London Borough of Hounslow

Information & Communication Technology
Strategy and Roadmap

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1 Introduction

1.1 Purpose
The Information & Communication Technology Strategy and Roadmap (the strategy) is a five year plan setting out the direction for the ICT Service (ICT) in the London Borough of Hounslow (the Council) and demonstrates clearly where it will add value and make savings.

The strategy is not static. It will be reviewed annually so the detailed plans for the next year can be refined alongside the outline plan for the following 2 – 5 years. The strategy will therefore always provide a consistent, up to date and forward-looking view of the service and is a core reference document from which the service plan, business plan and revenue and capital bids can be produced.

The ultimate purpose of the strategy is to simplify decision-making and ensure that all investment and projects relating to technology undertaken in the borough (both within the ICT Service and the Business) are in-line with the vision approved by the Council. The strategy is designed to support other strategies and policies, particularly Customer Services, Information Governance, Business Plans and the Performance and Reporting Strategy.

1.2 Structure
This strategy is divided into three parts:

A. Vision and Principles - covering the basis of this strategy, guiding principles and technologies used to underpin the viability of the strategy and a roadmap of forthcoming projects and the benefits they will deliver.

B. Delivery and Governance - showing how the structure of our technology will change, the challenges that we will face, the arrangement of the future team and our plans for business interaction and resourcing requirements.

C. Appendices

1.3 Context

1.3.1 LBH
The Council leadership has a 4 year Forward Plan that aims to significantly improve council services for all Hounslow residents. Current strategic pledges are shown below:

- Action on crime with 100 uniformed officers on the streets and CCTV in crime hotspots;
- Extra cash for schools to improve standards and new school places to give parents a better choice;
- A new partnership with local businesses and housing associations to create jobs and build 2500 affordable homes to rent or buy;
- A 24/7 team of Grimebusters to tackle graffiti, litter, and dumped rubbish, and a direct dial phone number for immediate action;
- A fresh war on waste and a council tax cut for all residents.

ICT will support and contribute to all of the above pledges, becoming instrumental in their delivery. Furthermore, Hounslow is an ambitious and innovative council, and the strategy will allow us to show leadership to other organisations.

1.3.2 Changes at the National level
There is a nationwide shift in the approach to social care, as recommended by the Munro Review of Child Protection for example, away from centrally specified targets and towards services that can be tailored by
authority and individual. Our technology, and the culture that surrounds it, must be capable of making this shift. Our current systems and processes are not designed for change. Every adjustment and customisation costs significant amounts of money, or risks impacting our support arrangements. Many of the systems are provided by vendors who have abused their monopolistic position in the past, and are continuing to resist change.

Partnering with other authorities and organisations is becoming an increasingly advantageous form of service delivery. We must build or demand the ability to integrate and share information with partners into our technology from the bottom up. Private individuals and 3rd Sector bodies must have efficient and simple ways in which they can access, share or augment our resources. All of this needs to be done without compromising security, our responsibilities for data protection or safeguarding commercially sensitive information.

### 1.3.3 People and Technology

The technology we use is changing rapidly. In the last 3 years we have seen a dramatic shift in how our residents use technology. Even internally, our staff demand better tools, more ways to access their work, more flexibility and higher quality of ICT. Below are some statistics that help illustrate the scale of change we are facing:

- 50% of people in the UK own a smartphone.
- Mobile devices’ share of UK web traffic increased by 4000% between September 2009 and January 2011.
- 73% of people in the UK use social networking.

These figures are growing and are not limited to one or two demographic groups. They are UK figures but it is likely that they are indicative of Hounslow, for example, in the 2011 census, Hounslow residents were the 5th highest Council in the UK to submit Census returns on line. The changing character of the technology used in everyday life opens up new opportunities for us to better serve our residents. We can engage on more channels than ever before, providing residents with a better engagement and greater choice. We will promote these new channels and will monitor take up to ensure that we can be responsive to customer feedback and to the needs of all our residents.

Today, our systems are simply not designed to enable us to cope with this seismic shift in our demands. This strategy aims to replace them with a set of flexible, modern tools, capable of continuous and rapid change, so we can keep up with delivering the best possible service to our staff and residents.

### 1.4 Current Service

Previously, there has been a centrally managed network and data centre but purchase of new equipment for users and decisions about business applications has been managed and budgeted for from individual departments and service areas. These are now centralised in the Council’s ICT Service.

This centralisation will allow consistent technology provision to our customers and staff, focussing on overall business priorities and distributing the borough’s resources where they are needed most. With this approach, come new opportunities. Innovation, flexibility and service improvements are all possible at the same time as maintaining tight control of suppliers and costs. New technologies can help Hounslow re-design its ICT Service, continuing to act as a key enabler for all activities.

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2. [http://www.tecmark.co.uk/uk-mobile-internet-stats](http://www.tecmark.co.uk/uk-mobile-internet-stats)
1.5 Scope
The strategy covers the provision of technology to London Borough of Hounslow services and partner organisations.

Council services – All internal and external technology functions, including applications, infrastructure, security, networks (voice, data, mobile), websites (internal and external), support, ICT / business relationship, and all other aspects of technology.

Partners - The strategy includes elements that will support partnerships with external 3rd party organisations (which may include social enterprises), as well as our Arm’s Length Management Organisations. We have also adapted the strategy to be supportive of possible partnerships with other Councils, as well as the possibility to provide services commercially if viable / advantageous.

Schools - Schools service provision is not currently part of this strategy, however, in the future it may be included if there is a strong business case / rationale.
Part A: Vision and Principles
2 Strategic Vision

London Borough of Hounslow’s ICT Service will become modern, innovative and ambitious. We will deliver flexible, yet robust services to users and residents by updating, rationalising or replacing our current set of systems. We will be more prepared to adapt to changes effectively.

We will take a measured, "horses for courses" approach on major technology decisions, with strong governance and robust security policies in place to protect our sensitive data. Users will be equipped with the right knowledge and tools to manage data, without getting in the way of service delivery.

Rather than simply keeping technology running, the goal of the ICT function will be to improve the services that the Council provides to residents. We will strengthen the Business Relationship function, allowing a closer strategic interaction by providing customer-led solutions. We will provide practical advice to our users on the best use of all technology and will become a reliable partner for the business in achieving their goals and service plans.

Most of the Council will be free of cumbersome back-office technology infrastructure and will use relevant, modern ICT tools where practical and appropriate. We will aim to be mobile by default and usable anywhere. Users will be able to use their own preferred devices at work, whether tablets, laptops or smart phones. Our Businesses will find it easy to control and customise their applications, adding new services, or changing their processes to improve delivery at lower cost. Most of the applications will run through the browser, accessible from anywhere, be it home, office, or on the go. Data between applications will be linked, allowing Hounslow to achieve a single view and record of each resident, improving services while maintaining security and reducing waste and fraud.

Our services will be easy to use by residents, with several channels available, including mobile and web, as well as traditional ways. Our website will become an attractive, simple and fast way to access all of our services and integrate with social media. We will embrace the social enterprise.

ICT will run a transparent, accountable and fair process for prioritising effort and will aim to deliver an improved service, despite budgetary pressures. We will ensure that technology is not a barrier to working with partners and local businesses and is instead an enabler of all the benefits working with others can bring. The principles of the following section will show how this vision will be practically applied to our long, medium and day-to-day decisions.
3 Principles

Our aim is to be a service that achieves a consistently high level of customer satisfaction, drives innovation and stimulates the redesign of the way business is carried out. Our strategy for achieving this vision rests on a set of principles that underpin all services that we provide. These principles have been developed by us and incorporate best practice from across the public and private sectors. While we are committed to adhering to these principles, the way we do so is open to evolve and develop as Hounslow does. Any such changes will be captured by the annual review of this strategy.

We ensure that the strategy delivers according to its principles by aligning our projects to each one. At the end of each principle, we highlight which projects help to deliver its benefits to the business and residents, indexed to the list of milestones in Chapter 4.

3.1 Business Focussed and Service Oriented

Our primary focus will not be technology but the service that we provide to our customers. In practical terms, we aim to become an integral part of the business process at every stage, from planning to delivery. Our resources and skills will change to match this vision. We will aim to communicate in a clear, unambiguous way, avoiding technical jargon, and clearly demonstrate how we benefit and enable the delivery of Council services.

- **Relationship with the business:** Our team will be part of the wider Resources client teams focusing all all service provide to our customers this will allow us to support all current business demands and initiatives not just with sound technology advice but also form a holistic business perspective. We will have a deep understanding and joint commitment to Service Plans as well as Corporate Strategy, structuring our services accordingly. Throughout this strategy, we will meet not only the current business demands, but always work to put ourselves in a position where we can adapt to changing priorities and service innovation.

- **Performance measuring:** We will continue to provide reports showing our performance against Service Level Agreements (SLAs). We will develop a "Service Catalogue" providing clarity to the business regarding the services we deliver. We will carry out regular customer satisfaction surveys and benchmarking exercises.

- **Skilling-up:** We will retain and enhance our in-house understanding of our systems. We will use outside input to supplement and improve our knowledge. We will ensure that Hounslow remains in control of our ICT throughout this strategy.

*Milestones 1.02, 1.04, 1.05, 1.09, 3.04 & 3.06 will contribute the realisation of this principle (see Chapter 4: Business Roadmap and Quick Wins).*

3.2 Flexible yet Standardised

In order to provide a flexible and lower cost ICT service, we need to move towards an environment that is less complex and more standardised in terms of applications and processes. We will design our technology to be flexible enough to accommodate all of our services, yet common enough so that it can be integrated with external partners or partitioned for others should the need arise.

- **Reducing "specialist", customised systems.** Through integration and development we will rationalise the set of applications that we currently use and pay for. The systems we use to do our jobs will be fewer so our technology will be cheaper and less complex.
• **Adopting an Enterprise-wide Architectural view.** Our technology will be based on a Service Oriented Architecture (SOA). Systems built using SOA allow direct access to their services to other applications. For example, if one application holds a database of addresses and another application needs to use these addresses, the second applications can be granted direct access to the data without copying it. This means that projects such as "Tell us Once" or partnerships with other authorities become possible.

We will establish a single "preferred" platform for our standard processes, using it to integrate with specialist systems, such as social care, which will remain independent but interoperable. Such an approach will enable us to continue to expand or collapse our service as business demands change, without wasting resources. Adopting an SOA approach will also provide us with a realistic route to interoperability of systems with our partners.

**Platform**

A software platform provides building blocks on which applications can be easily built. Those applications make use of core functions provided by the platform and can also interact with each other by default. Such platforms are often delivered over the internet as a service (‘Platform as a Service’ or ‘PaaS’) so they, and the applications built on them, can be accessed from anywhere.

• **Build and develop the organisation of our ICT Service.** Some of the technological challenges presented by this strategy will require additional expertise and training. We will actively seek knowledge transfer from our vendors and demand robust training and common standards from 3rd parties, allowing the Council to maintain technical design authority and expertise.

*Milestones 1.04, 1.07, 1.09, 1.10, 1.11, 1.12, 1.18, 2.01, 2.02, 2.06, 3.01, 3.03, 3.07, 4.01 & 4.03 will contribute the realisation of this principle.*

**Cloud Computing**

Cloud computing represents a fundamental shift in the way ICT functions are delivered: over a network as a service rather than installed locally as a product. Several traditional technologies no longer represent good value for money in the "service" world.

In ‘Software as a Service’ (SaaS), applications are accessed over the internet in a browser. This can be as straightforward as in-browser email (for example Gmail) but also includes large, powerful systems delivering complex requirements.

In ‘Infrastructure as a Service’ (IaaS), computing and storage capacity is provided by a supplier on their premises and we access it over the internet. Purchasing servers and server management systems as products is no longer cost-effective.

There is a need to scrutinise the technology roadmaps of software vendors and ensure that their long-term strategy is compliant with the shift to Cloud computing before making any investments in their technology.
3.3 Innovative and Well Managed

The ICT Service will help to shape the transformation programmes and bring innovation and continuous service improvement to our residents and internal customers. The ICT Service will act as a hub for knowledge and best practice of the latest solutions available, and will be ready to advise and support all the Council’s activities and innovations. We will display ambition in our use and adoption of technology, innovative services and best practice.

- **Mobile by default.** All of our solutions have to offer secure remote access. Where possible, we will seek to deploy applications with built in mobility interface, rather than building separate, custom “apps”. Our standard Platform will support mobile access "out of the box."

- **Adopting new technologies at the right time** to increase staff productivity and enhance customer service and reduce overall costs to the Borough (e.g. adoption of the Government ICT strategy) – particularly looking at G-cloud & Public Sector Network (PSN)) and becoming infrastructure-free to release costs at a time that suits us.

Hounslow will not invest in “dead end” technologies. Each new or replacement solution will need to be scalable, modern and based on open standards. Technology selection will be clear and objective, based on a level playing field. We will avoid long term technology lock-ins and will deploy a standard, interoperable set of applications.

3.4 Trusted and Secure

We will transform information governance and security into an essential, trusted and enabling function. We will apply the correct level of risk assessment (and resulting level of control) to every new initiative, building trust with our internal and external users. ICT will help perform audits, as well as support procurement and development of new services.

The Council will apply a robust and comprehensive approach to security in all of its technology systems and services. We will focus on applying **appropriate** measures – demanding the highest levels of compliance in the most sensitive systems, yet allowing greater levels of innovation and flexibility in more...
general use of technology. We will never use security as an excuse to reduce service provision - instead we will work with our users to find a solution.

Our data will be accurate and trusted. We will implement and strengthen policies to give the business essential tools for accurately managing data that is held today and created in future. This will mean retention, classification and other frameworks - presented in a clear way.

ICT will continue to play a lead role in supporting the Council in delivering on this principle through:

- **Education** - We will inform and educate our users in the best practice of applying simple security procedures. The majority of breaches occur due to user error and, as a result, this area of our security will take focus.
- **"Tiering" and Data Segregation** - We will ensure that sensitive data is kept separately from other data. Only the most sensitive systems will be subject to 'Restricted' classification and thus additional levels of control. Over 70% of Local Government data is typically classified at lower levels, allowing for a more flexible, yet still robust approach.
- **Compliance** - We will ensure that all existing and new systems are compliant to their applicable level of security, data protection and any other legislative requirements. This will allow us to direct our security resources to where they are mostly needed. This flexibility will be reflected in all of our policies.
- **Enablement** – The ICT Service will act as a "centre of expertise" for information security policy and advice for the Council. As a result, we will improve our service and will enable business to seek trusted advice for new ideas and innovations they may wish to pursue, such as external partnerships, integration to 3rd party applications and services etc.

*Milestones 1.01, 1.03, 1.06, 1.08, 1.13, 1.15, 1.16, 2.04, 2.07, 2.08, 2.09, & 3.02 will contribute the realisation of this principle.*

### 3.5 Efficient and Low Cost

All aspects of this strategy will be based on demonstrable benefit, expressed either as a cost reduction or an increase in services as demanded by the business or residents. We will be focused on the principles of Return on Investment and Total Cost of Ownership. All technology costs will be fully understood and attributed to relevant projects and applications.

**Total Cost of Ownership**

TCO is a concept that has become dominant in the private sector. Based on ITIL best practice, it is a way of accounting for every element of the cost of an application, including costs that are shared with others.

A solid business case will be required for all new initiatives, as there will be no local technology budgets, nor "guaranteed" capital spend on technology.

- **Regular review of Business Cases** of new and existing programmes will ensure that they are being driven for the right reasons and have not lost sight of their only ultimate aim: to improve the services that the Council delivers.
- **Continuous cost reduction** through supplier renegotiations and restructuring ICT organisation/processes.
• **Follow-up analysis on projects** after they have been put into action to ensure that the target improvements and savings are being made and discover any further opportunities that may have arisen.

• **Achieve the best use of technology** to automate and commoditise ICT functions so they can be quickly deployed and shared between different uses.

• **Procurement will be fair, transparent and compliant** with EU directives and government policy. The ICT Service will be accountable and direct in its relationship with its customers. We will rely on an objective set of metrics to measure our performance.

• **Partners and commissioned organisations** working on behalf of Hounslow will, where cost effective to do so, utilise our ICT policies, procedures and infrastructure under an agreed service level.

*Milestones 1.02, 1.07, 1.23, 2.01, 2.02, 3.01 & 4.02 will contribute the realisation of this principle.*

### 3.6 Targeted through Strong Governance

The Council’s ICT Service will run a clear, transparent and accessible Governance model. The new Governance structure will support the principles of this section and allow us to control and target the delivery of services to the Council and its partners.

ICT Services will continue to deliver the required business change to support all teams and business areas. We will have a fixed, well governed project pipeline, with governance boards reaching consensus on which projects are a priority. This will replace a “local budget - local benefit” method, and will deliver enterprise wide improvements.

Our new approach allows us to be agile and flexible, without losing the benefits of centralisation. At the same time, each user will have multiple ways in which they can interact with ICT. In our new structure, we have followed ICT management best practice, and addressed areas that we currently lack:

• **Enterprise wide technology view** - Our approach to technology is changing. As we start supporting business capabilities as opposed to systems, we will need to govern projects, procurement, design and other technical aspects at an Enterprise level.

• **Centralised** - Our governance forums have organisation-wide impact, and we will seek to maximise the benefit of our decisions.

• **Strategic** - We will establish a Strategic Review Board to consider the changing needs of the business on an annual basis and a monthly IT Operations Priority Planning (IOPP) Board to deal with more urgent proposals.

• **Strong links with users / customers and demand management** - Our new structure allows us to regularly communicate with users, taking input in a variety of ways, from user forums to electronic comments or drop-in training sessions.

• **Project and Information Governance** - We will continue to rely on existing governance frameworks already deployed in Hounslow.

*Milestones 1.02, 1.06, 1.09, 1.19, 2.03 & 3.04 will contribute the realisation of this principle.*

### 3.7 Green and Environmentally Sustainable

ICT will lead the Council in designing and pursuing solutions that diminish the environmental impact of its activities. We will avoid energy-inefficient solutions where possible, and make environmental considerations...
a formal part of our technology selection. We have already significantly reduced energy use in our data centre by eliminating server infrastructure and will continue to further reduce our carbon footprint in this and other areas.

- **Infrastructure-free** - Outsourcing server capacity will mean that our technology infrastructure will be managed much more efficiently, in terms of both environmental impact and monetary cost.
- **Modern equipment** - As we refresh our device stock, energy savings will be made due to the improved efficiency that is inherent in modern hardware.
- **Thin Clients** - We will focus on achieving savings through reduced energy consumption at the desktop by using thin client and virtual PCs and closely controlling multi-functional devices (consolidated print, scan, fax, photocopy devices).
- **Procurement** - To ensure that green aims are translated into outcomes, environmental considerations will be a formal part of our selection of products, suppliers and projects so, where possible, we will avoid energy-inefficient solutions (example below).

**Wider savings**

As well as favouring technology that is much more energy efficient, we will enable our staff and residents to be greener indirectly. For example, promoting mobility as default in our technology or increasing the number of interactions online will reduce journeys made by staff and residents to our Civic offices.

*Milestones 1.07, 1.20, 2.01, 3.01, 4.01 & 4.02 will contribute the realisation of this principle.*
Below are detailed our planned improvement milestones by the phase that they will be delivered. These goals will be enabled by a series of high-level IT projects that are charted in the following section. The detail behind each project will be shown in the Architecture and Roadmap document.

**Q** denotes that reaching the milestone represents a **quick win**.

**D** denotes that reaching the milestone will bring **direct** benefits to Hounslow’s residents.

<table>
<thead>
<tr>
<th>Milestone number</th>
<th>Description</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.01</td>
<td>Active Directory clean-up</td>
<td>User management and role-based access will be more straightforward.</td>
</tr>
<tr>
<td>1.02</td>
<td>Applications roadmap</td>
<td>This will plan how we will manage our software including rationalisation, to reduce cost and complexity, and cloud migration, to increase mobility and flexibility.</td>
</tr>
<tr>
<td>1.03</td>
<td>Back-scan of records</td>
<td>Scanning of paper records to be available electronically. Includes planning, land charges and adoption records.</td>
</tr>
<tr>
<td>1.04</td>
<td>Common reporting layer</td>
<td>We will be able to see where we are succeeding and failing in an easier and more uniform way.</td>
</tr>
<tr>
<td>1.05</td>
<td>Core services moved to front line e.g. call centre</td>
<td>Taking services and people from other departments into centralised core structure.</td>
</tr>
<tr>
<td>1.06</td>
<td>Data classification (and management)</td>
<td>Understanding and managing our data will allow us to change the way we do things. Data that needs to be secure will be kept so but unnecessary controls less sensitive information will be relaxed up so it can be put to better and more widely available use.</td>
</tr>
<tr>
<td>1.07</td>
<td>Desktop Strategy, Upgrade, New build</td>
<td>This project includes: Desktop Strategy development, asset management, staged delivery of thin desktop technology and BYOD capability in order to enable the strategic goal of extending desktop life and eventually removing the</td>
</tr>
<tr>
<td>1.08</td>
<td>Disaster recovery implemented</td>
<td>Our data will be more resilient to accidental loss.</td>
</tr>
<tr>
<td>1.09</td>
<td>Enterprise Architecture</td>
<td>Increases the use of consistent standards and methods for successfully improving our ICT organisation and technology. Includes design and selection of the major platform components</td>
</tr>
<tr>
<td>1.10</td>
<td>ERP consolidation</td>
<td>Currently a relatively large number of systems are used to manage finances, procurement, payments, and HR functionality this project will initially remove all redundant functionality and consolidate users on a single platform and subsequently fully rationalise applications in the space. It is not anticipated that this will involve procuring a new system, but that an existing systems such as Agresso will be extended to accommodate this.</td>
</tr>
<tr>
<td>1.11</td>
<td>Exchange and Office productivity (e.g. MS Offices) migration / resilience</td>
<td>Our email storage will be cheaper, more resilient and more flexible. MS Office cloud alternatives piloted and selected. Migration begins.</td>
</tr>
<tr>
<td>1.12</td>
<td>Gazetteer and GIS centralisation / improvement</td>
<td>This project will consolidate all the different gazetteer and GIS systems and geospatial databases currently in use into one system to enable a single version of the truth for geospatial data within the Council and the platform.</td>
</tr>
<tr>
<td>1.13</td>
<td>GCSX review</td>
<td>Network segregation, minimising use of GSi access, providing encryption options to users (fileshare and secure collaboration). Confirms on-going use of GCSX network, which allows secure data sharing with other public sector organisations.</td>
</tr>
<tr>
<td>1.14</td>
<td>Mobile-friendly web and social networking presence - a &quot;light&quot; version of our website and a corresponding mobile app for major platforms (iOS, Android).</td>
<td>Our residents will have a better experience when visiting our website away from a PC. We will be able to better engage with residents and quickly respond to simple queries through social networks. This will require some investment.</td>
</tr>
<tr>
<td>1.15</td>
<td>Open data published (to meet CG requirements)</td>
<td>We can do this quickly using cheap, off-the-shelf tools. This will reduce the challenge of Freedom of Information requests and improve our relationship with our residents.</td>
</tr>
<tr>
<td>1.16</td>
<td>Password self - reset enabled</td>
<td>This will enable everyone to register a number of questions that can help prove their identity to the system, and reset their password(s). This will help us to re-focus resources in ICT to where they are most needed</td>
</tr>
<tr>
<td>1.17</td>
<td>PFI enabled</td>
<td>Street scene PFI enablement project.</td>
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<tr>
<td>1.18</td>
<td>Platform implemented and linked to web</td>
<td>The software platform will provide a single view on Hounslow residents onto which applications can be integrated and built. Includes deploying a CRM.</td>
</tr>
<tr>
<td>1.19</td>
<td>Process improvement (Lean, ITIL, TCO)</td>
<td>Introduces best-practice guidelines to the management of our ICT Service. Includes organisational improvements, TCO, Business Case tracking.</td>
</tr>
<tr>
<td>1.20</td>
<td>Strategic remote access enabled for some applications</td>
<td>This will allow our users to access their essential applications from home or remotely in a secure way. While not providing universal access to everything at this stage, this will help many areas of the business. Mobile access is included in this project.</td>
</tr>
<tr>
<td>1.21</td>
<td>Restructure of file-shares, log-ins etc.</td>
<td>Setting up storage environments on Infrastructure as a Service providers and migrating files these environments is appropriate. Creating and implementing an appropriate tiering strategy for storage that ensures secure, fast, and reliable access across environments.</td>
</tr>
<tr>
<td>1.22</td>
<td>Social care portal implemented</td>
<td>The Trio social care system will bring widespread improvements across care for adults and children. Swift application retired.</td>
</tr>
<tr>
<td>1.23</td>
<td>Integration projects</td>
<td>Residents will only have to inform us once of a simple change to their status. We will enhance this capability throughout the course of this strategy, adding more applications, workflow and other features until it is the default capability covering everything we do. The national Tell Us Once project is an example.</td>
</tr>
<tr>
<td>1.24</td>
<td>Thin client deployment</td>
<td>Packaging applications, upgrading Citrix farms and rolling out thin clients where appropriate (includes necessary procurements). Includes required network upgrades.</td>
</tr>
<tr>
<td>1.25</td>
<td>Virtualisation and Infrastructure as a Service deployment</td>
<td>Server and Infrastructure virtualisation complete. IaaS piloted, IaaS environment available.</td>
</tr>
<tr>
<td>Milestone number</td>
<td>Description</td>
<td>Benefits</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2.01</td>
<td>Application rationalisation furthered (50%)</td>
<td>Cost and complexity of computing tasks is reduced. e.g. Cash receipting moved to platform.</td>
</tr>
<tr>
<td>2.02</td>
<td>Bring your own device (BYOD) enabled</td>
<td>Staff will be able to use subsidised personal devices at work, simplifying and cheapening how we use our hardware.</td>
</tr>
<tr>
<td>2.03</td>
<td>Business processes implemented cross-organisation</td>
<td>Platform can centralise and componentise processes to achieve efficiency, including deployment of platform tools such as workflow (e.g. only one way to process payments).</td>
</tr>
<tr>
<td>2.04</td>
<td>Customer authentication provided</td>
<td>Residents will be able to easily log-in to receive services and initiate services. A mechanism for authentication will be provided.</td>
</tr>
<tr>
<td>2.05</td>
<td>EDRMS Council-wide (as part of the platform)</td>
<td>Storage and management of electronic copies of paper documents for ease of access and sharing and back-up purposes.</td>
</tr>
<tr>
<td>2.06</td>
<td>Engineering and transition of applications begins (onto the platform)</td>
<td>More accessible, web based software, which will underpin much of Hounslow's future strategy. The platform will allow for easy re-use of components and access by everyone, including residents. This will target applications that are not yet part of the platform.</td>
</tr>
<tr>
<td>2.07</td>
<td>N3 (NHS) service connection</td>
<td>Achieving the compliance requirements so that we can enable connection to the NHS data network which will allow better information sharing with health organisations.</td>
</tr>
<tr>
<td>2.08</td>
<td>Open data publication increased</td>
<td>More useful information will be easily available to our residents.</td>
</tr>
<tr>
<td>2.09</td>
<td>Single authentication layer</td>
<td>Entering a username and password once will allow access to several applications.</td>
</tr>
<tr>
<td>2.10</td>
<td>Telephony and Unified communications strategy and approach developed</td>
<td>LBH will develop the strategy, perform the necessary rationalisations</td>
</tr>
</tbody>
</table>
### Milestone number | Description | Benefits
--- | --- | ---
3.01 | Application rationalisation furthered (80%) | Cost and complexity of computing tasks is reduced.
3.02 | Data segregation complete | Less sensitive information will be freed up so it can be put to better use.
3.03 | Platform now includes majority of Council apps | More accessible, integrable software some of which will add to the public access portal.
3.04 | Roadmap re-examined | Project plan refocused where necessary.
3.05 | Self-service for everyone | Channel shift targets achieved
3.06 | Services offered commercially | Commercial income and economies of scale.
3.07 | Unified communications deployed | All communications are unified into a single platform

### Milestone number | Description | Benefits
--- | --- | ---
4.01 | Application rationalisation furthered (90%) | Cost and complexity of computing tasks is reduced.
4.02 | Data centre retired | Maintenance, over-head and environmental cost reductions.
4.03 | Platform now includes all possible apps | We will be able to access many of our applications through a browser and they will share information from a single hub rather than duplicating it.

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The above improvements will help to fix our ICT issues and have a direct and measurable positive impact on our business and, in many cases, our residents. These technology milestones are only possible if they are enabled by the underlying background projects and policies. Many will require a level of business process change in order to deliver full benefits.

The first year of the strategy will be the most challenging, as we ramp up to solve all existing issues, as well as begin delivery of strategic initiatives.
Part B: Delivery and Governance
5 Service and Technology Architecture

5.1 Approach
The current technology architecture is outdated and composed of infrastructure and legacy applications that are almost always expensive, and often impossible, to integrate. We will transition to a modern, future-proof ICT environment, which will be key to realising the strategy’s principles.

We have already begun looking at all of our applications during the process of transition from local to central ICT budget. This strategy will greatly expand and systematise this approach.

5.1.1 Architecture
The current environment is a one of many applications in very detached siloes. Applications are currently poorly integrated from both a technical and procedural point of view, which contributes to the duplication of the core capabilities; a situation that is neither efficient nor cost-effective.

We will seek to adopt a unified, Council-wide approach to application refresh and deployment. We will establish and maintain a competent Enterprise Architecture function, which will help the business to achieve better value for money by re-using proven solutions, building new ones where appropriate, or migrating to a better alternative.

Specifically we will do the following:

- Create a common platform centred around a CRM-style capability that enables a single integrated view of our citizens;
- Rationalise our application portfolio on this common platform and reduce our current 200-300 separate applications down to around 10 key line of business systems and one central platform delivering the vast majority of our capability;
- Integrate the remaining line of business systems with our platform and allow a single point of access and reporting across our entire ICT estate;
- Consolidate our Enterprise Resource Planning (ERP) business systems including Finance, HR, Procurement, and Payments on a single system if practical;
- Through this new capability allow access through a number of new channels such as mobile applications, a single web platform, and direct secure access for partners and external organisations;
- Provide role-based self-service access to relevant applications and infrastructure to multiple stakeholder groups through the web platform;
- Introduce an intelligent reporting capability that consolidates data sets within the council and allows correlation with external datasets using a wide range of different user interfaces or reporting tools;
- Optimise our ICT infrastructure to enable sourcing compute and storage requirements from the most economically advantageous source such as Infrastructure as a Service;
- Classify data so that it can be managed in a way that is as secure as is appropriate and not unnecessarily limiting.
- Modernise our networks by introducing appropriate segregation based on security classification, introduce wireless access, Public Sector Network (PSN), and N3 (the NHS national broadband network) links;
- Formalise and implement our policy frameworks to enable the effective monitoring of service delivery and ensure effective measures are taken to secure compliance and improve governance.
5.1.2 Platform
We will seek to utilise a modern application platform as a "running environment" for Hounslow. The Platform will be focussed on our customers and will provide the simple and cost effective scaffolding for integrating our siloed ICT systems. In some cases, the Platform will act as a link between existing systems. In others, we will adapt and develop new applications to run directly on the Platform.

The key criteria for selecting such a platform will be:

- **Superior capability**: The Platform must be capable of catering for most of our common requirements, and should be capable of being integrated to legacy applications.

- **Security and Compliance**: The Platform must be secure and approved in use to appropriate level for each application. It must offer a flexible approach to data handling, and allow Hounslow to identify, segregate and effectively manage different data types.
• **Infrastructure Free**: The Platform will be delivered “from the cloud”. This means that it must be hosted by the provider, accessible from anywhere, and have a flexible, modern commercial structure (including variable user numbers, short contractual commitments and advantageous pricing).

• **Mobile by default**: We will avoid building separate mobile applications where they are unnecessary. We will instead seek that all new application have a robust architecture suitable for use by market leading mobile platforms.

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**Platform for the Business and Partners**

In an ideal world, there would be a single “business platform” that would act as the main environment for multiple applications. For example, how SAP or Oracle have been integrating all Enterprise Resource Planning functions and have demonstrated success for large enterprises.

Recent technology advances have created “as a Service” applications that allow the same benefits to be achieved at much lower cost. We can create applications, migrate existing capabilities onto the platform, and provide tools for over 50% of what we do.

Hounslow will be able to deploy new applications or customisations within a few days or weeks after identifying business need. The platform will be usable for partnering organisations, and in some cases, even residents.

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5.1.3 ‘As a Service’ Mentality

Hounslow will favour solutions that are delivered in the cloud and accessed over a network as a Service (Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS)) rather than installed locally as a Product.

5.1.4 Open Standards

It is important that, as far as possible, platforms and applications brought into Hounslow conform to open standards for interoperability and data exchange. This is necessary to reduce the risk of vendor lock-in and to ensure seamless integration between systems. Where a business case will support it, priority will be given to Open Source and Open Standards software alternatives. Continuous monitoring of the evolving cloud computing standards, legislation and products will be necessary going forward to accommodate this goal.

5.2 Applications

We will categorise each application as being either productivity, corporate, line of business or point. We will take the approaches outlined below for each category to move Hounslow’s ICT to the desired application environment. We will look for opportunities to migrate as they appear as business demand changes.

5.2.1 Productivity

The market for SaaS productivity software is well developed. We will target pilot of, and migration to, cloud productivity solutions where solutions that satisfy our requirements are identified. An early migration of Exchange to initially a hosted platform and subsequently to full SaaS is an important quick win for the strategy.

5.2.2 Corporate

Most current corporate applications will be consolidated into a single existing ERP application. Residual corporate systems will be targeted for integration into the common platform or rationalisation.
5.2.3 Line of Business
The majority of ICT capabilities that are currently provided by off the shelf LoB (Line of Business) systems will be developed on the modern, flexible Service-Oriented Architecture platform, which will be provided to the council on "as a Service" basis. Where current systems have recently been procured or implemented (such as the current Adult and Children’s case management project), systems will be evaluated for replacement or integration into the platform at the end of their current cycle.

5.2.4 Point
The capabilities of the point applications currently in use will be evaluated. Most will be targeted for integration into the common platform. Where this is not appropriate SaaS solutions will be adopted. Those applications without sufficiently developed cloud alternatives will be rationalised and their use organised with centralised licence management.

Capabilities

A capability, in this sense, is an individual function (such as database, workflow, role based access, e-forms etc.) provided by an application.

Many of the key business applications in use by the council today each provide a set of core capabilities configured for a particular use; uses such as Social Care, Education, Customer Services and so on.

Instead of duplicating capabilities across systems, they can be provided in a uniform way from a single platform onto which multiple applications can be built.

Systems that are not candidates for development on a PaaS, or no suitable mature SaaS application available, will be migrated to an IaaS platform until a satisfactory SaaS emerges on the market.

5.3 Desktop
We will examine the replacement of desktop machines with inexpensive thin clients and, in any case, the transition to cloud will enable us to extend the useful life of existing desktops. We are moving away from an emphasis on fixed, assigned desktops to increase flexibility and will also actively seek to enable further remote and mobile working to provide the widest choice to our business. Such services will be based on need and will enable the business to determine its required level of use.

We will focus on enabling common access to applications from any device through a browser interface thereby enabling BYOD (Bring Your Own Device). It is our aim that when the full vision described in this strategy has been brought into place, there will be no requirement for the majority of Council workers to be provisioned with a traditional desktop, whether physical or virtual, and will be enabled to use any device.

5.4 Servers and Storage
Hounslow will gradually reduce on-site hardware to approach an “Infrastructure-Free” model. In many cases, where we have switched to SaaS applications, we will not need to provision servers at all as these solutions are hosted by their suppliers. Where the need for servers remains, we will use Infrastructure as a Service (IaaS). This will allow us to decommission the majority of the existing servers in our datacentres.

The Infrastructure-Free model will ensure that we minimise costs connected with server maintenance, refresh and management, thus moving resources away from simply keeping technology running and towards improving it.
For high security applications (Impact Level 3 and above) we will create a separate environment that will either remain in-house or be procured from a 3rd party on an “as a Service” basis, based on what is most economically advantageous.

As soon as practically possible, we will introduce Disaster Recovery on the current architecture and ensure it remains in place throughout the transition. Business continuity will be a focus of the final target architecture.

5.5 Networks and Communications

The demands made on the network infrastructure in Hounslow will evolve as services are transferred to the cloud. High levels of traffic between client machines and internal servers via Local Area Networks will be replaced by an increasing amount of traffic between thin clients and cloud-based hosts.

In order to maximise the efficiency savings offered by the transition to a scalable cloud environment and to minimise the risks posed by this transition and new environment it will be important for the requirements of the network to be re-assessed ensuring access with multiple resilience.

Hounslow is becoming part of London Public Sector Network (LPSN), which will give us access to valuable solutions and a trusted interface to other public sector organisations. Through LPSN we will be able to acquire and deploy new capabilities such as high speed links quickly and for a low price.

In addition to a suitably large bandwidth it will be important to mitigate the increased risks of disruption to core business capabilities that network outages will present in a cloud environment by requiring Service Level Agreements with Quality of Service requirements from network providers. Where Hounslow does favour a particular IaaS or PaaS provider(s) to offer many cloud services to the authority we may arrange for a dedicated connection to them with bandwidth and uptime guarantees.
6 Challenges and Counter Measures

6.1 Key Dependencies
Successful implementation of this strategy depends on three key factors:

Support and engagement from the business and the users. Without this, it will not be possible to implement many of the changes and improvements we are planning. ICT can deliver the technology solutions and services, but it will be up to the business to integrate them into their processes. One of the key facets of such engagement is early involvement into the business planning and strategy, as well as using appropriate channels for escalation. We are deploying a new, Service-Oriented Business Governance Structure to facilitate this.

Right Resources Available to ICT. This strategy will deliver a massive improvement to every aspect of the Council's business. We also aim to significantly reduce costs in ICT and across Hounslow by the end of the current Roadmap. However, we do require a level of investment, especially in the early part of the strategy, as well as the right team and resources in place. Section 7 (Part C) of this document outlines the detailed skills and resource requirements for successful delivery.

Continuing Market Development. This ICT Strategy and Roadmap depend on the market and technology continuing to develop, in the first Phases of the strategy we are implementing solutions that are available today, and are already in use in large UK organisations. Latter stages however, rely on solutions that are expected to emerge, or are only beginning to be deployed. So far, the market has developed at a much faster rate than envisaged; as a result we are confident that the technology risk to implementation is low.

6.2 ICT Security
The need to keep data secure and to comply with best practice information assurance principles for public sector organisations is one of the key challenges going forward. However, systems, or parts of systems, will increasingly no longer be within the direct control of the Council's as they become delivered remotely from the “Cloud”. The same criteria that applies in-house must still be assured in this scenario and the same controls must be in place and enforced no matter from where applications are delivered.

Therefore, it will become necessary to monitor carefully the security credentials presented by suppliers. A number of standards for security are currently being developed for the cloud and other standards are
gaining de facto dominance in the market. We will establish an internal Security Framework that will be adhered to in order to ensure that we remain secure and residents can feel safe entrusting their data to us.

We will need to ensure that our suppliers enforce the controls defined in these and other upcoming standards by monitoring the results of audits and other documentation on an ongoing basis.

### 6.3 Compliance / Data and Information Governance

At present, we are fully compliant with the GCSX Code of Connection. ICT has played a key role in educating and enabling the business to achieve compliance.

The diagram on the previous page shows how we can classify and segregate our data by Impact Level (IL), so that each individual information asset is secured as much as it needs to be, but no more. This will allow us to create a "Tiered" approach to ICT architecture, and achieve our core principle of providing suitable solutions.

Currently, our inability to segregate data is presenting several challenges, and is forcing us to have tight restrictions on the way ICT is delivered. For example, we are unable to provide wireless networking, or enable remote access to key systems, as it would break our compliance record.

Compliance and Data and Information Assurance are inherently business functions. ICT can and will continue to support and enable all users with advice, training and tools to help Hounslow business to manage its own data. There is a full time position outside of ICT structure that exists, with direct responsibility over this area - we will support this individual in their role, and facilitate implementation of policies.

### 6.4 Business Continuity and Disaster Recovery (DR)

Business Continuity is the overall procedure put in place by the Council to ensure that essential business processes are able to continue following a disaster event. Business Continuity Planning (BCP) is undertaken at a corporate level. The ICT service is both critical and integral to the organisation’s plans and to its ability to recover.

This ICT strategy fully supports and enables a "best in class" DR approach by:

- Modernising and consolidating existing infrastructure in the short term;
- Shifting much of our systems and data to the cloud, ensuring each solution has multiple access pathways, and resilience;
- Using IaaS for delivery of infrastructure services, with built in resilience;
- Allowing remote and flexible working, providing multiple access channels to both users and residents;
- Adopting a measured and sensible Data Assurance and Information Governance approach will allow us to keep only the required data, reducing the burden on DR
### 6.5 Summary of Key Risks

This section contains major risks to the successful implementation of this strategy. The risk register will be updated and maintained on an annual basis as a minimum.

**Impacts (1-4):** Negligable, marginal, critical, catastrophic

**Likelihoods (1-6):** Almost impossible, very low, low, significant, high, very high

<table>
<thead>
<tr>
<th>Risk</th>
<th>Likelihood</th>
<th>Impact</th>
<th>Mitigating measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data quality is not managed by the data owners, reducing the benefits of integration</td>
<td>5</td>
<td>3</td>
<td>We will deploy tools to monitor data ownership and quality. Training on Data Assurance will also be provided.</td>
</tr>
<tr>
<td>Lack of resources for key elements of the strategy</td>
<td>4</td>
<td>3</td>
<td>Appropriate budgeting needs to be put in place and maintained throughout the period covered by the roadmap.</td>
</tr>
<tr>
<td>Incumbent suppliers do not support the strategy and attempt to delay it</td>
<td>4</td>
<td>2</td>
<td>Procurement will support the strategy, and we will make support of this strategy one of the key conditions of &quot;doing business with Hounslow&quot;.</td>
</tr>
<tr>
<td>Hounslow approval requirements or procurement policy hinders pace of the strategy deployment procure the required platform(s)</td>
<td>4</td>
<td>3</td>
<td>ICT will work closely with procurement to ensure complete understanding of the latest channels. External legal advice to clarify position may be sought.</td>
</tr>
<tr>
<td>Unable to achieve consistent service standard due to complexity of solution</td>
<td>4</td>
<td>2</td>
<td>Our platform will deliver a consistent platform. We can increase the spend on design and integration if required.</td>
</tr>
<tr>
<td>Migration to the platform replicates old ways of working, failing to improve business process efficiency</td>
<td>4</td>
<td>3</td>
<td>We will pay close attention and challenge the business to consider their process as we migrate to the platform. External expertise will be provided if necessary.</td>
</tr>
<tr>
<td>Lack of adherence to the strategy limits adoption or implementation</td>
<td>3</td>
<td>4</td>
<td>Full Leadership support and commitment will ensure that the strategy is followed. Good financial backing for key elements will provide the necessary resources to deliver full benefits.</td>
</tr>
<tr>
<td>Appropriate skills not established or maintained within Hounslow</td>
<td>3</td>
<td>3</td>
<td>We will need to ensure that we train / recruit staff with critical skills. Appropriate resources will be required to maintain / reward them.</td>
</tr>
<tr>
<td>Issue</td>
<td>Score 1</td>
<td>Score 2</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------</td>
<td>---------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Business does not provide direction to ICT in terms of priorities /</td>
<td>3</td>
<td>3</td>
<td>ICT will provide a flexible, agile support, capable of fast change. While this may increase cost, this strategy will still be effective, even in &quot;reactive &quot;mode.</td>
</tr>
<tr>
<td>service maps and strategy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hounslow users do not engage with new services or learn / adapt to</td>
<td>3</td>
<td>2</td>
<td>We will provide additional training, and will seek external expertise for enhancing business acceptance.</td>
</tr>
<tr>
<td>using them</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platform is unable to support the breadth of services required</td>
<td>3</td>
<td>3</td>
<td>Integration to other systems will be required on either technical or business levels.</td>
</tr>
<tr>
<td>Lack of technology standards hampers integration</td>
<td>3</td>
<td>3</td>
<td>We will select a set of standards that suits us best and understand the challenges of working across multiple standards. We will still deliver a massive improvement to current position (where few standards exist).</td>
</tr>
<tr>
<td>Business does not manage demand for ICT services</td>
<td>3</td>
<td>3</td>
<td>We will provide training to business leadership. If required, we will attract external expertise to help us alter business process where required.</td>
</tr>
<tr>
<td>Demand for Council services grows above expectation (either from</td>
<td>3</td>
<td>2</td>
<td>This will be a positive sign and a testament of our success. All services deployed are scalable, so we can accommodate any demand, and even provide services on a commercial basis. Any increased spend will be more than offset by savings or commercial revenue.</td>
</tr>
<tr>
<td>residents or staff) due to increased availability / efficiency of ICT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Council risk appetite hinders exploitation of innovative solutions</td>
<td>3</td>
<td>3</td>
<td>This strategy is innovative, but it is not &quot;bleeding&quot; edge. All solutions are designed using tested, robust and common components. If a particular solution product is deemed too risky, alternatives (potentially higher cost) will be sourced. Our open architecture will make them easy to integrate into our platform.</td>
</tr>
<tr>
<td>3rd parties unable / unwilling to integrate to</td>
<td>3</td>
<td>3</td>
<td>The platform is engineered using open standards and &quot;REST</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Hounslow platform</th>
<th>APIs” - we can provide training / advice to partners if required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business does not take advantage of or utilise new capabilities</td>
<td>3 2</td>
</tr>
<tr>
<td>We will provide training and seek support where required. ICT will continue to champion the platform and use case studies and success stories to encourage uptake.</td>
<td></td>
</tr>
<tr>
<td>Platform development is not undertaken with future migration in mind (we don't deploy solutions we buy/build)</td>
<td>3 3</td>
</tr>
<tr>
<td>Hounslow will implement robust piloting / proof of concept and approval processes to ensure that all solutions selected to be part of the platform are deployed to their full potential.</td>
<td></td>
</tr>
<tr>
<td>Market progress does not continue to deliver the improvements / reductions expected</td>
<td>2 2</td>
</tr>
<tr>
<td>Alternative solutions will be developed using resources / platforms already available. Hounslow will create required solutions internally.</td>
<td></td>
</tr>
<tr>
<td>Market does not provide solutions compliant with strategy</td>
<td>2 3</td>
</tr>
<tr>
<td>Most of the solutions required are already available. We may partner with other authorities to achieve our goals.</td>
<td></td>
</tr>
<tr>
<td>Technology developments do not keep pace with expectation for key platform components</td>
<td>2 3</td>
</tr>
<tr>
<td>Very little of the strategy depends on technology not currently available. We can re-plan the technology roadmap to delay later stage implementations.</td>
<td></td>
</tr>
<tr>
<td>Inferior / public sector specific solutions chosen over &quot;best of breed&quot; due to risk aversion</td>
<td>2 2</td>
</tr>
<tr>
<td>We will apply procurement criteria established in this strategy that prioritises “fit for purpose” and &quot;best of breed&quot; solutions over specific public sector ones.</td>
<td></td>
</tr>
<tr>
<td>Lack of leadership or momentum prevents full deployment of the strategy</td>
<td>2 4</td>
</tr>
<tr>
<td>Hounslow ICT will continue to press on with the strategy, making it relevant for Hounslow. Benefits achieved will mitigate against apathy.</td>
<td></td>
</tr>
</tbody>
</table>
7 Governance and Resources

This ICT strategy will realign the strategic priority and operational focus of the Hounslow ICT team from maintenance and technical support to business support, architectural understanding and service.

7.1 Hounslow Service Focus

The chart above shows how the Total Cost of Ownership of Hounslow’s ICT will change over the period covered by the roadmap. Currently, the ICT revenue budget is set at a level insufficient to deliver the Council’s ambitions and would need to increase continuously. This is caused by the ever growing cost of the traditional "old fashioned" infrastructure and approach we are taking coupled with increased demand for our services. Our firm conclusion is that "do nothing" is NOT an option for Hounslow.

Through the period of this strategy we will invest to remediate the ‘deficit’ and then change the focus to Business Service whilst returning the investment through efficiencies in the sourcing and delivery of technology. While this will result in a temporary increase in cost (exacerbated by running some migrating systems in parallel to their old versions), over time we expect to see a significant reduction in our ICT cost, together with services improvement. Thus, this strategy will deliver "Better for Less" for Hounslow, in line with the national agenda and expectation of our residents.

We expect the proportion of resources invested into Infrastructure (Desktop, Network, Server, Storage) to reduce significantly over the period of the strategy. Although in the short term, an investment is required in order to achieve a stable centralised environment, it will gradually reduce as we move toward Infrastructure as a Service (IaaS). Our spending on Desktop will be replaced by "Bring Your Own Device" funding, reducing overall cost.

Spend with 3rd parties, Network and Telephony, and desktop costs will reduce marginally, but stay stable throughout the period of the roadmap. We will increase the spending on Workforce Development to ensure we have the right skills and capabilities to achieve this strategy.

Overall, despite significantly improve the quality of Service we provide to the business, our revenue costs will gradually reduce. During the period of the strategy, we expect our Capital budget to reduce dramatically. Should an additional capital investment become required and justified (for example, investment into a revenue generating capability), it will be subject to separate approval.

7.2 Competencies, Skills and Resourcing
Hounslow ICT already has many of the skills required for the delivery of this strategy. However, we will be prioritising and growing certain capabilities through training and development as well as recruitment. The diagram below reflects a comprehensive view of the main capabilities.

The model is colour coded to reflect which skills we will be retaining, growing or introducing in order to deliver this strategy – Green for existing, Orange for growing and Red for new.

Below are some of the key competencies in each category.

**Figure 4 - Hounslow Capability Model**

### Existing (E)

Hounslow ICT has been providing a stable and consistent service, despite the challenges of centralisation. We have relied on the skills our team members, most of which will be valuable throughout the period covered by the roadmap.

- **Service Desk** - We will continue to provide this service, and have all of the necessary skills.
- **Customer Services** - We currently provide this service through Service Desk.
- **Sourcing and Supplier Management / Financial Management** - We currently manage the supplier relationships, and this is reflected in the governance model. Financial management is sufficient for our purposes.
- **Technology and Infrastructure Management** - We currently provide this service on a complex Hounslow infrastructure.
- **Quality and Assurance Management** - We have achieve required quality standards and are successful at passing audits. We continually undertake ICT Risk management and ICT Auditing.

### Growing (G)

In addition the above, we will be increasing our focus on the skills below:
- **Business Relationship Management** - A new and integrated business relationship function working across all of the council Support services to ensure joined up delivery for joined up business and joined up citizens will be created.

- **Project / Deployment Management** - we will strengthen this an in clued the design of resident and business solutions to align the design closely with the implementation at the same time as ensuring it fits the strategy.

- **Business Analysis** - understanding of business needs and how they apply to ICT is crucial not just a senior level, but across the ICT team - we will strengthen this area by continuing to train and recruit people with good customer and business understanding and strong analysis skills.

- **Workforce Development and Management** - we need to increase the rate at which we develop required skills, and become more flexible at resourcing.

- **Product Expertise and Lifecycle Management** - understanding the full cost of solution, including its infrastructure, deployment, customisation and ultimately, decommissioning is essential for us to avoid technology problems that plague the public sector.

- **Change Management** - we are introducing change into the organisations. Success of this strategy depends on being able to manage this change, including stakeholder management, communication, enticement and other "soft skills".

- **Information Governance** - In order to achieve a truly flexible environment, we will need to understand and maintain this skill-set within ICT and throughout the users. Without information governance, we will not be able to provide partner services or be transparent. By tying this to ICT security and the deployment of our data strategy and standards we will continue to strengthen our information and data management across the council.

### 7.2.3 New

- **Enterprise Architecture** - although we currently possess this skill in house, we will be elevating and strengthen by bringing in best practice ideas and innovations from outside the organisation it within the organisation and introducing it formally to the governance structure.

- **Platform Development** - This strategy replies on the development of a robust platform to provide most of our capabilities to the business. Development of this platform, including its customisation will be crucial for us in order to be able to achieve this.

- **Front End Development** - Developing attractive, usable interfaces for our services needs to become one of the core ICT capabilities. Although we will seek to use 3rd parties to deliver many of these services, we need to be an "intelligent customer" and maintain a limited level of the capability in house.

- **Multi-Channel Communications / User Interaction** - ICT is committing to becoming mobile by default, and providing multichannel access to users and residents. Therefore we will need to establish skills and capabilities that are able to support and enhance all of our new environments.
Appendices
8.1 Documentation Portfolio
In order for the ICT Strategy to achieve its full potential it is likely to require supplementary elements to be provided in the future. The diagram below outlines the typical documentation portfolio required to provide the level of detailed guidance that will see through the implementation of a transformational ICT Strategy.

![Diagram of document portfolio required to best support strategy](image)

8.2 Project Management Framework
This strategy will aim to fully utilise best practice tools and frameworks for the Project management and governance. All projects will be undertaken in strict adherence to the process and supplemented by additional control of being in line with this strategy. Full governance arrangements are being reworked to provide a clear framework for the delivery of ICT.

Projects that do not adhere with this strategy will automatically require additional investment appraisal and business case analysis.
Through the ICT Enterprise Architecture Board we ensure that all ICT projects undertaken have been properly examined in order to enable the Council to obtain best value from its ICT investments. The objective is to co-ordinate all potential ICT developments within a clear and straightforward process using the aims and objectives contained within the various plans and strategies of the Council as our guiding principles. As part of strategy deployment process we will be reviewing our governance arrangements and intend to operate a “capped resource” system that relies on service areas cooperating to reach consensus on priorities. All resources will be controlled by central ICT.

8.3 Technology
Technology selection will form a key part of this strategy. A robust and objective scoring methodology will be used as part of the solution evaluation. Each criteria will have a weighted score which will be calculated and included into the analysis of each technology prior to introduction.

Where such trials are available, new technologies and applications will be piloted within the Hounslow environment amongst a representative sample of users or systems in order to test application suitability and deployment costs.

In addition to functional requirements, Hounslow will select technology on the basis of the following set of criteria: (The weightings are assigned on a 1-5 scale, with 5 most important, 1 least important)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weighting 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology does not require in house infrastructure and has tools for remote / mobile access / DR built in</td>
<td>5</td>
</tr>
<tr>
<td>Technology is compatible / can integrate with our chosen Platform and Hounslow environment and is based on Open Standards</td>
<td>5</td>
</tr>
<tr>
<td>Technology is based on open standards principles and can integrate with existing environment</td>
<td>5</td>
</tr>
<tr>
<td>Technology is built using a modular, Service Oriented Architecture approach</td>
<td>4</td>
</tr>
<tr>
<td>Technology / Application allows single sign-on integration using one of the common interfaces (AD / Open ID)</td>
<td>5</td>
</tr>
<tr>
<td>Technology is energy efficient and does not damage the environment</td>
<td>3</td>
</tr>
<tr>
<td>Technology is secure and relies on sound design principles</td>
<td>5</td>
</tr>
<tr>
<td>Technology is scalable and can be shared across the organisation</td>
<td>3</td>
</tr>
<tr>
<td>Hounslow has sufficient skills to manage the technology effectively</td>
<td>3</td>
</tr>
<tr>
<td>Technology is supported and sold by a variety of vendors</td>
<td>2</td>
</tr>
<tr>
<td>Technology has been used before in Public Sector organisations in the UK</td>
<td>1</td>
</tr>
</tbody>
</table>
8.4 Procurement

This strategy will rely on acquisition and introduction of new capabilities into the Hounslow environment. A robust and balanced procurement approach is needed to ensure that the benefits delivered through the use of new technology are not eroded through poor commercial management. We will work with our procurement team to establish / supplement existing procurement policy to make it compatible with "As a Service" and "on Demand" principles, where it may be difficult to estimate total cost of solution over a long period due to vendor pricing. The new policy will contain a series of questions and controls with applicable expected responses from suppliers that will enable Hounslow to quickly judge whether new acquisitions are in line with the above principles from both commercial and technical standpoints. Security and interoperability requirements will also be part of this procurement control set.

Procurement will rely on several key principles:

- Each major procurement will be reviewed in detail for compliance with this strategy and the wider goals of the organisation.
- Each solution or application will be required to have a strong business case (where projected savings or benefits significantly outweigh the risk-adjusted costs of the project).
- Total Cost of Ownership will be the guiding principle in evaluating and comparing various solutions. Please refer to Section 3.5 of this document for a more detailed description.
- Hounslow will seek to attain flexible, short term commitments to suppliers – typical commitment benchmark will be 1 year commitment to a particular / vendor occasionally, for niche or specialist products we may have to deviate from this policy, but such deviation will require additional approvals.
- Hounslow will seek to use standard commercial agreements where they provide sufficient protection for the services and the value that Hounslow expects.

8.5 Data and Information Management

Data and Information Management is a key concern when moving systems to the cloud. It is necessary to perform due diligence to ensure that data is kept secure and in accordance with accepted best practice. Consequently, during the course of this strategy, Hounslow will be undertaking major initiatives to improve data and information management processes. This includes notably conforming to best practices for Information Assurance, Records Management, and Data Management. Achieving these goals will give the Council the confidence it needs to know that its data is secure, compliant and of high quality.

To improve data management, data classification, data audits and related clean-up exercises will be a standard part of any new project implementation going forward, the only exception being projects that are entirely “Greenfield”, where the focus will be on putting in place appropriate controls to ensure data quality and compliance going forward.

Data Segregation and Mapping

Hounslow avoids and mitigates the security challenges outlined above by having a clear and unambiguous data security and segregation policy. During the early stages of this strategy, we will extend our detailed policy for separating, monitoring and labelling all of the data held within the council to accommodate remote hosting of data on the cloud.
The principles of the data assurance strategy are outlined in the diagrams below:

- All of the datasets held by the council will be recorded in a central register. This register will contain the data held by each system classified according to the requirements below.
- Each data set will be classified according to type:
  - **Public Data** - data that should be made accessible and public. This will include internal reporting, costs, KPIs and similar data. This includes all data subject to FOI act
  - **Sensitive Data** - internal data that concerns commercially sensitive or private information about the council, such as employee details and HR data. This data should be held on security systems, but does not require specific compliance or geographical controls
  - **RESTRICTED (or above) Data** - data from sensitive systems, such as (benefits data), tax, and other data that requires specific protection. This data will continue to be held internally on secure systems, until a compliant cloud solution will become commercially advantageous.

### Data Classification

In order to classify the data held in the council we will use existing guidance available from central government sources (Information Commissioner, Communications-Electronics Security Group (CESG), Freedom Of Information Act (FOI)).

Data classification will be performed in accordance with all of the above guidelines. A robust framework will be developed in Phase 1 and appended to this strategy.

- Data protection classification will be performed in accordance with guidance from the Information Commissioner and will contain criteria for suitable hosting locations and retention policies for personal data.
- CESG impact levels will be used to make risk assessments regarding the sensitivity of the data held in our systems and what safeguards are necessary for any given category of data.
- As a fundamental principle we will strive to make all data public and transparent where there are no security or privacy concerns that would preclude this from happening.
This strategy will ensure that all data created in the future will be classified and labelled appropriately as part of the project approval process. For data already held within the council, we will examine the business case for retrospective labelling and segregation, in line with the migration to the cloud.
9.1 Governance Forums

This section shows our new Governance Structure. The structure includes and streamlines existing forums, as well as establishing new ones, that help to manage new environments and underpin the principles committed above. We will revisit this section once Council restructuring completes, to match it to the new organisation.

We believe that in order to be able to provide the best support to the organisation, ICT will need to be engaging with member and officer leadership in the Council. This is best practice within the private sector, and allows “early” engagement and contribution from ICT to top level decisions. As the Council is becoming more reliant on technology, having a dedicated professional present at senior meetings will ensure savings, and efficiencies in every major initiative.

The diagram on this page includes all of the forums we will implement as part of this strategy. The detail of each forum is shown within the model.

We propose 3 main levels of Governance:

**Strategic**

The strategic oversight of the ICT service ensures that the vision, principles and delivery approach articulated within the ICT Strategy remains aligned with the business priorities and that resources are directed appropriately.

There are two boards that provide strategic governance:
• **Strategic Review Board** – At its annual review, the board will consider the changing needs of the business, the progress made with the implementation of the strategy and the proposed updated draft of the strategy with refined plans (in particular the detail for the coming year).

• **IT Operations Priority Planning Board (IOPP)** – On a monthly basis the IOPP will consider the demands on ICT resources and ensure that change is appropriately scheduled to reflect the urgency, operational and strategic significance of the proposals.

### Project and Programme

The delivery of the ICT Strategy and other technology related change requires appropriate oversight of the projects and programmes that will achieve the desired outcomes.

• **IT Strategy Delivery** – Forum for the ICT SMT (Senior Management Team) to discuss the progress of the programme of work delivering the ICT Strategy.

• **EA Board** – The importance of Enterprise Architecture techniques to the delivery of the strategy was introduced in section 4. Key to the successful development and implementation of an effective Enterprise Architecture is a governance forum where the current shape of the architecture and the best way to respond to change can be discussed.

• **Service Acceptance Board** – The service acceptance board forms the gateway to the integration of newly developed services (or service level agreements for existing services) into the service catalogue.

These governance forums are in addition to the standard project and programme governance requirements, though we would expect these forums to fulfil programme board and/or project board functions on a regular basis.

### Delivery

The ICT Service recognises that providing a stable well-tuned set of technology is the starting point for delivering value to the Council, its customers and its partners. There are five governance groups that are directly related to the delivery of ICT services:

• **User Groups** – The ICT service will facilitate discussions with groups of users around specific technologies to review their performance and specify changes that will make a difference to on-going use.

• **SRM Quality Service Review** – The large majority of the technology used by the Council is sourced from third party suppliers that often provide on-going maintenance services. Through a series of quality reviews the performance of suppliers will be challenged, the quality of the technology and services reviewed and action mandated to remediate deficiencies where necessary.

• **Information Governance Forum** – The effective governance of the Council’s information is fundamental to delivering service quality and efficiency improvements across the Council including work with partner organisations. ICT is a key contributor to the Information Governance Forum (chaired by the Senior Information Risk Owner, the Director of Resources).
### Glossary of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BDA</strong></td>
<td>Business-developed application. Computing solutions created or modified for use within the Council but outside of the ICT Service.</td>
</tr>
<tr>
<td><strong>BRM</strong></td>
<td>Business Relationship Manager. Supports and engages with the business to provide a two-way partnership between it and ICT.</td>
</tr>
<tr>
<td><strong>BYOD</strong></td>
<td>Bring your own device. Staff using their personally-owned computers or communications devices at their place of work.</td>
</tr>
<tr>
<td><strong>Cloud computing</strong></td>
<td>A form of computing in which dynamically scalable and often virtualized resources are provided as a service over the Internet. Users need not have knowledge of, expertise in, or control over the technology infrastructure in the &quot;Cloud&quot; that supports them</td>
</tr>
<tr>
<td></td>
<td>Gartner defines five attributes to cloud computing:</td>
</tr>
<tr>
<td></td>
<td>• It is service-based</td>
</tr>
<tr>
<td></td>
<td>• It is scalable and elastic. I.e., it is able to add and remove infrastructure as needed</td>
</tr>
<tr>
<td></td>
<td>• It uses shared infrastructure to build economies of scale</td>
</tr>
<tr>
<td></td>
<td>• It is metered and users pay according to usage</td>
</tr>
<tr>
<td></td>
<td>Most importantly, of course, it uses Internet technologies</td>
</tr>
<tr>
<td><strong>CRM</strong></td>
<td>Customer Relationship Manager. Software for managing customers’ details and interactions with them.</td>
</tr>
<tr>
<td><strong>DR</strong></td>
<td>Disaster recovery.</td>
</tr>
<tr>
<td><strong>EDRMS</strong></td>
<td>Electronic Document and Records Management System. Software for digitally storing and managing documents and records, including those created on paper.</td>
</tr>
<tr>
<td><strong>ERP</strong></td>
<td>Enterprise Resource Planning. Corporate business systems (human resources, finance, payment, procurement etc.). Can refer to the collective functions of separate systems or to a single integrated system.</td>
</tr>
<tr>
<td><strong>G-Cloud</strong></td>
<td>A government cloud computing infrastructure, currently being developed, that will enable public bodies to host their ICT systems from a secure, resilient and cost-effective service environment.</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>GCSx</td>
<td>Government Connect Secure Extranet. Secure wide area network (WAN) for sharing data between local public sector organisations and central government departments.</td>
</tr>
<tr>
<td>GCSx Code of Connection</td>
<td>Government Connect Secure Extranet Code of Connection. A series of security controls that UK local authorities, and other organisations, must comply with before they are allowed to use the GCSx network link into other secure Government Internet domains such as the Government Secure Intranet.</td>
</tr>
<tr>
<td>GMS</td>
<td>Geographic management system.</td>
</tr>
<tr>
<td>IaaS</td>
<td>Infrastructure as a Service. Rather than purchasing servers, software, data centre space or network equipment, clients instead buy those resources as a fully outsourced service. The service is typically billed on a utility computing basis and amount of resources consumed (and therefore the cost) will typically reflect the level of activity.</td>
</tr>
<tr>
<td>Impact Level (IL)</td>
<td>Impact Level. Also Business Impact Level (BIL). A scheme for classifying the significance of a compromise of the confidentiality, integrity and availability of an information asset (ranging from IL0 (no impact) to IL6 (highest impact)).</td>
</tr>
<tr>
<td>IOPP</td>
<td>IT Operations Priority Planning Board. Meets monthly to consider the demands on ICT resources and ensure that change is appropriately scheduled to reflect the urgency, operational and strategic significance of the proposals.</td>
</tr>
<tr>
<td>ITIL</td>
<td>Information Technology Infrastructure Library. Also known as Infrastructure Management Service (IMS). A set of concepts and policies for managing information technology infrastructure, development and operations. ITIL gives a detailed description of a number of important ICT practices with comprehensive checklists, tasks and procedures that any ICT organization can tailor to its needs. ITIL is published in a series of books, each of which covers an ICT management topic. The names ITIL and ICT Infrastructure Library are registered trademarks of the United Kingdom's Office of Government Commerce (OGC).</td>
</tr>
<tr>
<td>KPI</td>
<td>Key performance indicator.</td>
</tr>
<tr>
<td>LoB</td>
<td>Line of Business.</td>
</tr>
<tr>
<td>LPSN</td>
<td>London Public Sector Network. Secure, private infrastructure owned by the</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>ICT</td>
<td>Information and Communications Technology</td>
</tr>
<tr>
<td>N3</td>
<td>The NHS national broadband network, linking hospitals, medical centres and GPs in England and Scotland.</td>
</tr>
<tr>
<td>PaaS</td>
<td>Platform as a Service. Delivery of a computing platform and solution stack as a service. It facilitates deployment of applications without the cost and complexity of buying and managing the underlying hardware and software layers.</td>
</tr>
<tr>
<td>PFI</td>
<td>Private finance initiative. Using private capital to fund public infrastructure projects.</td>
</tr>
<tr>
<td>PSN</td>
<td>Public Services Network. A ‘network of networks’ and marketplace for buying voice and data networks for the public sector. See also LPSN.</td>
</tr>
<tr>
<td>SaaS</td>
<td>Software as a Service. A model of software deployment whereby a provider licenses an application to customers for use as a service on demand. SaaS software vendors may host the application on their own web servers or download the application to the consumer device, disabling it after use or after the on-demand contract expires.</td>
</tr>
<tr>
<td>SAN</td>
<td>Storage area network. Dedicated, local area network for accessing shared storage.</td>
</tr>
<tr>
<td>Service provider</td>
<td>A business that provides computer-based services to customers over a network. Software offered using an ASP model is also sometimes called <strong>On-demand software</strong> or <strong>Software as a Service (SaaS)</strong>.</td>
</tr>
<tr>
<td>SLA</td>
<td>Service Level Agreement. A contract that defines what the ICT Service will provide to its customers.</td>
</tr>
<tr>
<td>SOA</td>
<td>Service-Oriented Architecture. Provides a set of principles of governing concepts used during phases of systems development and integration. Such an architecture will package functionality as <strong>interoperable services</strong>: functions provided as a service are available to be used from systems created by other organizations.</td>
</tr>
<tr>
<td>TCO</td>
<td>Total cost of ownership. A financial estimate. Its purpose is to help consumers and enterprise managers determine direct and indirect costs of a product or system. In this project, TCO is used to understand a more complete cost of...</td>
</tr>
<tr>
<td><strong>ICT Strategy 2012 - Future</strong></td>
<td></td>
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<tr>
<td>-------------------------------</td>
<td></td>
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<tr>
<td>owning and operating software applications in order to create an “apples to apples” comparison between traditional and SaaS applications.</td>
<td></td>
</tr>
<tr>
<td><strong>Utility computing</strong></td>
<td>The packaging of computing resources, such as computation and storage, as a metered service similar to a traditional public utility (such as electricity, water, natural gas, or telephone network). This system has the advantage of a low or no initial cost to acquire hardware; instead, computational resources are essentially rented. Customers with very large computations or a sudden peak in demand can also avoid the delays that would result from physically acquiring and assembling a large number of computers.</td>
</tr>
<tr>
<td><strong>Virtual machine (VM)</strong></td>
<td>A software implementation of a machine (i.e. a computer) that executes programs like a real machine.</td>
</tr>
<tr>
<td><strong>Virtualisation</strong></td>
<td>A broad term that refers to the simulation in software of computer resources that would traditionally use dedicated hardware.</td>
</tr>
</tbody>
</table>