customer details are the key core data required for many transaction types. The aim is to replace the multiple instances of each with single systems to greatly reduce the complexity of developing on-line transactional services and provide consistent high quality information to customers. This will also result in cost savings.

1. LLPG

There are currently 68 separate address databases maintained across the South Worcestershire districts. These often contain contradictory information and can be labour intensive to maintain. We need to standardise on one address database. The Local Land and Property Gazetteer is the authoritative source of validated address information. Rather than continue to employ staff to keep the separate 68 up to date, the LLPG will be integrated with back office applications as necessary.

This will necessitate adequate resources to maintain the LLPG by partner councils to keep it up to date, as well as business processes to ensure that it is the single source of addressing data. This consolidation and associated process changes is crucial to release savings elsewhere and reduce the complication of implementing self-service transactions. It needs to be a priority for the partner districts transformation plans.

2. GEOGRAPHIC INFORMATION SYSTEMS

The aim is to hold all the GIS data in a single database management system (DBMS), consolidate the web delivery and rationalize the other systems. There are currently 8 GIS systems from five suppliers used to create, display and maintain GIS data across the three councils. Only one council stores their GIS data in a DBMS. Consolidating on a single map database is not technically complicated and will also provide a single point of access for web services plus improved security and management of this valuable data.

3. CUSTOMER DETAILS

Currently there is no single source of customer information. The Customer Relationship System (CRM) used by the Worcestershire Hub has customer information created captured whenever a service request is received. This has some inconsistencies and is not linked to the LLPG. The aim is to work with the Hub to find a solution that suits there needs as well as ours.

Business Logic

The aim is to ensure that our own data can be accessed and updated according to business process rules to support transactional services.

The intention of this sub-project is to implement a set of software tools that enable transactions by:

- providing data on screen from core and back office systems

- interoperation or integration with the identity authentication management, back office and web payment systems during the transaction
- writing a record of the transaction in the Hub CRM
- applying data validation and business rules to transaction data to ensure the collection of good quality data enable appropriate responses

This is where the most difficult issues will be encountered. Apart from the significant technical challenges, the reason why districts did not integrate any significant back office applications with the Hub's customer relationship management system (CRM) were the contractual and cost implications of engaging with the back office system vendors. Typical licensing contracts prevent the council from accessing data held in most of these systems except via the application screens provided by the vendor. This means that any integration requires their collaboration and comes at a cost.

Software tools will be used to repackage, as web services, elements of software applications as reusable services that are accessible on-line. There is no single product that can deliver this functionality required. A number of products and technologies will be used.

This approach ensures that the councils can quickly adapt to changes in their operating environment. Cross-functional business processes can be rapidly developed facilitating communication among software applications according to the logic prescribed by the business process.

Back Office Applications

Consolidation of back office applications in south Worcestershire formed part of the ICT shared service business case. Some progress has been made on the basis of individual business cases that identify savings. This approach needs to be widened to restrict procurement to systems suitable on-line transaction provision. The procurement requirements are detailed in Appendix 2.

As more web services are developed, and the business rules for them are captured in the business logic tools, the need for individual applications for each service area diminishes. This will allow their eventual replacement by a database in a single database management system.

For each service area there will come a point when the number of transactions processed automatically from end-to-end enables savings in resources employed.

NETWORK CENTRIC WORKING

“With ‘**netcentric**’ applications and on demand functionality there is nothing the user need carry with them, and little more than the job in hand to focus on.”

DELIVERABLE OUTCOMES

External Focus

- Less delay

Internal Focus

- Enables business transformation
- Hot desk functionality
- Reduced property costs
- Location flexibility
- Unified communications
- Member access

BACKGROUND

The role of PCs used in business has changed over time. Initially they were stand alone work stations hosting software applications directly with data transferred via floppy discs. Now they are client end points for applications hosted on remote servers connected by network technologies. The servers are all housed in purpose equipped data centres.

During the last couple of years there has been a move to virtualize the desktop interface so that it also runs on servers and is delivered to specialised hardware on the user's desk. At the same time, for personal use, people are becoming used to accessing services wherever they are via smart phones, Wi-Fi hotspots and mobile broadband. They don't necessarily need to carry a PC with them.

A network centric environment requires; suitable desktop equipment, a high performance network between main locations, an integrated home working solution and, options for mobile working

THE VISION

The districts have a single network across south Worcestershire and a desktop virtualization implementation project is in progress. These two factors can enable much greater flexibility in working arrangements. Staff only need to carry their smart card to be able to access their desktop from any of the partners sites or, if set up, from home. We have invested in and become dependant on the networking.

The aim of this part of the strategy is to leverage the investment already made to exploit its' capabilities to the maximum. It also enables improved support and reduces equipment re-fresh costs. A number of projects will be undertaken as part of this strategy.

DESCRIPTION

Desktop Infrastructure

This project commenced last year and is planned to be complete in 2012. The aim is to implement common virtualized desktop technologies across the partners. The technology chosen is a 'stateless client' system developed by Sun (now Oracle). It uses a small footprint desktop box and makes use of a smart card for enhanced security. There are direct savings

in both re-fresh costs and power bills. Further savings come from using the technology to enable transformation in working practices and property usage.

Network Infrastructure

Most of the work in linking the main south Worcestershire sites into a single high performance network is already in place. The adoption of a common addressing scheme (shared with County), Gigabit fibre optic links between districts, common security policies, and 'trust' between each districts' local networks exist now. This year will see the establishment of 'federation between directory and email systems.

Business Continuity

The network allows the consolidation of all the production servers into a single data centre with backup systems at a second remote site. In the case of failure at the main site services can be delivered from the secondary location. Data will be replicated between the sites to enable continuity with minimal time and data loss. This coupled with the ability of one councils staff to work from the others' office in the case of loss of access to their own will provide much greater resilience to services for customers and staff.

Telephone Line Consolidation

The network allows for the existing lines to be consolidated to a lower total number. It also enables Malvern and Wychavon to share the advantages of the new technology options offered by BT at from their 21st Centaury Network enabled Worcester exchange. These two factors will more than half line costs and provide free calls between the councils.

Mobile Working

The user's desktop can also be delivered to a mobile version of the SunRay clients using either Wi-Fi or 3G communications. Telephone calls to their office number can be automatically diverted to their mobile phone. Although, this is possible the costs of mobile working are higher both for the equipment and the communications therefore, any deployment should be backed up by a business case that identifies the savings that will be made.

SW Portals

Portals are web based sites that consolidate service previously provided by a number of different systems and can offer further facilities. An internet portal has already been implemented for councillors to access the information they need to carry out their duties

An intranet portal for staff is in development and will replace existing intranet and SharePoint sites. This will also support collaborative working including team and project sites. The South Worcestershire Revenues and Benefits Service are trialling the portal platform. This change will allow savings to be made on licensing costs and provide a more future proof and flexible solution than SharePoint.

Unified Communications

This covers the integration of telephony with the desktop interface to provide features not available with a legacy (analogue) telephone system. These include presence information

for team members and other staff, instant messaging, instigating phone calls from the screen, voice mail integrated with email, instant conference video call set up, easy call diversion and follow me extension numbers. Overall the efficiencies of unified communications save staff time and enable communications to take place even when they are not at their desk. Customer service staff have found it a significant benefit when they need to contact back office staff.

Unified communications is already implemented at Malvern and is planned as part of the Worcester City Accommodation Project. It is anticipated that Wychavon will introduce the technology in 2012.

CONSEQUENTIAL BENEFITS OF 'NETCENTRIC' WORKING

Home Working

The SunRay technology can be deployed to the residences of staff to enable their desktop to be available with the same smart card token as used in the office. Providing they are in an area that has broadband connectivity of 1mbps or higher they will be able to work as effectively as they would in the office. The integration of telephony with the SunRay and Mitel PABX systems allows them to have the same extension number whether they are at home or in the office.

Hot Desk Functionality

This functionality is already deployed for a number of teams and members of staff. They are able to work at any SunRay equipped desk with a consistent desktop interface and all their applications and preferences. They can remove their smart card without logging out and move to another desk where their on screen session will be displayed as they left it.

Location Flexibility

With the network changes already in place south Worcestershire staff can access their desktop from any SunRay equipped desk at any of the district's sites. This is particularly useful in supporting the working arrangements of south Worcestershire shared services. As the infrastructure roll-out progresses more of the smaller sites will be equipped. Bromsgrove and Redditch are also implementing the same desktop technology and it is planned to allow our staff to hot desk at their sites and vice versa. WRS staff are already benefitting from this.

Together with the ability to work from home this is enabling staff to work wherever they need to without concerning themselves with equipment or configuration issues.

Reduced Property Costs

All the above developments allow the councils to more effectively utilize their existing office properties and provide opportunities for reducing the total floor space required.

Private Cloud

The single data centre and replacement of client server applications with web service based ones will allow the operation of the 'cloud' services concept within the South Worcestershire domain.

NECESSARY WORK

DESCRIPTION

The previous sections describe the areas of greatest change and benefit however, there are other areas that need addressing either to ensure value for money or compliance with mandatory external requirements.

Information Management

The increase in demand for storage of information is a reflection of the greater number and use of ICT systems, enhancements to and changes in technology, and the greater variety of media that is required to be stored. As a proportion of the total hardware budget the cost of equipment to store corporate data has risen from an insignificant amount to become the largest annual cost. If nothing is done the rate of expansion will soon become unaffordable.

Two projects will be undertaken: one to reduce the amount and time data is stored for, and two, to introduce less expensive storage for low priority material. Success will be a change in working practice that ensures that information is managed and treated as an asset.

Information Security

Every year sees a further increase in the information security controls we have to implement to maintain compliance with the Government Connect standard mandated by the DWP. Over the next two years the introduction of the Public Service Network (PSN) will create further requirements.

There will be a considerable amount of work involved in “hardening” or replacing non-compliant systems and controls. Wherever possible we will minimize the impact on staff, members and partners

Reduce Software License Costs

The aim is to reduce the annual cost for support and licensing of software assets to at least meet the reducing budget provision of 5% per year. The intention is to exceed this requirement.

The highest software bill is for Microsoft desktop operating system and office products. Over the next two years more Open Source products will be introduced. This is not a straight forward option as many back office applications link to Microsoft products. This is an area where adherence to the procurement protocol will help reduce our dependence on expensive software.

Partnership Working

The experience of the last two years has shown that closer working with our partners, particularly County Council and the Worcestershire Hub is beneficial to all parties. Opportunities will be developed to build on these relationships.

COMMITMENTS

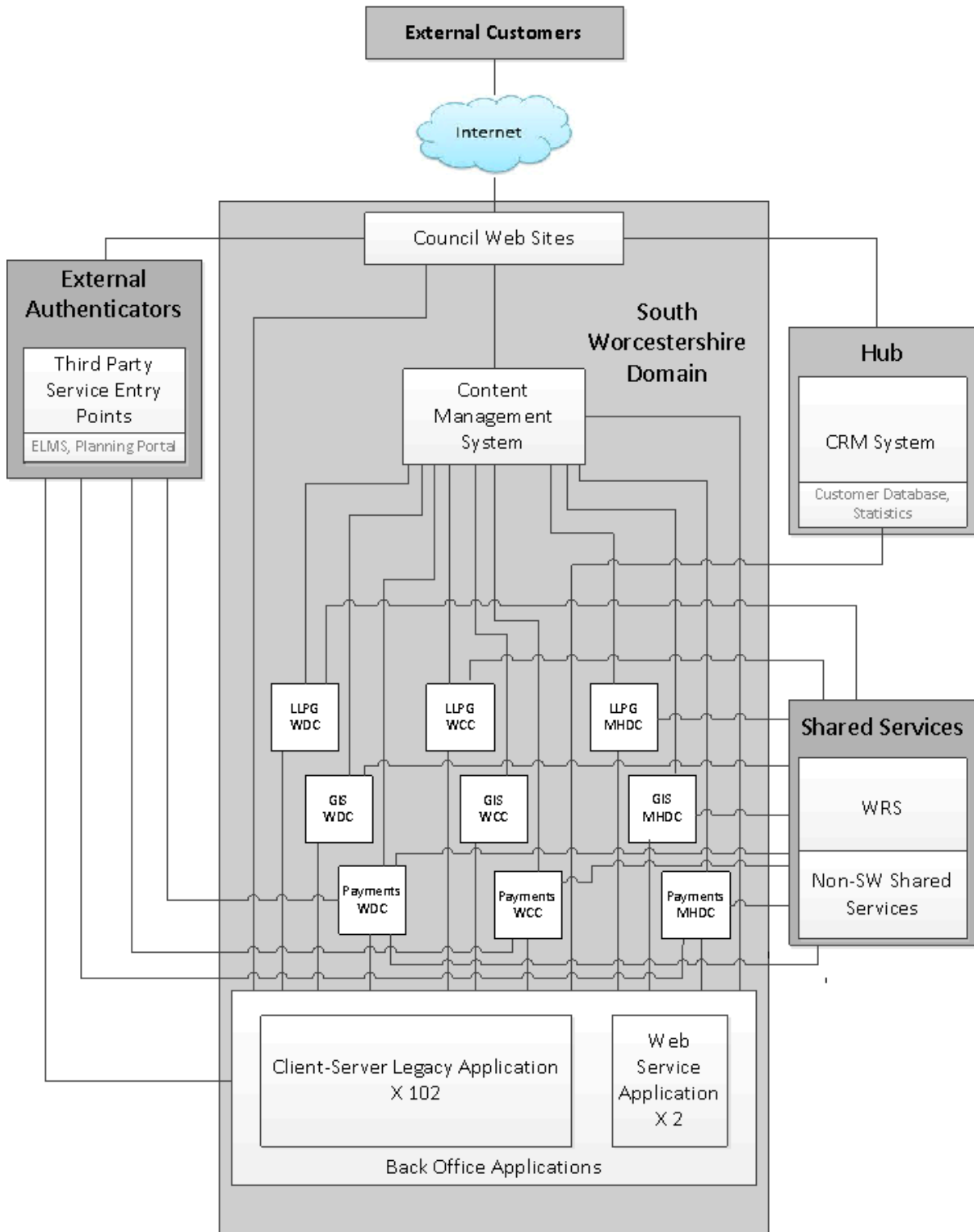
In adopting this strategy the three district councils are committing to a programme that will enable significant transformation of both external and internal processes. In order for this to succeed they are agreeing to a number of key changes in areas outside ICT. These include:-

- Promote a behavioural and cultural shift throughout the organizations to ensure that end to end customer self-service is the focus of every departments service delivery planning.
- Enshrinement of end to end customer self-service as the strategic vision for transformation.
- Alignment of ICT and business transformation project programmes to deliver the common vision of end to end customer self-service and shift to on-line and other web service channels.
- Adoption of the software procurement protocol as detailed in Appendix 2.
- Re-design of web sites to a transactional rather than service area perspective.
- Procurement of a single system for handling web payments.
- Consolidation of the three Local Land and Property Gazetteers into one.
- Agreement to make the LLPG the primary source of all property addresses..
- Storage of all Geographic Information Systems data in a single database.

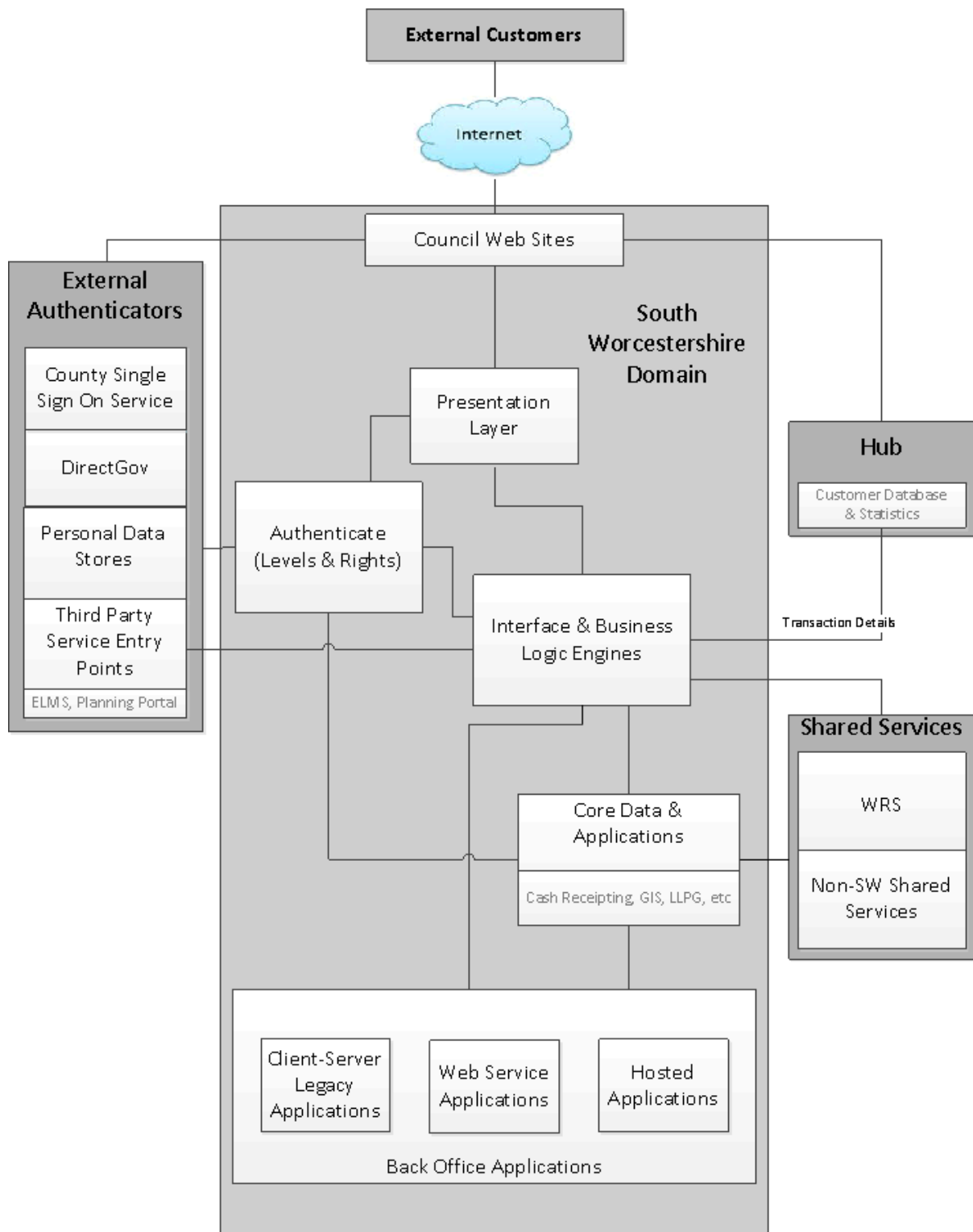
APPENDICES

END TO END CUSTOMER SELF-SERVICE MODEL

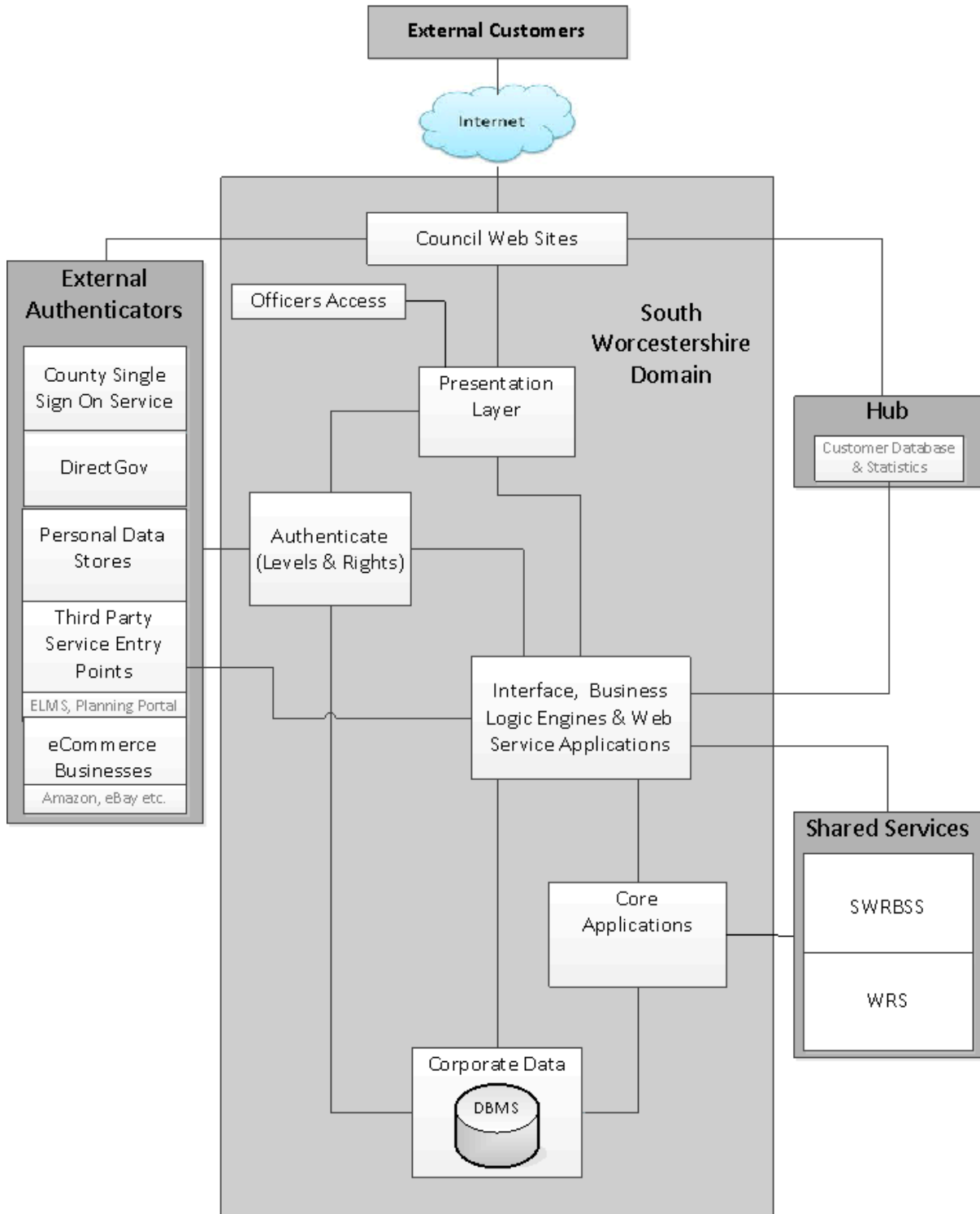
End-to-end Customer Self-Service in South Worcestershire Phase 1 - Current



End-to-end Customer Self-Service in South Worcestershire
Phase 2 - Interim



End-to-end Customer Self-Service in South Worcestershire Phase 3 - Optimum



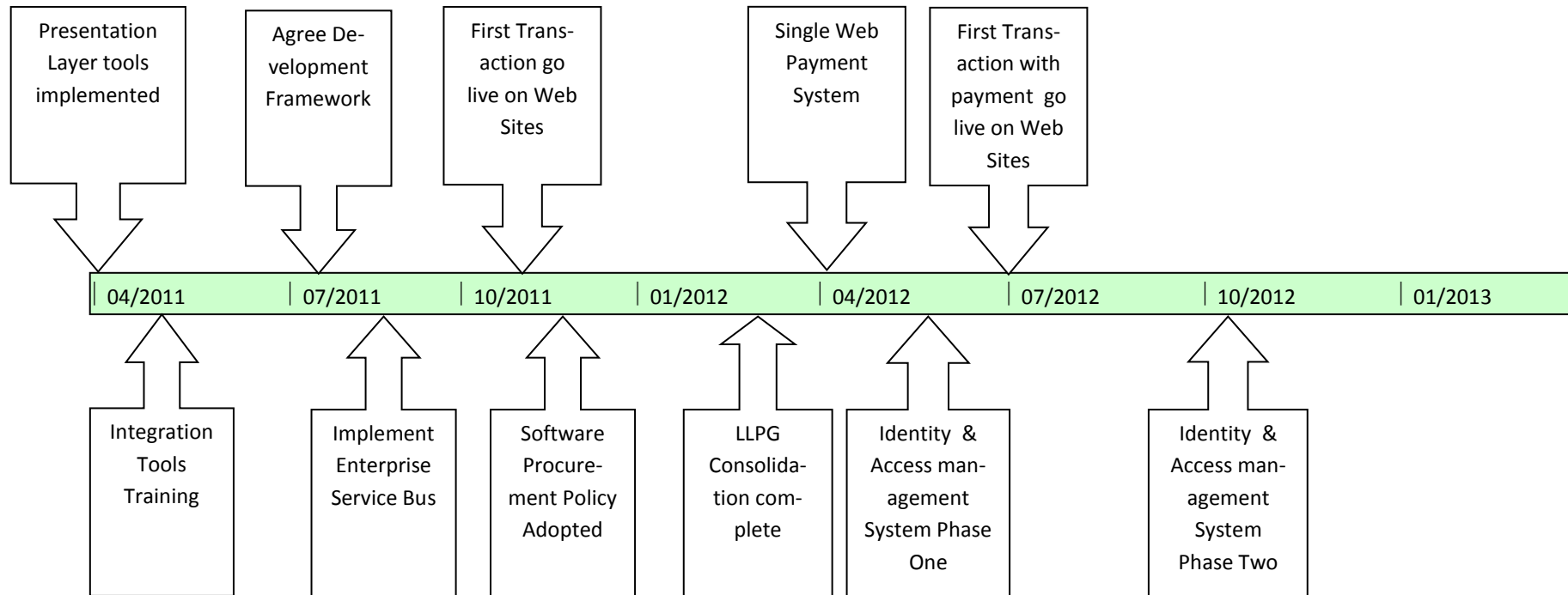
APPLICATION SOFTWARE PROCUREMENT PROTOCOL

The following guidelines have been adopted by Wychavon, Malvern Hills and Worcester City District Councils and apply to all procurements for application software. Any exceptions to any of the requirements require the approval of the ICT Shared Service Manager.

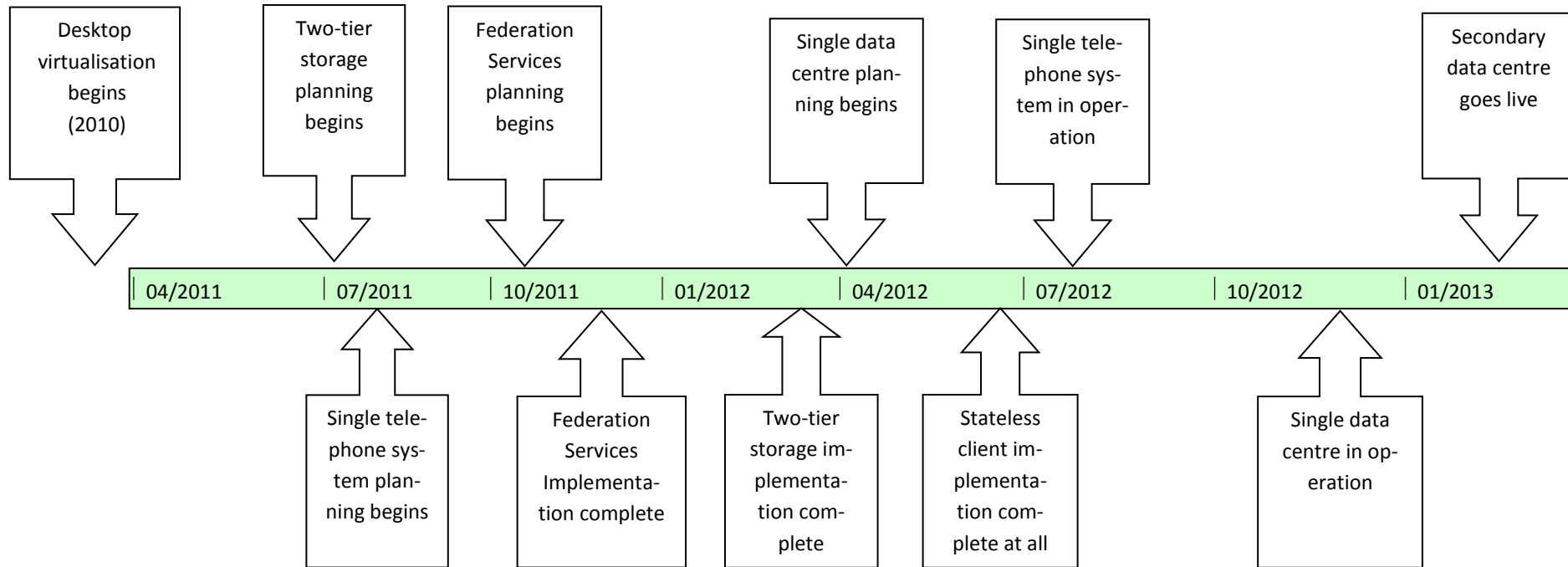
Application software (whether located in house or hosted) covers programs specifically aimed at delivering a council service or to provide an internal specialist support service. Preference will be given to products sold under an acceptable Open Source licence arrangement; second preference will be given to programs that are operating system independent where the client is a W3C standard web browser. Products will:

- Be Government Information Framework (eGIF) compliant.
- Be Microsoft Terminal Server 2008 compatible.
- GCSx CoCo Compliant
- Be implemented as web services conforming to W3C (World Wide Web Consortium), OASIS (Organization for the Advancement of Structured Information Standards), and WS-I (Web Services Interoperability organization) Standards.
- Be provided with W3C XML schemas for data integration and the right to access the data held by whatever means the council decides without cost or impediment.
- Hold their data in an existing Council owned and managed Microsoft SQL Server, Oracle or MySQL database management system.
- Have a fixed annual cost for the software licenses, support, patches and upgrades to maintain the software at the latest release and build level.
- For packages using property data be able to integrate with the Councils' existing Local Land and Property Gazetteer, contain a field for associating each property with the Unique Property Identification Number defined by the Nation Land and Property Gazetteer. If address data is held in the application database, be BS7666 compliant.
- For packages displaying geographic information; be able to integrate with the relevant corporate Geographic Information System or be Open GIS compliant.
- Come with the source code (or an escrow arrangement for it) and the right for the council to use and modify it, without additional cost, in the event that the supplier ceases to trade or support the product.

INDICATIVE CUSTOMER SELF-SERVICE TIMELINE



INDICATIVE INFRASTRUCTURE TIMELINE



TECHNOLOGIES & STANDARDS

Technology/Standard	Type/Standard	Owning/Standard Body	Status*
Application Server	Apache Tomcat	Apache	Compliant
Application Server	Glassfish	Oracle	Compliant
Application Server	IIS/.Net	Microsoft	Legacy
Database Management System	Microsoft SQL Server 2005/2008	Microsoft	Legacy
Database Management System	MySQL	Oracle	Compliant
Database Management System	Oracle	Oracle	Compliant
Desktop Access	Standard Intel PC	Intel/Microsoft	Legacy
Desktop Access	Sun Ray devices	Oracle	Compliant
Desktop Access	Web Client/Mobile	W3C	Compliant
Directory Services	Active Directory	Microsoft	Legacy
Document Formats	Closed vendor specific	Vendor specific	Legacy
Document Formats	ODF	OASIS	Compliant
Forms	InfoPath	Microsoft	Legacy
Forms	xForms	W3C	Compliant
Legacy Back Office Systems	Closed vendor specific	Vendor specific	Legacy
Network	Ethernet, TCP/IP	IEEE	Compliant
Office Suite	LibreOffice, Open Office	Document Foundation, Oracle	Compliant
Office Suite	Microsoft Office	Microsoft	Legacy
Operating System	GNU/Linux (Debian, Ubuntu)	Various – Open Software Foundation, GNU	Compliant
Operating System	Microsoft Windows 2008 Microsoft Windows XP	Microsoft	Legacy
Programming IDE/Integration	Eclipse/Talend/Mule	Various/XML	Compliant
Programming Language	Java	Oracle	Compliant
Security	Network protection	Various Vendors	
Self Service Framework	Using integration and business logic software		Compliant
Service Management	ITIL	OGC	Compliant
Virtualization	VMware	VMware	Compliant
Voice Over IP	Mitel	Mitel	Compliant
Web Services	REST, SOAP, XML	OASIS, W3C	Compliant
Web Services	SharePoint WWF	Microsoft	Legacy

- Whether compliant with the strategy or a legacy technology to be replaced or usage minimised